

Approaches to Empire: Hydrographic Knowledge and British State Activity
in Northeastern North America, 1711-1783

by

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To Paula, my one true mark.

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Abstract

This dissertation studies the intersection of knowledge, culture, and power in contested coastal and estuarine space in eighteenth-century northeastern North America. It examines the interdependence of vernacular pilot knowledge and directed hydrographic survey, their integration into practices of warfare and governance, and their roles in assimilating American space to metropolitan scientific and aesthetic discourses. It argues that the embodied skill and local knowledge of colonial and Aboriginal peoples served vital and underappreciated roles in Great Britain's extension of overseas activity and interest, of maritime empire. It examines the *maritimicity* of empire: empire as adaptation to marine environments through which it conducted political influence and commercial endeavour. The materiality of maritime empire—its reliance on patterns of wind and current, on climate and weather, on local relations of sea to land, on proximity of spaces and resources to oceanic circuits—framed and delimited transnational flows of commerce and state power. This was especially so in coastal and riverine littoral spaces of northeastern North America. In this *local* Atlantic, pilot knowledge—and its systematization in marine cartography through hydrographic survey—adapted processes of empire to the materiality of the maritime, and especially to the littoral, environment.

Eighteenth-century British state agents acting in northeastern North America—in Mi'kmaq/Acadia/Nova Scotia, Newfoundland and Labrador, Quebec, and New England—developed new means of adapting this knowledge to the tasks of maritime empire, creating potent tools with which to extend Britain's imperial power and influence amphibiously in the eighteenth and nineteenth centuries. If the open Atlantic became a maritime highway in this period, traversed with increasing frequency and ease, inshore waters remained dangerous bypaths, subject to geographical and meteorological hazards that checked overseas commercial exchange and the military and administrative processes that constituted maritime empire. While patterns of oceanic circulation permitted extension of these activities globally in the early modern period, the complex interrelation of marine and terrestrial geography and climate in coastal and estuarine waters long set limits on maritime imperial activity. This dissertation examines the nature of these limits, and the means that eighteenth-century British commercial and imperial actors developed to overcome them.

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Chapter One

Introduction

In Portsmouth, England in August 1786 Guy Carleton encountered a *Canadien* pilot destitute in the streets. Carleton, newly elevated to the peerage as Lord Dorchester, was a colonial administrator and army officer with long experience in northeastern North America, en route to assume the position of Governor-in-Chief of Britain's remaining North American colonies. Ashore while at Spithead waiting for wind to make the passage to Quebec, he recognized the man as a skilled pilot with knowledge of the St. Lawrence navigation. He was "half starved and in rags," with no means of material support, and no means of returning home.¹ The encounter made Carleton reflect on the perils of the *Canadien* pilot's work. Especially hazardous, he noted, were outbound voyages late in the season, when shipping raced the freezing river and late-autumn storms through narrow channels, a broad estuary, and an inland sea to reach the open and relatively safe Atlantic. Shipwrecks were not uncommon in this season, leaving survivors to face starvation in the thinly populated boreal landscapes of the river and gulf. In springtime, vessels arriving at Quebec reported wrecks punctuating the navigation upriver. At other times, Carleton observed, conditions made it impossible to put pilots ashore after they had passed the river's most hazardous reaches. In such cases they, like the man encountered on the streets of Portsmouth, were carried off to the next port of call, wherever it might be in the British Atlantic or beyond.

Pilots who were carried off were, in effect, cast away, lost in the network of ports and coastal enclaves linked globally by expanding networks of mid-eighteenth-century

¹ LAC, Miscellaneous Papers during the Government of Brigadier-General Hope, 1786, MG11-CO42Q, Guy Carleton to Evan Nepean, 30 August 1786.

European maritime empire. Castaway pilots found themselves without baggage or money in unknown places with, perhaps, unfamiliar languages and customs to negotiate, without friends or protectors. In time, they might manage to work passage home via the same busy, unpredictable circuits of maritime circulation that marooned them, but this was not an easy or certain prospect. Pilots were mariners, but mariners of a special kind. They were not members of the growing body of international deep-water sailors who worked the transoceanic passages between far-distant ports and enclaves upon which maritime empire and globalized commerce rested.² The range of pilots' seafaring was often extremely localized, comprehending a coastline or stretch of river reaching tens or at most a few hundred miles. The skill they possessed—the ability to conduct navigation through these specific, local waters—was the product of a lifetime's experience of a particular place, and was not readily transferrable to other regions of the maritime world. Pilots acted as intermediaries between the open, unobstructed circuits of the world's oceans and constrained, hazard-strewn coastal and riverine waters. Their Atlantic was a local Atlantic.

Carleton, described by contemporaries as cool and severe, was affected by the “indignities” the unnamed pilot was subject to, and advanced him ten guineas so he could feed and clothe himself, and purchase return passage to Quebec.³ It was an act of unusual solicitude across the boundaries of class, religion, and ethnicity that shaped identity in the eighteenth-century British Atlantic world. It was also a measure of the esteem that Carleton, as an officer and administrator, felt for the profession that the anonymous pilot

² The classic study of this deep-water maritime workforce remains Marcus Rediker's *Between the Devil and the Deep Blue Sea: Merchant Seamen, Pirates, and the Anglo-American Maritime World, 1700-1750* (Cambridge: Cambridge University Press, 1987).

³ LAC, Miscellaneous Papers during the Government of Brigadier-General Hope, 1786, MG11-CO42Q, Guy Carleton to Evan Nepean, 30 August 1786.

represented. This esteem was undoubtedly enhanced by Carleton's long service in North America, by his military and administrative activities in the littoral societies of the northeast, where settlement clung to coasts and riverine strips, and communicated with the continental interior only with great difficulty. As army quartermaster-general during the 1759 Quebec campaign, he had helped to plan and execute British amphibious forces' passage up several hundred miles of the St. Lawrence estuary, securing key points of the navigation, tasks that relied on the local knowledge of pressed *Canadien* pilots.⁴ Later, as governor of Quebec, he oversaw or advanced projects that ordered local pilot and guide knowledge of the St. Lawrence region to fix boundaries for colonial administration and Vice-Admiralty jurisdiction.⁵ He sought to retain long-established customary means of exploiting marine resources in the gulf—in the seal fisheries of the Labrador coast, for example—that were based on intimate knowledge of local hydrographic conditions.⁶ He understood the importance of incorporating the knowledge of local mariners into British efforts to suppress smuggling and regulate the fisheries.⁷ More generally, he knew from experience that extending British maritime empire into the North American continental interior required mastery of the difficult watercourses that traversed its glaciated, forested landscapes, and that this mastery was possessed mostly by *Canadien* and Aboriginal watermen. He was eager to gain the loyalty of these people, and in wartime was prepared

⁴ G.P. Browne, "Guy Carleton, First Baron Dorchester" in *Dictionary of Canadian Biography*, http://www.biographi.ca/009004-119.01-e.php?id_nbr=2310, accessed 17 September 2012. On impressment in the British North American context see Keith Mercer, "Northern Exposure: Resistance to Naval Impressment in British North America, 1775–1815," *Canadian Historical Review* 91:2 (2010), 199–232.

⁵ LAC, Correspondence with the English Ministry, 1766, MG11-CO42Q, Guy Carleton to Lords Commissioners of Trade and Plantations, 18 October 1766.

⁶ LAC, Correspondence between Governor Carleton and the English Ministry, 1766-1767, MG11-CO42Q, Guy Carleton to Lord Shelburne, 3 January 1767.

⁷ LAC, Correspondence between Governor Carleton and the English Ministry, 1767-1768, MG11-CO42Q, Guy Carleton to Lord Shelburne, 28 November 1767.

to enforce this loyalty coercively.⁸ He was aghast at metropolitan authorities' ignorance of the hydrographic character of the landscapes and seascapes he administered, and of the amphibious means required to administer them.⁹ Carleton knew, to a degree that many of his superiors did not, that securing the polities of Britain's North American colonial possessions—new and old—meant securing the loyalty of local peoples who inhabited them; and that securing and retaining loyalty entailed integrating local knowledges and practices into the routines of overseas imperial governance. The local Atlantic was thus intimately connected to the loyal Atlantic.¹⁰

This thesis argues that the skill and local hydrographic knowledge of the sort possessed by the unnamed pilot stranded in Portsmouth, and by the boatmen whose *corvée* labour sustained British trade and alliances in the interior, formed crucial and underappreciated elements in the processes through which Great Britain sustained and extended its maritime empire in North America in the eighteenth century. It posits the evident but insufficiently appreciated proposition that maritime empire was in fact *maritime*, that is, adapted to the marine environments through which it conducted political influence or commercial endeavour. The materiality of maritime empire—its reliance on patterns of wind and current, on climate and local weather, on the complicated or simple relation of sea to land, on the proximity of inhabited spaces and exploitable resources to oceanic circuits—framed and delimited transnational flows of

⁸ LAC, MG21, Haldimand Papers, Add. Mss. 21699, Guy Carleton to Hector Theophilus Cramahé, 9 June 1777.

⁹ LAC, Lieutenant-General Burgoyne's Expedition and Surrender at Saratoga, 1777, MG11-CO42Q, Guy Carleton to Lord George Germain, 16 October 1777.

¹⁰ On the Atlantic contexts of loyalism in the eighteenth century, see Jerry Bannister and Liam Riordan, "Loyalism and the British Atlantic, 1660-1840," in Jerry Bannister and Liam Riordan eds., *The Loyal Atlantic: Remaking the British Atlantic in the Revolutionary Era* (Toronto: University of Toronto Press, 2012), 3-138; Maya Jasonoff, *Liberty's Exiles: American Loyalists in the Revolutionary World* (New York: Vintage, 2012); Alan Taylor, *The Civil War of 1812: American Citizens, British Subjects, Irish Rebels and Indian Allies* (New York: Knopf, 2010).

commerce and state power. This was especially so in the coastal and riverine approaches to the littoral spaces of Britain's American colonial interests. Pilot knowledge—and its systematization in marine cartography through hydrographic survey—was an important means of adapting the processes of empire to the materiality of the maritime, and especially to the littoral, environment. This thesis argues that over the course of the eighteenth century, agents of the British state acting in northeastern North America developed new means of harnessing this knowledge to the purposes of maritime empire, creating potent tools that made possible the remarkable amphibious extension Britain's imperial power and influence.

As it is concerned primarily with relations between the marine environment's materiality and imperial assertion, this thesis draws on and contributes to a growing body of broadly maritime or oceanic analytical approaches to the diffuse, transnational phenomena of commercial and imperial expansion in the early modern period.¹¹ Oceanic approaches to early modern history most fruitfully address the broad processes through which people, things, and ideas circulated across and around the large, increasingly interconnected basins of the maritime world. J.H. Parry's analysis of Portuguese and Spanish state efforts to identify and exploit the broad circulatory patterns of the Atlantic Ocean remains a landmark work in this tradition, highlighting both its strengths and limitations.¹² Parry's work, and much of the scholarship that follows its track, is primarily concerned with what Jerry Bentley refers to as "large-scale historical processes" in

¹¹ See, for example, Jerry H. Bentley, "Seas and Ocean Basins as Frameworks of Historical Analysis," *Geographical Review* 89: 2 (1999), 215-224; Josef Konvitz, "Changing Concepts of the Sea, 1550-1950," *Terrae Incognitae* 11 (1979), 1-17; Martin W. Lewis and Kären Wigen, "A Maritime Response to the Crisis in Area Studies," *Geographical Review* 89: 2 (1999), 161-168; Helen Rozwadowski, *Fathoming the Ocean: The Discovery and Exploration of the Deep Sea* (Cambridge, MA: Harvard University Press, 2005); Philip Steinberg, *The Social Construction of the Ocean* (Cambridge: Cambridge University Press, 2001).

¹² J.H. Parry, *The Age of Reconnaissance* (New York: Mentor Books, 1964).

“large-scale maritime regions.”¹³ The processes through which globalized capitalist exchange emerged in the early modern period is the subject *par excellence* of recent oceanic histories, and the great gains made in our understanding of these processes in the last half-century is a measure of the success of a broadly maritime approach to these questions. The similarly oceanic outlook of Atlantic world analyses has produced great advances in our understanding of the processes of circulation and exchange across that ocean basin.¹⁴ While David Armitage helpfully identifies three varieties of Atlantic history distinguished largely by the spatial scope of their analysis, the preponderance of work in the field remains circum-Atlantic, that is, work concerned primarily with the Atlantic as a single, coherent theatre facilitating interchange of cultures and ecologies, resulting in natural and cultural hybridity and métissage.¹⁵ The value of such an approach is amply demonstrated by the great range and interpretive power of work on the transatlantic trade in enslaved Africans, for example, the single greatest subject of Atlanticist analysis.¹⁶ Similarly, Ian Steele’s work on communications under sail examines offers an incisive analysis of the means through which British state and

¹³ Bentley, “Seas and Ocean Basins,” 221, 217.

¹⁴ For introductions to Atlantic World perspectives, see David Armitage, “Three Concepts of Atlantic History,” in David Armitage and Michael J. Braddick eds., *The British Atlantic World, 1500-1800* (Houndmills, Basingstoke, Hampshire: Palgrave Macmillan, 2002), 11-27; Bernard Bailyn, *Atlantic History: Concepts and Contours* (Cambridge: Harvard University Press, 2005); *idem*, “The Idea of Atlantic History,” *Itinerario* 20 (1996), 19-44; Jack P. Greene and Philip D. Morgan eds. *Atlantic History: A Critical Appraisal* (Oxford: Oxford University Press, 2009); Michael F. Jiménez and Marcus Rediker, “What is Atlantic History?,” *CPAS Newsletter: The University of Tokyo Center for Pacific and Asian Studies* (October 2001). For a critique of the Atlanticist approach from the perspective of global history, see Peter A. Coclanis, “*Drang Nach Osten*: Bernard Bailyn, the World-Island, and the Idea of Atlantic History,” *Journal of World History*, 13:1 (2002), 169-182. This thesis argues that, in addition to the multi-hued array of “Atlantics” in which human experience was conditioned by class, gender, and ethnicity, there was a local Atlantic in which experience was conditioned by the physical geography of the coastal zone.

¹⁵ Armitage, “Three Concepts of Atlantic History,” 11-27.

¹⁶ See, for example, Philip D Curtin, *The Atlantic Slave Trade: A Census* (Madison, WI: University of Wisconsin Press, 1969); Paul Gilroy, *The Black Atlantic: Modernity and Double Consciousness* (Cambridge, MA: Harvard University Press, 1993); Marcus Rediker, *The Slave Ship: A Human History* (New York: Viking, 2007).

commercial actors adapted the material facts of oceanic circulation to the broad purposes of circum-Atlantic imperial expansion.¹⁷

This thesis seeks to demonstrate, however, that circum-Atlantic historical forces, the broad processes of oceanic circulation and exchange, were dependent in important ways on cis-Atlantic realities, on local and regional factors that impinged upon and shaped these broader processes. As Isaac Land notes, human presence in the oceans parallels that of biomass more generally: it tends to achieve greatest concentration in coastal areas, thinning appreciably as it moves away from continental landmasses.¹⁸ By overlooking this vital interrelation of land and sea, he argues, oceanic maritime history assumes a degree of separation between seafaring and the shore that distorts historical realities and obscures the nature of seafarers' lives. Eighteenth-century seafarers' lives were, in fact, deeply embedded in the social, economic, and political realities of the coastal societies from which they departed, and to which they returned. Recent work on the role of seafarers in the making of the American Revolutionary Wars strongly supports this view, as does Daniel Vickers' rich portrait of the interchangeability of seaward and landward forms of work in the life cycles of New Englanders.¹⁹ This thesis transposes this understanding of the thorough interpenetration of sea and land, of circum-Atlantic and cis-Atlantic realities, from the realm of maritime social history to the realm of maritime empire. It argues that key processes through which maritime imperial influence was extended transoceanically—warfare, commerce, and governance—were shaped in

¹⁷ Ian K. Steele, *The English Atlantic, 1675-1740: An Exploration of Communication and Community* (New York: Oxford University Press, 1986).

¹⁸ Isaac Land, "Tidal Waves: The New Coastal History," *Journal of Social History* 40: 3 (2007), 741.

¹⁹ Paul A. Gilje, *Liberty on the Waterfront: American Maritime Culture in the Age of Revolution* (Philadelphia, PA: University of Pennsylvania Press, 2004); Daniel Vickers, *Farmers and Fishermen: Two Centuries of Work in Essex County, Massachusetts, 1630-1850* (Chapel Hill, NC: University of North Carolina Press, 1994); Daniel Vickers with Vince Walsh, *Young Men and the Sea: Yankee Seafarers in the Age of Sail* (New Haven, CT: Yale University Press, 2007).

important ways by the physical and cultural realities of the coastal zone. Knowledge of oceanic circulatory patterns made the world's oceans highways for European commercial and imperial expansion from the mid-fifteenth century onward, but coastal and riverine waters in inshore areas remained dangerous bypaths that often blocked that expansion. In order to navigate these bypaths safely and effectively, agents of imperial expansion had to master both hydrographic knowledge of local waters and the loyalties of the colonial and Aboriginal peoples who possessed it.

Without a local Atlantic of attenuated channels and pilots who knew them, then, there could be no transoceanic Atlantic world; without mastery of the coastal zone, there could be no maritime empire. This perspective has been largely absent from scholarship concerned with the character and development of Britain's overseas imperial activities in the early modern period. Much recent British imperial scholarship is interested in maritime affairs only insofar as they affected the social, and above all economic and political, development of the British Isles themselves. Maritime empire is understood primarily as a source of inputs into the British domestic economy, or as a counter opposed to continental commitments in the serious game of European politics and diplomacy. Maritime empire, as subsumed under the rubric "Blue Water," is often presented as effectively identical to the similarly abstract term "sea power," which in turn is often functionally equivalent to the Royal Navy's Western Squadron.²⁰ This English Channel-centric view of maritime empire is especially evident in N.A.M. Rodgers'

²⁰ See, for example, Daniel A. Baugh, "Maritime Strength and Atlantic Commerce: The Uses of 'A Grand Maritime Empire,'" in Lawrence Stone ed., *An Imperial State at War: Britain from 1689 to 1815* (London: Routledge, 1994), 185-223; *idem*, "Great Britain's 'Blue Water' Policy, 1689-1815," *International History Review* 10: 1 (1988), 33-58.

syntheses of British politico-naval history, in which extra-European events are seldom seen to affect the generation and direction of imperial power.²¹

By maintaining these narrowly Eurocentric perspectives, however, historians blind themselves to important determinants of imperial experience outside the purview of the eastern Atlantic. Successful prosecution of maritime imperial activity required not just “blue water” capacity—deep-sea merchant fleets and national navies—but “brown water” capacity as well—ships and seamen with knowledge adapted to the shallow, intricate channels that characterized inshore navigation in littoral societies throughout the maritime world.²² Transatlantic littoral spaces were, in many areas, opaque to the exercise of maritime imperial power. Inshore marine transportation was constrained by geographical and meteorological factors acting in complex interrelation, comprehensible only through long experience or concentrated survey of local conditions. Failure to comprehend these conditions could ensure that littoral regions remained outside the purview of maritime empire altogether. In established overseas colonial polities, lack of local hydrographic knowledge could lead to administrative disruption, loss of commercial opportunity, and military vulnerability. Eighteenth-century Britons, increasingly reliant on transoceanic commerce for their prosperity, frequently identified the nation’s naval and merchant fleets with the ship of state; the evident perils of inshore navigation in transoceanic waters were understood to be a threat to imperial aspirations, both

²¹ N.A.M. Rodger, *The Command of the Ocean: A Naval History of Britain, 1649-1815* (New York: Norton, 2004).

²² I thank Dr. John G. Reid for the blue water/brown water formulation of the difference between oceanic and inshore maritime imperial activities.

metaphorically and in actuality. Yet, historians of eighteenth-century Britain, with notable exceptions, have been less apt to make these connections.²³

Recent work examining the local contexts of imperial activity in Africa and the Americas forcefully asserts the determinative influence of extra-European littoral space on the development of European maritime empires. Lauren Benton argues persuasively that, for several hundred years, effective and predictable assertion of European imperial power overseas ended at the limit of deep-water navigation. Prior to the late-eighteenth century, European colonial states' effective sovereignty was usually limited to coastal enclaves and to narrow navigable corridors leading inland. Even in these spaces sovereignty was "lumpy," in the sense that it overlapped with other sources of authority, and was subject to reverses resulting from fluid loyalties of both Europeans themselves and of their local interlocutors.²⁴ The ultimate consequence of this complicated political topography was that large parts of the world, and large parts of European maritime empires, might "resist categorization or control," largely because of their geographical disposition.²⁵ A practical corollary of this, explored at length in this thesis, is that agents of empire would, where possible, seek to overcome these difficulties by mastering the geography of local places and the loyalty of local peoples.

This thesis applies these insights to analysis of the spatial disposition of imperial, colonial, and Aboriginal power in northeastern North America during the eighteenth century. Its geographical purview is determined by broadly environmental factors

²³ An important exception discussed in detail later in this thesis is the work of Linda Colley, whose analysis of the cultural construction of eighteenth-century British identity posits shipwreck and captivity as important means of understanding the experience of a population increasingly implicated in the processes of overseas imperial activity on a global scale. See especially *Captives: Britain, Empire and the World, 1600-1800* (London: Jonathan Cape, 2002).

²⁴ Lauren Benton, *A Search for Sovereignty: Law and Geography in European Empires, 1400-1900* (Cambridge: Cambridge University Press, 2010), 41-103.

²⁵ *Ibid.*, 16.

because, as Benton argues, such factors can have determinative effects on the character of imperial activity at a given place and in a given time. “Northeastern North America” is used throughout this study to refer to the glaciated areas of the continent extending northward from, approximately, the mouth of the Hudson River; the study’s inland extent is defined, roughly, by the furthest western extension of the St. Lawrence system. Outside of a few areas of intensive coastal and riverine settlement—the Hudson and Connecticut valleys, the Atlantic coast of New England, the Laurentian heartland—the geographical region examined here thus coincides with the contested areas of the northeast subject to overlapping Aboriginal, French, and British occupation and sovereign claims, or with areas of uncontested Aboriginal sovereignty. All of these areas, from the Hudson to northern Labrador to the furthest inland extent of the St. Lawrence Basin, had vital local maritime cultures and connections, however attenuated, to the broader maritime world. This study focuses particularly on littoral areas of Gulf and River St. Lawrence and Mi’kmaq/Acadia/Nova Scotia. These places experienced repeated waves of imperial military activity over the course of the eighteenth century, and so illustrate most clearly the processes of reconnaissance, negotiation, and coercion that transformed claims to imperial sovereignty into effective colonial sovereignty, and smoothed the lumpiness of American littoral space.

The extreme geographical and political lumpiness of the St. Lawrence Basin and the complexly glaciated coasts of the northeastern North America, and their frequently contested character, have been widely and intensely examined. One key passage in this long contestation—the Seven Years’ War—was long understood both as the high-water of eighteenth-century British maritime empire, and the founding drama of modern

Canadian nationhood.²⁶ More recently, scholars including Jerry Bannister, Stephen J. Hornsby, Elizabeth Mancke, and John G. Reid have integrated close analyses of local environments and dispositions of power in the northeast into broad transnational frameworks.²⁷ Bannister's work, for example, demonstrates how naval government represented an apt adaptation of British administrative capacity to littoral, resource-producing societies. Hornsby examines the northeastern region in the context of imperial "spaces of power," poised between staples-producing coastal regions of the British Atlantic and the non-staple agricultural production and local exchange of the American interior. Similarly, R. Cole Harris traces the processes through which discontinuous human settlements were established in the boreal forests and along the attenuated watercourses of the "northern continental limit of agriculture."²⁸ This work illustrates both the contingency and the adaptability of imperial presence and influence in the region, as well the region's openness to the intellectual, political, and cultural influences of the broader maritime world. By examining processes through which British imperial agents negotiated control of littoral space in northeastern North America, and how these processes related to technological developments in survey, and to scientific and cultural conceptions of maritime space in the broader Atlantic world, this thesis builds on this established analytical approach to empire and power in the northeastern region.

²⁶ See, for example, Jocelyn Létourneau, "What is to be Done with 1759?," in Phillip Buckner and John G. Reid eds., *Remembering 1759: The Conquest of Canada in Historical Memory* (Toronto: University of Toronto Press, 2012), 279-302.

²⁷ Jerry Bannister, *The Rule of the Admirals: Law, Custom, and Naval Government in Newfoundland, 1699-1832* (Toronto: Osgoode Society and University of Toronto Press, 2003); Stephen J. Hornsby, *British Atlantic, American Frontier: Spaces of Power in Early Modern British America* (Lebanon, NH: University Press of New England, 2005); John G. Reid, Maurice Basque, Elizabeth Mancke, Barry Moody, Geoffrey Plank, and William Wicken, *The "Conquest" of Acadia, 1710: Imperial, Colonial, and Aboriginal Constructions* (Toronto: University of Toronto Press, 2004).

²⁸ R. Cole Harris, *The Reluctant Land: Society, Space, and Environment in Canada before Confederation* (Vancouver, BC: University of British Columbia Press, 2008), 15.

The processes through which maritime imperial influence and power was extended spatially in northeastern North America during the eighteenth century were most evident in and were accelerated by open military conflict. The opacity of the maritime approaches to European states' overseas colonial interests became most glaringly evident in times of war, when the need to move large numbers of military personnel and large quantities of materiel through unfamiliar waters generated unusually high demand for hydrographic knowledge. This thesis closely examines the contexts in which imperial warfare was conducted in the region, drawing particularly on recent analyses of the social and political contexts of regional military conflict by Fred Anderson, John Mack Faragher, and Geoffrey Plank.²⁹ In particular, it argues that the military operations organized to deport Acadians from the region were not anomalous, an unfortunate departure from more sensible and humane British imperial practice, but were one iteration of a particular tactical approach to amphibious irregular warfare developed in the contested littoral areas of the northeast over a period of several decades during the eighteenth century. These tactics greatly extended the ability of European and colonial forces to operate along coastal and riverine corridors in the forested landscapes of North America, and were employed to devastating effect throughout the Seven Years' War. This approach to littoral warfare in North America drew on Aboriginal and colonial practices of irregular warfare—of *la petite guerre*—and the historiography of this form of warfare strongly influences the analysis of imperial military activity presented in this

²⁹ Fred Anderson, *Crucible of War: the Seven Years' War and the Fate of Empire in North America, 1754-1766* (New York: Alfred A. Knopf, 2000); John Mack Faragher, *A Great and Noble Scheme: The Tragic Story of the Expulsion of the French Acadians from their American Homeland* (New York: Norton, 2005); Geoffrey Plank, *An Unsettled Conquest: The British Campaign against the Peoples of Acadia* (Philadelphia: University of Pennsylvania Press, 2001).

thesis.³⁰ Beyond this, however, another argument is advanced here: that the coastal and riverine nature of human occupation of the northeastern region, and the region's frequent contestation by Aboriginal and rival European and colonial forces, led to the development of a distinctive form of military activity—*la petite guerre navale*—that aided British maritime empire's rapid expansion in the region in the 1750s. Grafting the skills and hydrographic knowledge of seamen experienced in northeastern waters onto the stealth and irregular tactics of woodland fighters, this hybrid form of naval warfare proved to be remarkably effective in extending maritime imperial power and influence. This thesis thus examines the local contexts of military conquest in littoral landscapes, tracing the relation of British amphibious power to local hydrographic knowledge as means of overcoming material constraints on imperial activity.

Local hydrographic knowledge was a crucial element of maritime imperial expansion. In the eighteenth-century northeast it could be obtained in two ways: through directed hydrographic survey; or through the vernacular knowledge of people living and working in the maritime landscapes subject to imperial interest. This thesis accordingly tracks the history of survey and marine cartographic representation of the region over the course of the eighteenth century. The Gulf and River St. Lawrence comprised one of the most thoroughly charted marine areas of its size in the world during this time, largely in consequence of its status as a frequently contested theatre of imperial assertion. In New France, improving knowledge of the St. Lawrence navigation was the responsibility of

³⁰ John Grenier, *The First Way of War: American War Making on the Frontier, 1607-1814* (Cambridge: Cambridge University Press, 2005); Armstrong Starkey, *European and Native American Warfare 1675-1815* (Norman, OK: University of Oklahoma Press, 1998); Ian K. Steele, *Warpaths: Invasions of North America* (New York: Oxford University Press, 1994).

long-established state agencies.³¹ From the 1750s onward the British imperial state became more closely involved in supporting practices of hydrographic survey, in part to address the frequent paucity and unreliability of local knowledge in overseas areas. The surveys of Murdoch Mackenzie Sr. in Great Britain and J.F.W. Des Barres in northeastern North America applied methods of triangulated trigonometrical survey most often practiced by mathematical cosmographers and army engineers to the delineation of coastlines and navigable channels. The martial roots of scientific or improved hydrographical survey fit well with the institutional context in which these surveys were executed: Des Barres' survey, for example, was carried out under the auspices of the Admiralty and was, in its origins at least, closely aligned with the operational needs of the Royal Navy in North America.³² Improved hydrography's technological sophistication, its reliance on novel instruments and precise measurement, promised to free imperial actors from reliance on the questionable loyalties of local pilots and guides.

The relation between survey and empire in northeastern North America is the subject of an established hydrographic historiography, which has demonstrated how events in eighteenth-century northeastern North America were central to the development of this technically advanced form of marine survey that subsequently extended empirically accurate representation of inshore waters globally in the the late-eighteenth and nineteenth centuries. Recent studies by Stephen J. Hornsby and Jeffers Lennox,

³¹ James S. Pritchard, "Hydrography in New France," in William Glover ed., *Charting Northern Waters: Essays for the Centenary of the Canadian Hydrographical Service* (Montreal: McGill-Queen's University Press, 2004), 10-21; *idem*, "French Developments in Hydrography with Particular Reference to the St. Lawrence River during the Reign of Louis XV 1665-1709" (MA thesis, University of Western Ontario, 1965). Efforts to organize hydrographic knowledge of northeastern North America under the French colonial regime are examined in Chapter Four.

³² The definitive account of eighteenth-century British imperial survey in northeastern North America is Stephen J. Hornsby, *Surveyors of Empire: Samuel Holland, J.F.W. Des Barres and the Making of The Atlantic Neptune* (Montreal and Kingston: McGill-Queen's University Press, 2011).

informed by critical cartographic approaches to the analysis of imperial space, explain how British projects of survey in the northeast were closely linked to imperial reconceptualization of the region diplomatically, militarily, and in metropolitan popular consciousness.³³ This reconceptualization of American locality through techniques of imperial geographic reconnaissance was inscribed on the land in the form of colonial landholding regimes and forms of governance, nowhere more clearly than in St. John's Island (present-day Prince Edward Island) where, as Hornsby describes, Samuel Holland's survey abstracted local geography in support of landholding system designed for the benefit of absentee metropolitan owners of North American estates.³⁴

Similarly, this thesis adapts the analytical tools of critical cartography to the northeastern North American region, in this instance to the region's coastal landscapes of littoral settlement and exploitation. In particular, it adapts J.B. Harley's and Matthew Edney's insights into the martial roots of modern survey techniques to the marine environment.³⁵ The resulting critical hydrographic perspective permits a new understanding of the ways in which British amphibious military forces operating in the northeast combined the survey practices of army engineers and navy sailing masters to create a hybrid form of kinetic spatial analysis that, when deployed in connection with

³³ Hornsby, *Surveyors of Empire*; Jeffers Lennox, "Nova Scotia Lost and Found: The Acadian Boundary Negotiation and Imperial Envisioning, 1750-1755," *Acadiensis* 40:2 (2011), 3-31; *idem*, "L'Acadie Trouvée: Mapping, Geographic Knowledge, and Imagining Northeastern North America, 1710-1763" (PhD thesis, Dalhousie University, 2010); *idem*, "An Empire on Paper: The Founding of Halifax and Conceptions of Imperial Space, 1744-55," *Canadian Historical Review* 88: 3 (2007), 373-412.

³⁴ Hornsby, *Surveyors of Empire*, 125-135.

³⁵ Matthew H. Edney, *Mapping an Empire: The Geographical Construction of British India, 1765-1843* (Chicago: University of Chicago Press 1997); *idem*, "British Military Education, Mapmaking, and Military 'Map-Mindedness' in the Later Enlightenment," *Cartographic Journal* 31: 1 (1994), 14-20; J.B. Harley, "Contemporary Mapping of the American Revolutionary War," in J.B. Harley, Barbara Bartz Petchenik, and Lawrence W. Towner eds., *Mapping the American Revolutionary War* (Chicago: University of Chicago Press, 1978), 1-44; *idem*, "Specifications for Military Surveys in British North America, 1750-75," in W.P. Adams and F.M. Helleiner eds., *International Geography 1972* (Toronto: University of Toronto Press, 1972), 424-425.

techniques of *petite guerre* and *petite guerre navale*, permitted unprecedentedly rapid mastery of glaciated, boreal landscapes that had hitherto acted as effective material constraints on British maritime imperial assertion. In the post-Seven Years' War era, as John E. Crowley has shown, representations of American littoral space resulting from these surveys were used to figure British conquests to popular metropolitan audiences, assimilating the radical difference of northeastern North American places to prevailing European aesthetic categories of landscape.³⁶ Simultaneously, survey was used to fix the region in the global-positioning graticule of parallels and meridians—the universalizing frameworks of scientific geography—as part of a broader project of inventory subsuming regional resources to increasingly dominant European taxonomic systems.

This thesis accordingly draws on post-colonialist analyses of European projects archiving extra-European places and people, rendering them knowable and subject to the control of distant imperial authority.³⁷ But it argues as well that the same material constraints that precluded an unproblematic assertion of imperial power in the northeast likewise limited its full incorporation into the purview of European comprehension and control. Agents of British maritime empire certainly sought to comprehend American littoral space through survey, and to use this as a tool with which to subject local peoples to imperial authority. The imperial state dedicated resources on a large scale to these ends during and after the Seven Years' War. In practice, however, the British were unable to do so fully or consistently. State-supported hydrographical survey remained dependent to a significant extent on embodied local knowledge, and individuals possessing this

³⁶ John E. Crowley, *Imperial Landscapes: Britain's Global Visual Culture, 1745-1820* (New Haven, CT: Yale University Press, 2011); *idem*, "Taken on the Spot": The Visual Appropriation of New France for the Global British Empire," *Canadian Historical Review* 86: 1 (2005), 1-28.

³⁷ For classic expressions of this approach to imperial analysis, see Bruno Latour, *Science in Action: How to Follow Scientists and Engineers through Society* (Cambridge, MA: Harvard University Press, 1987); Mary Louise Pratt, *Imperial Eyes: Travel Writing and Transculturation* (New York: Routledge, 2008).

knowledge were frequently employed to assist in surveying the localities they inhabited. More importantly, pilotage skills and knowledge resided in experienced individuals' responses to specific geographical and meteorological conditions in specific localities. This sort of embodied knowledge—referred to as *metis* by James C. Scott—resisted abstraction and representation in textual or graphic form.³⁸ No matter how detailed they became, charts and surveys could not—and today still cannot—convey the full complexity of the knowledge required to navigate safely and effectively in inshore waters. The hydrographic complexity of North American estuarine and coastal regions therefore enforced imperial reliance on local pilotage knowledge, and so on the loyalty of local people and communities, for effective military operations and the successful prosecution of trade. It is in this context that Governor Carleton's unusual solicitude to a destitute pilot is more amply understood: as a means of cultivating the links between local Atlantics and the broader maritime world upon which transoceanic empire relied, and which could not be fully secured in any other way.

The narrative arc of this study runs as follows: throughout the eighteenth century, British state agents confronted the epistemological challenge of mastering unknown navigations through which maritime imperial power could be conducted in the glaciated woodland landscapes of northeastern North America. This challenge could be addressed through enlistment of people possessing local hydrographical skills and knowledge, or through abstracting this knowledge (to the extent that this was possible) by means of the processes of formal survey. From mid-century onward, developments in survey technologies and the growth of commercial mapmaking ensured that northeastern

³⁸ James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven: Yale University Press, 1998), 317.

physical geography and hydrography was represented as fully as any comparable-size region in the Americas, if not the entire maritime world. The level of geographic information conveyed through cartographic representations was not, however, wholly adequate to the purpose of conquering and administering colonial enclaves with complicated inshore approaches. For this, embodied knowledge of local conditions was required; the loyalty of local pilots and guides accordingly became an important consideration of British officers and administrators. When this loyalty was vouchsafed, either through coercion or negotiation, pilot knowledge acted as an effective support for imperial efforts to make northeastern polities secure and productive. When this loyalty could not be commanded or otherwise ensured, authorities stood in danger of losing control of the local Atlantic, and so of forfeiting maritime empire's effective claims to regional territories, peoples, and resources.

Full elaboration of these arguments is structured as follows: Chapter Two examines the 1711 Quebec Expedition led by Admiral Hovenden Walker to establish a baseline relation between maritime imperial outreach and hydrographic knowledge. Walker was charged with directing a powerful amphibious force deep into the North American interior by means of a navigation that was all but completely unknown to him and to those who sailed with him. His efforts to address this hydrographic ignorance serve to introduce the state of chart knowledge, both in Britain and internationally in this period, and to suggest reasons why charts were inadequate tools for purposes of imperial conquest for much of the eighteenth century. Chapter Two looks at the connections between embodied pilot knowledge and state authority, examining how self-interest and loyalty interacted in ways that were frequently inimical to the successful pursuit of

imperial aims. It examines the character of seafaring in the age of sail, suggesting that the marine environment placed real constraints on how states and individuals could act in the coastal zone. And it suggests that overcoming these constraints required intimate local knowledge of the sort that nautical charts and sailing directions were incapable of providing.

Chapter Three gives an overview of the state of British maritime empire during and after the Seven Years' War, exploring ways in which the war represented a watershed in Britain's overseas expansion. The war consolidated and intensified expansionist tendencies evident from the late-seventeenth century onward, accelerating the development of martial practices that supported the extension of British imperial influence globally. In particular, Chapter Three discusses the maturation of British amphibious warfare. While the 1758 siege of Louisbourg on Cape Breton Island represented the application of long-established techniques of formal amphibious siege warfare to a North American context, the subsequent Gulf of St. Lawrence and Bay of Fundy campaigns saw a much fuller adaptation of European military tactics to the riverine landscapes of North America. During these campaigns, the local guide and pilot knowledge required to assert military force beyond fortified coastal enclaves and into the continental interior was closely associated with irregular forms of warfare, as practiced by Aboriginal and colonial fighters, and increasingly by their European counterparts as well. This ensured that geographical knowledge gathering was closely related to issues of loyalty and coercion, and to forms of scorched-earth warfare that occurred when inadequate local knowledge limited imperial capacity to act in unfamiliar environments.

Chapter Four examines British efforts to collect and deploy chart and embodied pilot knowledge prior to and during Quebec Campaign of 1759. It discusses the development of scientific or improved hydrographic surveying, and examines some of the ways that these novel techniques have been understood historiographically. It examines how changes in the international map marketplace since Walker's expedition ensured that chart knowledge of the St. Lawrence navigation was widely available to the 1759 campaign's planners, and suggests ways in which the practical utility of this knowledge was in fact strictly limited. The Quebec Campaign also inspired systematic efforts to identify individuals with pilotage experience in the river, and to ensure that their knowledge was available to those charged with leading the expedition's fleet up the St. Lawrence. Chapter Four examines how this pilot knowledge was organized and made available for the purpose of extending maritime empire deep into the continental interior of North America. Finally, it looks at the ways in which the seamanship abilities of Royal Navy personnel themselves were deployed to master the St. Lawrence navigation, both through practices of on-the-spot survey, and systems of fleet organization and signalling that promised flexible and timely response to the river's hazards when and as they were encountered.

Chapter Five tracks the preparations discussed in Chapter Four as they were put in motion, following the course of the British expeditionary forces across the breadth of the British Atlantic to the St. Lawrence itself, demonstrating how chart and pilot knowledge were deployed in New France in the summer and autumn of 1759. It discusses how authorities in New France sought to maximize the defensive potential of the colony's riverine physical geography, and outlines the tactical quandary this presented to besieging

forces. The extremely littoral nature of this campaign, in which British forces were restricted to the river and to a few fortified enclaves, ensured that operational hydrographic survey played an important role, as attackers sought to effect landings that were their only means of forcing a decisive result. Chapter Five also examines how the geographic and hydrographic constraints of the contested Canadian landscapes encouraged the application of irregular military tactics—*petite guerre* and *petite guerre navale*—developed in the course of imperial warfare in the northeast in the preceding decades. Irregular warfare and scorched earth tactics were widely practiced against civilian populations during the campaign in an attempt to deprive defenders of the means to continue their resistance, and against military targets as part of a months-long effort by one side to execute a successful landing, and by the other to prevent such a landing. British operations at Quebec were characterized by a pattern of amphibious descents that drew on its military personnel’s long experience of such actions both before and during the Seven Years’ War, the successful landing of 13 September 1759 being only the most spectacular example.

Chapter Six positions post-war hydrographic surveys the northwestern North Atlantic—particularly those of J.F.W. Des Barres, James Cook, and Michael Lane—in the context of North American geographic and climatic conditions. It expands on distinctions made in earlier chapters between hydrographic knowledge derived from survey and that derived from the embodied experience of fishers, boatmen and others closely identified with particular geographic areas. It discusses how the glaciated landscapes of the region generated an urgent need for hydrographic information to support commercial, military, and administrative projects in the post-war period, and how

the same landscapes resisted survey. It tracks the progress of formal survey in the St. Lawrence system and along the coast of Nova Scotia in the period between 1760 and 1775, and demonstrates how embodied pilot knowledge was appropriated by map and chartmakers and so made available for state purposes. Finally, it argues that the relative paucity of embodied pilot knowledge in northeastern North America helped to stimulate a process of marine cartographic innovation that refined and elaborated on the existing conventions of that discipline.

Chapter Seven explores elements of the relation between hydrographic knowledge and governance as it was practiced in the northeastern region in the decade prior to the outbreak of the American Revolutionary War. It discusses how survey was related to broader European projects of world-wide scientific inventory, as practiced for example by James Cook and Joseph Banks and by scientific bodies such as Britain's Royal Society. It suggests that the practices of survey that situated the region ever more firmly within the system of global positioning coordinates defined by scientific cartography's graticule were also used to define the administrative structures created to govern the new colonial entities resulting from Britain's victory in the Seven Years' War. It examines how survey contributed to efforts to make these colonies secure and productive in the context of post-Seven Years' War imperial reform. Finally, it argues that, during the American Revolutionary War, embodied knowledge of the coastal zone upon which projects of survey depended was turned against imperial interests, resulting in loss of control over coastal and riverine areas of northeastern North America. By losing the loyalty of a large proportion of its American subjects, Britain rapidly lost control of the local Atlantic as well.

Chapter Two
Hydrographic Ignorance and the Limits of Empire:
The Quebec Expedition Disaster, 1711

In late August 1711 the largest amphibious expedition mounted to date in northwestern Atlantic waters confronted an insoluble hydrographic puzzle in the mouth of the St. Lawrence River. Nine Royal Navy warships and sixty transports, carrying 7500 soldiers and 6000 sailors, departed Boston as part of a pincer operation combining British, British American, and Haudenosaunee forces intent on attacking Quebec and Montreal. In preparation for the campaign during the spring and early summer of 1711, naval commander Hovenden Walker searched both New England and Europe for hydrographic information relating to the St. Lawrence navigation. He found that there was little detailed or reliable information to be had: at the time of departure, the expedition's knowledge of the St. Lawrence consisted of a large-scale Dutch and English charts not suited to intricate estuarine and riverine navigation; textual accounts of William Phips' failed expedition in the same waters twenty years before; the scant lived experience of New Englanders who had accompanied Phips or who had sailed cartel ships to New France more recently; and the somewhat fuller experience of two collaborating French pilots. A chart compiled from this information, printed in Boston for the expedition, proved to be of little assistance. As the fleet sailed northward for Canada, it had little formal chart knowledge of the St. Lawrence and even less embodied pilot knowledge. When it passed from the relatively open waters of the Gulf of St. Lawrence into the river on the evening of August 22nd, the expedition found itself in an unknown

navigation, out of soundings in a thick fog, at night, subject to currents of unknown strength and direction.

This state of near-total disorientation was an eventuality anticipated and feared by mariners on all of the world's seas during the age of the sailing ship, and was frequently fatal. The expedition's commander and sailing masters had no empirical or technological means—no landmarks, no skymarks, no instruments, no soundings—to determine where they were and, in consequence, no informational basis upon which to determine a course of action that would permit them to advance or retreat with an expectation of safety. When the noise of surf on the river's north shore revealed their approximate position—well north of their reckoning—eight of the transports were too close to the land to make headway against easterly winds and northwesterly currents driving them onto a lee shore. All eight went aground and were wrecked, with the loss of over 850 soldiers, sailors, and camp followers. Boats took abject survivors off the bare coast of the north shore in the following days, saving them from certain death by exposure and starvation. On August 25th a meeting convened by the expedition's sea officers resolved to discontinue the fleet's navigation to Quebec. Declining also to attack Placentia in Newfoundland, a secondary objective, the remaining ships returned to Britain having achieved no appreciable military objective.¹

¹ The fullest account of the 1711 Quebec Expedition is the Champlain Society volume edited by Gerald Graham, which reprints Hovenden Walker's 1720 journal and supplements this with journals and correspondence of key actors in Britain and Massachusetts along with additional material on the St. Lawrence navigation and its role in the histories of New France and New England: Gerald Graham ed., *The Walker Expedition to Quebec, 1711* (Toronto: Champlain Society, 1953). A recent treatment that examines the expedition in the broader context of naval activities in the northwestern Atlantic region is offered by William R. Miles, "The Royal Navy and Northeastern North America, 1689-1713" (MA Thesis, Saint Mary's University, 2000), chapter 3; see also Bruce Lenman, *Britain's Colonial Wars 1688-1783* (Harlow, Essex: Pearson, 2001), 37; Ian K. Steele, *Warpaths: Invasions of North America* (New York: Oxford University Press, 1994), 158-159.

The Quebec Expedition was placed in a situation of grave vulnerability as a result of its near-total ignorance of the inshore waters it had to traverse to attain its goals. The fleet was driven onto a lee shore in fog by winds and currents of unknown force and direction, in a boreal climate to which it was not adapted. As a result of information collected in Boston, the masters navigating the fleet had a fair sense of the river's general size and orientation, and some knowledge of its main difficulties and their locations. They did not, however, have knowledge derived from long observation of the interaction of climate and geography in localized marine areas that might allow them to respond effectively to, for example, shifts of wind and weather and to the disposition of currents in various reaches of the river. The immediate cause of the transports' wrecks was an extremely localized phenomenon: a pattern of interaction among wind, currents, hydrographic and geographic features in a small area of the larger maritime landscape of the lower St. Lawrence River. The most detailed and accurate contemporary charts and sailing directions, manuscript and printed, did not record these phenomena. Sources of published hydrographic information circulating publicly across global transoceanic routes—dominated in the late seventeenth and early eighteenth centuries by Dutch sea atlases—provided only very general representations of particular navigations that served, in inshore areas, mainly to supplement the narrative sailing directions they accompanied.²

² For overviews of the varieties of printed and hydrographic materials commercially available to European mariners in the late-seventeenth and early eighteenth centuries, see Susanna Fisher, "The Organisation of Hydrographic Information for English Navigators—Five Hundred Years of Sailing Directions and Charts," *Journal of Navigation* 54: 2 (2001), 157-166; D.W. Waters, "The English Pilot: English Sailing Directions and Charts and the Rise of English Shipping, 16th to 18th Centuries," *Journal of Navigation* 42:3 (1989), 317-354; Peter Whitfield, *The Charting of the Oceans: Ten Centuries of Maritime Maps* (London: British Library, 1996); Norman J.W. Thrower ed., *The Compleat Plattmaker: Essays on Chart, Map, and Globe Making in England in the Seventeenth and Eighteenth Centuries* (Berkeley: University of California Press, 1978); William P. Cumming, *British Maps of Colonial America* (Chicago: University of Chicago Press, 1974), chapter 3.

No printed charts or sailing directions, however thorough, could contain more than a small fraction of the hydrographic information relevant to a given navigation. It was the pilot's vocation to master as much of this information as was possible, to systematize and deploy it to reduce the unavoidable dangers that hydrographic features, climate, and local weather presented to the navigator. Embodied pilotage knowledge was not only more thorough than published sources: it was dynamic and alive, recognizing patterns and responding to conditions and interactions as they changed. While eighteenth-century European governments offered lucrative incentives to encourage improvement of charting and deep-water navigation—by means, for example, of practical methods of determining longitude at sea—knowledge of inshore waters was just as vital and less amenable to technological fixes. Masters of deep-water merchant and naval vessels alike relied on pilots' local knowledge in unfamiliar inshore waters to avoid navigational hazards evident only to those with long exposure to them. For European navigators, overseas pilots were vital linkages transmitting imperial influence, giving projectors knowledge of local maritime environments and cultures through which that influence must pass.³

This chapter explores the Quebec Expedition of 1711 to offer a preliminary assessment of the importance of inshore climate and geography—the object of both

³ For accounts of pilot knowledge and its dynamic relation to the marine environment, see Margareta H. Lützhöft and James M. Nyce, "Piloting by Heart and by Chart," *Journal of Navigation* 59 (2006), 221-237. For a subtle appreciation of the relations between pilotage and the exercise of power by maritime means, see James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven: Yale University Press, 1998). On the environmental constraints on seafaring during the age of the sailing ship, see William E. Carter and Merri S. Carter, "The Age of Sail; A Time when the Fortunes of Nations and Lives of Seamen Literally Turned with the Winds their Ships Encountered at Sea," *Journal of Navigation* 63 (2010), 717-731; D.F.H. Grocott, "Shipwrecks in the Revolutionary and Napoleonic Eras, 1793-1815. Causal Factors and Comments," *Journal of Navigation* 52: 2 (1999), 149-162; N.A.M. Rodger, "Weather, Geography and Naval Power in the Age of Sail," *Journal of Strategic Studies* 22: 2-3 (1999), 178-200; Jean-François Brière, "The Safety of Navigation in the 18th Century French Cod Fisheries," *Acadiensis* 16:2 (1987), 85-94; W.E. May, "Navigational Accuracy in the Eighteenth Century," *Journal of Navigation* 6 (1953), 71-73.

embodied pilot knowledge and formal hydrographic survey—to British state activity overseas during the eighteenth century. It does so in order to establish a baseline against which the efficacy of later eighteenth-century British efforts to extend and sustain maritime imperial activity in the northwestern Atlantic can be measured. It highlights the geographic, hydrographic, and climatic constraints on this activity that, alongside political and economic impediments, limited the range of British overseas assertion in this period, and throughout the period in which maritime imperial powers relied on sailing ships as a primary means of transportation and communication. The processes of maritime empire required mastery of geographic, climatic, and meteorological conditions in unfamiliar inshore waters—in coastal, estuarine, and riverine areas—by definition. Imperial projectors sought to identify means through which the constraints these conditions presented could be mitigated. This chapter investigates the extent to which these means were employed in 1711; subsequent chapters extend this investigation to later eighteenth-century instances of British maritime imperial activity in northeastern North America. As overseas endeavour became more frequent and more vital to the economic life of Britain over the course of the eighteenth century, and as combined military operations of the sort undertaken in 1711 became a key tool to advance this endeavour, the challenge presented by inshore waters' hydrographic difficulties—and the need to comprehend and control these difficulties—became more pronounced and demanded more systematic responses than those available to Walker.⁴ These responses

⁴ For accounts of the development of European and specifically British amphibious capacity in the eighteenth century, see Richard Harding, *Seapower and Naval Warfare, 1650-1830* (London: UCL Press, 1999); Richard Harding, *Amphibious Warfare in the Eighteenth Century: The British Expedition to the West Indies, 1740-1742* (Woodbridge, Suffolk, 1991), 158-165; Richard Harding, "Sailors and Gentlemen of Parade: Some Professional and Technical Problems Concerning the Conduct of Combined Operations in the Eighteenth Century," *Historical Journal* 32: 1 (1989), 35-55; David Syrett, ed., *The Siege and Capture*

required political recognition of the importance of overseas activities and of the role of hydrographic information in them, the growth of state resources and administrative capacity necessary to undertake marine reconnaissance on a sustained basis, and the development of technical capacities sufficient to accurately survey and represent large, continuous areas of the maritime world.

Above all it required the enlistment—voluntary or otherwise—of local embodied pilot knowledge familiar with the maritime regions in which imperial activities occurred, as this embodied knowledge was the most certain way of minimizing the risks of navigation under sail in unfamiliar waters. These capacities barely existed in 1711. In the following century the northwestern Atlantic region, and the Gulf and River St. Lawrence in particular, became a sort of laboratory in which British state capacity for hydrographic survey (largely under military auspices) and the systematization of local pilot knowledge (frequently by coercive means) were combined to facilitate the conquest and political reordering of large areas of northeastern North America. These processes of operational hydrographic knowledge-gathering and mobilization of embodied local knowledge were honed during the Seven Years' War, and served as a template for British maritime imperial endeavour well into the nineteenth century.

Metropolitan Politics, Local Initiative, and Maritime Empire

Before hydrographic challenges could become an issue, eighteenth-century proponents of military activities overseas had to overcome serious political impediments to their proposals. The fact that the Quebec Expedition of 1711 occurred at all is exceptional, given the reluctance of contemporary European states to commit military

of Havana 1762 (London, 1970); A. Vaghts, *Landing Operations: Strategy, Psychology, Tactics, Politics, from Antiquity to 1945* (Harrisburg, PA and Washington, DC: Military Service Publishing, 1946).

resources outside European waters and theatres of war. The effective processes of British maritime empire, especially as they operated prior to 1763, have long been understood to have been mediated, contingent, unevenly applied.⁵ While mercantilist regulation from the 1650s onward and increasingly virulent assertions of the essentially maritime nature of the English nation (and, after 1707, of imperial Great Britain) indicate a growing metropolitan investment in and identity with overseas activity, direct metropolitan state intervention in western Atlantic colonial settlements and enclaves was relatively rare before the mid-eighteenth century. In contrast, British commercial activity overseas was vibrant and growing. While it was increasingly apparent in the period prior to 1713 that overseas trade could generate revenues to help check or outstrip the ambitions of rival states, and that a powerful national navy was the way to vouchsafe trade, this did not necessarily imply or require significant commitment of state resources in the overseas locales where commercial activities were centered.⁶ Imperial activity in these regions

⁵ For overviews of the large and growing recent literature examining the partial and contingent nature of British imperial activity, particularly in the period before the mid-nineteenth century, see H.V. Bowen, Elizabeth Mancke, and John G. Reid eds., *Britain's Oceanic Empire: Atlantic and Indian Ocean Worlds, c. 1550-1850* (Cambridge: Cambridge University Press, 2012); J.H. Elliot, *Empires of the Atlantic World: Britain and Spain in America 1492-1830* (New Haven and London, 2006); P.J. Marshall, *The Making and Unmaking of Empires: Britain, India, and America c.1750-1783* (Oxford, 2005); Jeremy Black, *The British Seaborne Empire* (New Haven and London, 2004); P.J. Marshall ed. *The Oxford History of the British Empire Volume II: The Eighteenth Century* (Oxford: Oxford University Press, 1998).

⁶ The relations between trade and empire in eighteenth-century Britain are examined by Daniel A. Baugh, "Maritime Strength and Atlantic Commerce: The Uses of 'A Grand Maritime Empire,'" in Lawrence Stone, ed., *An Imperial State at War: Britain from 1689 to 1815* (London: Routledge, 1984). See also P.J. Marshall, "The British State Overseas, 1750-1850," in Bob Moore and Henk van Nierop, eds., *Colonial Empires Compared: Britain and the Netherlands, 1750-1850* (Aldershot, Hampshire: Ashgate, 2003), 171-184; Baugh, "Withdrawing from Europe: Anglo-French Maritime Geopolitics, 1750-1800," *International History Review* 20: 1 (1998), 9-11; H.V. Bowen, "British Conceptions of Global Empire, 1756-83," *Journal of Imperial and Commonwealth History* 26: 3 (1998), 1-27; H.V. Bowen, *Elites, Enterprise and the Making of the British Overseas Empire 1688-1775* (London, 1996); John Brewer, *The Sinews of Power: War, Money and the English State, 1688-1783* (Cambridge, MA, 1988). For specific treatment of the role of naval power in these relations, see N.A.M. Rodger, *The Command of the Ocean: A Naval History of Britain, 1649-1815* (New York, 2004); N.A.M. Rodger, "Seapower and Empire: Cause and Effect," in Bob Moore and Henk van Nierop, eds., *Colonial Empires Compared: Britain and the Netherlands, 1750-1850* (Aldershot, Hampshire, 2003), 97-112; N.A.M. Rodger, "Sea-Power and Empire, 1688-1793," in P.J. Marshall, ed., *The Oxford History of the British Empire Volume II: The Eighteenth Century* (Oxford, 1998),

continued to be driven primarily by private individuals and merchant firms engaged in commercial, military, and administrative activities linked to the interconnected trades of the Atlantic basin. The metropolitan state intervened in the form of taxation and trade protection, but was seldom—with exceptions that became sustained and important only from the 1740s onward—willing or able to act in overseas areas in a direct, timely, or sustained manner. In J.D. Alsop's estimation, English and later British governments acting overseas "always desired the maximum military, political and economic advantage with the minimum commitment of manpower, ships and money."⁷

Such direct interventions as did occur tended to be determined both by the circulatory systems of the Atlantic navigation, and by the relative size and importance of the commercial activities the intervention aimed to protect or promote. British state military action outside European waters in the first half of the eighteenth century was most common in the West Indies, where rival nations' lucrative plantation societies had relatively uncomplicated approaches, hydrographically speaking, for the amphibious expeditions that were necessary vehicles of direct European military intervention overseas. Similar actions in mainland North America were much less frequent, reflecting both the greater sophistication and capacity for self-defense of the colonial polities there, and the difficulty of effective amphibious operations along the attenuated and imperfectly known inshore and riverine navigations of the northwestern North Atlantic. Newfoundland's greater proximity to Europe, relative ease of approach, and growing centrality to mercantilist conceptions of national economic life ensured that it, too,

169-183; Daniel A. Baugh, "Great Britain's 'Blue Water' Policy, 1689-1815," *International History Review* 10: 1 (1988), 33-58.

⁷ J.D. Alsop, "The Age of the Projectors: British Imperial Strategy in the North Atlantic in the War of Spanish Succession," *Acadiensis* 21: 1 (1991), 39.

received greater attention from metropolitan state agents than did mainland colonial entities.⁸ At times transatlantic expeditions were structured with a relative loose series of objectives arrayed along the rim of the central and northern western Atlantic—as, for example, during Hovenden Walker’s 1703 squadron action in American waters—so as to include possible attacks on rival interests in the West Indies, in northeastern North America, and Newfoundland in a single, sweeping circuit of the ocean basin.⁹ This approach seldom yielded positive results, however, and at times such expeditions served most notably as vectors carrying epidemic diseases—a serious impediment to imperial military activity in tropical latitudes—from Caribbean regions to the more temperate northeastern mainland.¹⁰ Throughout the first half of the eighteenth century, these overseas operations also remained contingent on events in European theatres of war, which always remained of primary importance in the allocation of military resources as when, in 1709, the naval component of a planned attack on Quebec was diverted to protect Britain’s European allies forcing the cancellation of American operations.

The reluctance shown by metropolitan British state officials to support direct interventions overseas was only partly a consequence of a deliberate strategic privileging of European over American affairs; it also reflected a simple recognition of the limited capacities of the British state in the early modern period. While Britain’s expanding commerce in the decades straddling the turn of the eighteenth century generated fiscal capacity adequate to support naval forces generally superior to those of its European

⁸ Stephen J. Horsby discusses the relations between geography, hydrography, and the exercise of imperial power in his *British Atlantic, American Frontier: Spaces of Power in Early Modern British America* (Hanover, NH: University Press of New England, 2005), especially chapter 9, “The Fracturing of British America”.

⁹ Graham ed., *Walker Expedition*, 14-15.

¹⁰ Bruce Lenman, *Britain’s Colonial Wars 1688-1783* (Harlow, Essex: Pearson, 2001), 34-35; William R. Miles, “The Royal Navy and Northeastern North America, 1689-1713,” (MA Thesis, Saint Mary’s University, 2000), 54-56.

rivals, the scope of British military and administrative effectiveness, especially overseas, remained quite limited until the 1740s. During the seventeenth century, state formation in British American colonies was frequently instigated by provincial elites' bringing local innovations and initiatives to the attention of metropolitan authorities, who might then join in practices of shared governance. This process of elite cooption lessened the expense and logistical difficulties of transoceanic governance by metropolitan officials, while encouraging independent local action.¹¹ Late seventeenth and early eighteenth-century military activity in northeastern North America accordingly tended to originate either with colonial residents themselves, responding to specifically local threats and opportunities, or by entrepreneurial imperial activists, frequently British military officers experienced in colonial trade, administration, and warfare.

The personnel for such locally organized ventures were predominantly British American in origin, sometimes with support from metropolitan naval forces. The efforts of men like Massachusetts-born Benjamin Church to expand and protect colonial settlements and activities in frontier areas in unceded Aboriginal territories, and to conduct punitive raids against French colonial interests, are examples of this process. Church's adoption of Aboriginal military practices demonstrates how reliance on colonial elites for broadly imperial purposes could result in tactics better suited to American conditions than those employed by military personnel trained in Europe.¹² Experienced

¹¹ Elizabeth Mancke and John G. Reid, "Elites, States, and the Imperial Contest for Acadia," in John G. Reid et al., *The 'Conquest' of Acadia, 1710: Imperial, Colonial, and Aboriginal Constructions* (Toronto: University of Toronto Press, 2004), 25-47; Elizabeth Mancke, "Negotiating an Empire: Britain and Its Overseas Peripheries, c. 1550-1780," in Christine Daniels and Michael V. Kennedy eds., *Negotiated Empires: Centers and Peripheries in the New World, 1500-1820* (New York: Routledge, 2002), 235-265; Robert Ritchie, *Captain Kidd and the War against the Pirates* (Cambridge: Cambridge University Press, 1986).

¹² John Grenier, *The First Way of War: American War Making on the Frontier, 1607-1814* (Cambridge: Cambridge University Press, 2005), 30-37; Armstrong Starkey, *European and Native American Warfare*

British American seamen like Cyprian Southack, commander of the Massachusetts *Province Galley*, similarly adapted naval warfare to local geographic, climatic, and political conditions during the wars straddling the turn of the eighteenth century, developing a sort of *petite guerre navale* that greatly facilitated the exercise of both force and diplomacy on open granite coasts and along heavily forested rivers.¹³ Both men were experienced intercultural communicators, able to act effectively in areas of contested or unsettled sovereignty. Projectors such as William Phips and Samuel Vetch served analogous functions, identifying local opportunities, marshaling resources, and cultivating influence to seek material support from state agents in colonial and imperial capitals alike. Phips, for example, was able to instigate successful military operations against Port Royal in Acadia, and unsuccessful operations against Quebec, both in 1690 and both employing colonial forces almost exclusively.¹⁴

Like the Phips expeditions, Walker's 1711 attempt to capture Quebec had its origin in North American initiative. Colonial politicians including former Virginia lieutenant-governor Francis Nicholson, Massachusetts governor Joseph Dudley, and the Scottish-born military officer Samuel Vetch lobbied the Board of Trade and Plantations over a period of years, seeking to overcome the continental biases of contemporary Whig ministries to gain support for a decisive strike against French power in Canada.

1675-1815 (Norman, OK: University of Oklahoma Press, 1998), 31-32; Ian K. Steele, *Warpaths: Invasions of North America* (New York: Oxford University Press, 1994), 142.

¹³ Donald Chard, "Southack, Cyprian," in *Dictionary of Canadian Biography*, http://www.biographi.ca/009004-119.01-e.php?&id_nbr=1661, accessed 12 June 2012. The role of seamen with experience as colonial privateers and provincial marines in developing a form of *petite guerre navale* is examined at greater length in later chapters.

¹⁴ Emerson W. Baker and John G. Reid, *The New England Knight: Sir William Phips, 1651-1695* (Toronto: University of Toronto Press, 1998), esp. chapters 5 and 8; J.D. Alsop, "The Age of the Projectors: British Imperial Strategy in the North Atlantic in the War of Spanish Succession," *Acadiensis* 21: 1 (1991), 30-53; J.D. Alsop, "Samuel Vetch's 'Canada Survey'd': The Formation of a Colonial Strategy, 1706-1710," *Acadiensis* 12:1 (1982), 39-58; G.M. Waller, *Samuel Vetch Colonial Enterpriser* (Chapel Hill: University of North Carolina Press, 1960).

Proponents of a new expedition pointed to the commercial benefits that would accrue from it: greater security for Britain's West Indian colonies, the wealth that could result from being the sole European power active in northern North America. While the British ministry remained unimpressed by the St. Lawrence's role in foreign policy calculations, they did support a strong expedition in 1711, motivated in part by the contemporary weakness of the French navy and in part by the ascent of a Tory ministry more inclined to a "blue water" approach to overseas endeavours. When Walker sailed from Plymouth on 4 May 1711 one key obstacle to a successful amphibious operation up the St. Lawrence had been temporarily overcome: that of British unwillingness to intervene in North American affairs on a large scale.¹⁵

British American Enclave Settlement and Aboriginal Power

British North American colonial authorities' need to act independently and their desire to enlist metropolitan military support for their local conflicts were both motivated by the fact that the territories they administered remained, in the first decades of the eighteenth century, enclave societies oriented towards the Atlantic with limited connections to the continental interior.¹⁶ Whether they were engaged primarily in the fisheries, in staple agriculture, or in trade, these societies occupied a narrow coastal strip and limited areas of rivers reaching inland from that strip. Beyond these small and self-contained areas of relatively secure settlement, Aboriginal peoples and their polities

¹⁵ Graham ed., *Walker Expedition*, 5-30. The scale of the expedition was remarkable in contemporary British American terms: Walker notes that when it departed Boston on 30 July its complement was greater than the population of the town itself. See also James D. Alsop, "Samuel Vetch's *Canada Survey'd*: The Formation of a Colonial Strategy, 1706-1710," *Acadiensis* 12:1 (1982), 39-58.

¹⁶ Hornsby, *British Atlantic, American Frontier*, chapters 2, 3; see also Lauren Benton, *A Search for Sovereignty: Law and Geography in European Empires, 1400-1900* (Cambridge: Cambridge University Press, 2010), "Introduction"; R. Cole Harris, *The Reluctant Land: Society, Space, and Environment in Canada before Confederation* (Vancouver, BC: University of British Columbia Press, 2008), 117-136.

remained the dominant political and military force.¹⁷ British North America in this period was thus a series of economically and politically determined littoral societies, stretched along the coast where the sources of their economic sustenance were located, and prevented from acting in the interior except on sufferance of neighbouring Aboriginal groups. In regions peripheral to denser settlements, such as eastern New England and Mi'kmaq/Acadia, even coastal areas were not secure for British Americans' use. New Englanders' experience of a sort of geopolitical claustrophobia, expressed as a fear of being pushed into the sea by antagonistic First Nations and their French allies, was well founded until the 1720s at least, and much later in areas outside the main regions of settlement. Any British or British American attempt to act militarily in the continental interior had thus to accommodate the fact of Aboriginal strategic dominance of the majority of the northeastern North American landmass. Samuel Vetch's 1708 *Canada Survey'd* recognized this fact, along with the necessity of engaging Aboriginal groups whose interests coincided with those of imperial projectors in any broad assault on French colonial power in the northeastern region.¹⁸

In 1710, the presumed support of these groups for British imperial ventures became a key means of enlisting metropolitan support for military action against Quebec. Imperial projectors framed the visit of four Haudenosaunee men to England in that year—four “kings”, as they were presented to British authorities and the public—as a

¹⁷ Emerson W. Baker and John G. Reid, “Amerindian Power in the Early Modern Northeast: A Reappraisal,” *William and Mary Quarterly* 3rd series 61: 1 (2004), 77-106; Daniel Vickers, *Farmers and Fishermen: Two Centuries of Work in Essex County, Massachusetts, 1630-1850* (Chapel Hill, NC: University of North Carolina Press, 1994).

¹⁸ Samuel Vetch, “Canada Survey'd, or the French Dominions upon the Continent of America Briefly Considered in Their Situation, Strength, Trade and Number, More Particularly How Vastly Prejudicial They Are to the British Interest, and a Method Proposed of Easily Removing Them,” in Cecil Headlam ed., *The Calendar of State Papers, Colonial, America, and West Indies, June 1708-1709* (London: HMSO, 1922), 41-51.

propaganda exercise deliberately intended to exaggerate the level of Aboriginal involvement in their plans. In this they were remarkably successful, shoring up support for the 1711 expedition and creating a public sensation that fixed new images of American empire in British popular consciousness.¹⁹ The “four kings” did not, however, represent the opinion of the broader Haudenosaunee polities of which they were members. Aboriginal support for the 1711 expedition remained tentative and uncertain almost until its departure, as Haudenosaunee delegates visited Boston in late July to ensure that the promised naval support for the pincer operation against New France had in fact arrived and in sufficient force. Even when satisfied on this point, they expressed wariness that the campaign season was already far advanced and might end before the joint operations could be effected.²⁰ In the end, Aboriginal forces permitted and to an extent abetted an overland action towards Montreal to divert forces away from Quebec, a key element of the expedition’s tactical plan.

The Walker Expedition Disaster, 1711

In 1711, then, a series of necessary conditions—the assent and participation of Aboriginal nations, the organizational and promotional skills of imperial entrepreneurs, the commitment of state military assets and personnel—coincided to permit the deployment of what was, by contemporary standards, a remarkably large transoceanic amphibious force. Despite difficulties with desertion and provisioning at Boston, it managed to depart for Quebec relatively early in the season, considerably earlier than the

¹⁹ Eric Hinderaker, “The ‘Four Indian Kings’ and the Imaginative Construction of the First British Empire,” *William and Mary Quarterly* 3rd series 53:3 (1996), 487-507.

²⁰ *Colonel King’s Journal*, 23 July 1711, in Graham ed., *Walker Expedition*, 325.

ships that successfully carried Phips up the St. Lawrence in 1690.²¹ Nine warships, two bomb vessels, and sixty tenders left Boston on July 31st; by August 3rd the fleet was off Cape Sable Island; by the 8th, eastern Cape Breton; on the 12th it was off St. Paul Island at the entrance to the gulf. South of Anticosti at the threshold of the river, the wind began to blow hard from the northwest, the prevailing direction for the winter season. The fleet sheltered in Gaspé Bay until the wind fell calm and then shifted to blow out of the east, a favourable direction for entering the river. The east wind carried with it thick fog that, by obscuring the sight of sky and land, in water too deep to sound, disoriented Walker so that he remained unaware of currents that drove his ships towards the harsh and thinly populated coast of the lower north shore of the St. Lawrence and Labrador.²² Eight transports wrecked on the night of August 22nd/23rd, and the dispersed fleet spent two days salvaging survivors and stores from the wreck and reorganizing. On the 25th the force's naval officers agreed to discontinue efforts to carry the expedition to Quebec. The unusual coincidence of forces and interests that had succeeded in producing a transatlantic operation in northeastern North America unraveled quickly and brutally at the entrance to the St. Lawrence River, still hundreds of kilometres below Quebec.

The sea officers who convened to decide a course of action in the immediate aftermath of the wrecks were unequivocal in their view that the expedition should be discontinued, and offered their ignorance of the St. Lawrence navigation as the only

²¹ Phips' expedition left Boston more than three weeks later, on August 22nd and did not arrive at Quebec until 16 October, perilously close to the end of the navigation season on the St. Lawrence. The tangible approach of boreal winter undoubtedly affected poor tactical decisions made by expedition leaders in an attempt to force a military decision while campaigning was still possible.

²² The Laurentian Channel at Anticosti reaches depths of 300 metres, far beyond the routine ability of contemporary sailing vessels to sound. As sailing masters commonly used soundings as a means of determining position, this fact added materially to the disorientation experienced by the expedition's navigators. On the physical oceanography of the St. Lawrence system, see R. Dufour and P. Ouellet, eds., *Estuary and Gulf of St. Lawrence Marine Ecosystem Overview and Assessment Report* (Mont-Joli, PQ: Fisheries and Oceans Canada, 2007), 2-9.

reason for their decision. They were “unanimously of [the] opinion that by reason of the ignorance of the pilots it is wholly impracticable to go up the river of St. Lawrence with the men of war and transports so far as Quebec, as also the uncertainty and rapidity of the currents as by fatal experience we have found.”²³ They had experienced an empirical demonstration of their own ignorance of the river’s hydrography, and of the destructive consequences of that ignorance. They faced the prospect of a long and, presumably, similarly difficult navigation to Quebec with that same lack of knowledge. From the perspective of maritime epistemology, they had few grounds on which to proceed, and their decision to discontinue the operation was defensible.²⁴ The St. Lawrence was an “unknown navigation”, a contemporary term suggesting a dangerous combination of ignorance and action. The consultation of sea officers had been convened to assess the extent of the fleet’s ignorance in order to determine the danger of its further action.

The minutes of the consultation, recorded not by navy personnel but by the secretary of an army commander, John Hill, give the fullest existing account of the hydrographic knowledge available to the expedition. Perhaps surprisingly, there is not a single mention of formal sources of navigational knowledge in the minutes—no printed or manuscript charts or sailing directions, waggoners or sea atlases—despite Walker’s strenuous efforts to find and make chart knowledge of the river available for both his warships and for the transports, and Massachusetts governor Joseph Dudley’s persistent work to identify local sources of hydrographic information that might assist these efforts. Prior to the expedition’s departure Dudley, acting on instructions conveyed to him from

²³ “Resolution of Council of War of Sea Officers 25 August 1711,” in Graham ed., *Walker Expedition* 354.

²⁴ This conclusion is supported by the fact that, in the disaster’s aftermath, Walker and his captains escaped official censure. See Gerald S. Graham, “Walker, Sir Hovenden,” in *Dictionary of Canadian Biography*, <http://www.biographi.ca/009004-119.01-e.php?BioId=35278>, accessed 18 August 2012.

the Queen by military officer and projector Francis Nicholson, compiled lists of Massachusetts residents known to have made the passage to Quebec and issued summonses by sheriff requiring them to report to Walker with their “charts and maps of the river, their journals and soundings in their passage thither....”²⁵ Dudley’s official duties required him to organize cartels to exchange prisoners and conduct diplomacy with Quebec authorities, so he was certainly in a position to identify those with knowledge of the navigation, and he later claimed to Secretary of State Henry St. John to have delivered all such men in the colony (numbered at “fourteen or fifteen”) to Walker prior to the expedition’s departure.²⁶ The information the summoned men provided was in manuscript form and offered no single, consistent account of the St. Lawrence navigation. The expedition’s chief navigators and pilots, meeting in early July to assess the quality of this material and to generate a synoptic view of it, found that no two of the several manuscript charts presented were alike. In an attempt to provide some coherent chart information that could be of assistance, Dudley had Cyprian Southack, captain of the Massachusetts armed ship *Province Galley*, create a chart compilation of this diverse material in accordance with his own limited knowledge of the river. The resulting chart was printed in Boston and distributed to the expedition’s warships and transports. This was a remarkable feat given the undeveloped nature of the British American mapmaking trade in this period, and demonstrates as well a degree of activism among colonial officials in support of the expedition.²⁷ The chart itself, however, was less remarkable, as

²⁵ Dudley to St. John, 13 November 1711, in Graham ed., *Walker Expedition*, 378.

²⁶ National Archives, CO 5/898, Joseph Dudley to Henry St. John, 13 November 1711, in Graham ed., *Walker Expedition*, 378-379.

²⁷ On the map trade in eighteenth-century British America, see David Bosse, “Maps in the Marketplace: Cartographic Vendors and Their Customers in Eighteenth-Century America,” *Cartographia* 42:1 (2007), 1-27; William P. Cumming, *British Maps of Colonial America* (Chicago: University of Chicago Press, 1974), chapter 3; Clara Egli LeGear, “The New England Coasting Pilot of Cyprian Southack,” *Imago Mundi* 11

the materials on which it was based permitted only a general indication of the chief difficulties of the navigation and little information sufficiently detailed to assist the expedition to overcome these.²⁸



Fig. 2.1. “Chart of the Gulf and River St. Lawrence drawn by Cyprian Southack [c. 1711].” National Archives, CO 700/Canada 1. Southack’s experience of navigation in northeastern North America typified that of the New England mariners that Walker sought to enlist for the Quebec Expedition; very little of this experience related to the specific navigation of the Gulf and River St. Lawrence, however, as is evident in the scant detail included in the chart compiled for the passage in Boston.

(1954), 137-144. On the extent of cartographic representations of the Gulf of St. Lawrence region in the early eighteenth century, see Kenneth A. Kershaw, *Early Printed Maps of Canada. Volume II: 1703-1799. Maps of Canada, the Arctic, Newfoundland, the River and Gulf of St. Lawrence* (Ancaster, ON: Kershaw Publishing, 1996).

²⁸ National Archives, CO 700/Canada 1, “Chart of the Gulf and River St. Lawrence drawn by Cyprian Southack.” For the process through which this chart was produced, see National Archives, CO 5/898, “Proceedings by Governor Dudley for obtaining pilots, June 13th-July 23, 1711, concluding with a list, dated October 31, of thirteen that sailed with the fleet,” in Graham ed., *Walker Expedition*; Hovenden Walker, *A Journal or Full Account of the Late Expedition to Canada* (London: Browne, Mears, and Strahan, 1720), 79, 87. Southack’s navigational, cartographic, and intercultural skills made him an obvious candidate to pilot the expedition and Walker recognized this, lodging at Southack’s house and involving him in the process of gathering hydrographic materials for the fleet. Southack, like all other pilots in New England, was reluctant to go but agreed to do so when given a commission to command the *Province Galley* in the fleet. In the event he was sent to Annapolis Royal to transport artillery stores, which delayed his departure until the fleet was already in the gulf. While the exact circumstances of these events are unclear, it is tempting to conclude that the regular military officers in command of the expedition were more concerned with gathering supplies needed for European-style siege warfare than with ensuring they had a pilot deeply experienced in western Atlantic conditions who could also act as an intercultural fixer. The latter skills would be valued much more highly as the century progressed, as subsequent chapters will demonstrate.

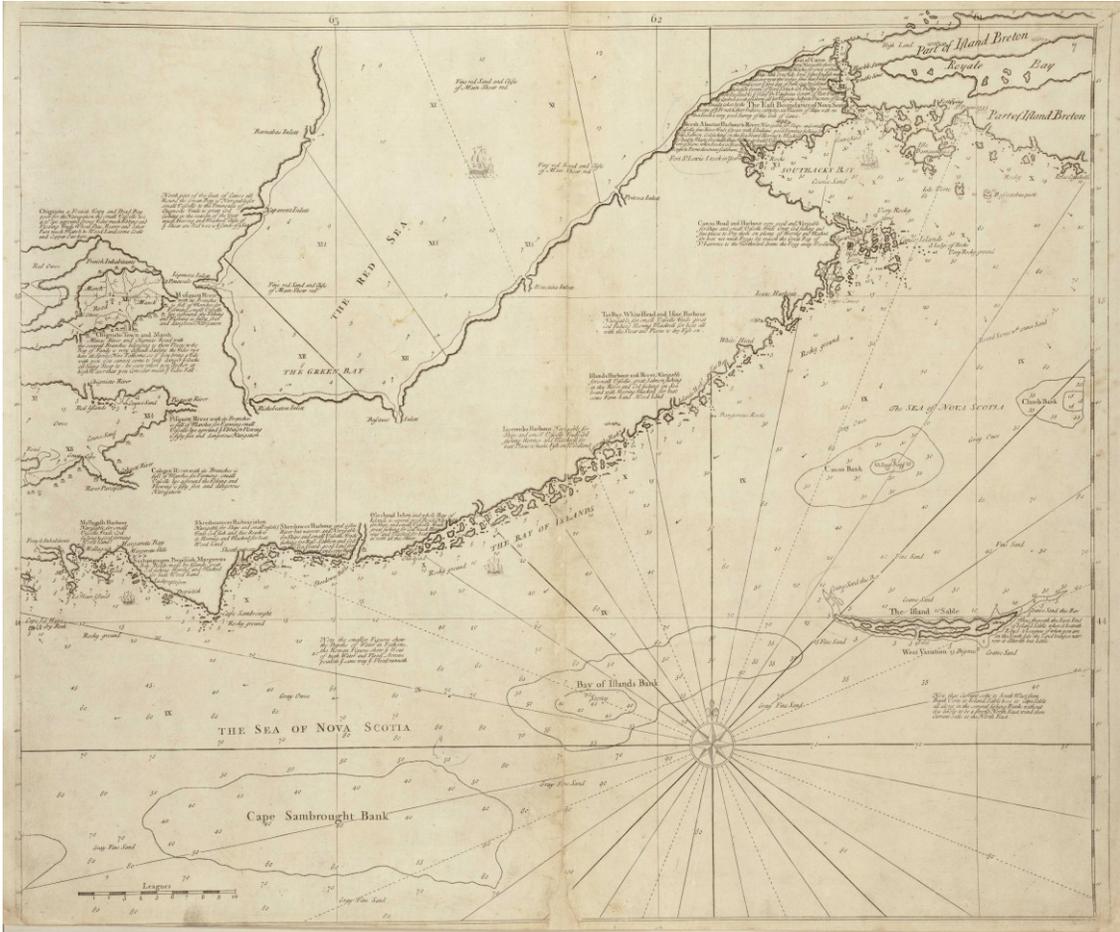


Fig. 2.2. Cyprian Southack, *The New England Coasting Pilot from Sandy Point of New York, unto Cape Canso in Nova Scotia and Part of Island Breton: with the Courses and Distances from Place to Place, and Towns on the Sea-Board: Harbours, Bays, Islands, Roads, Rocks, Sands, the Setting and Flowing of Tides and Currents, with Several Other Directions of Great Advantage to this Part of Navigation in North America* (London: s.n., c. 1734). Library of Congress, Geography and Map Division G1106.P5 S6 1734. Based on charts published between 1719 and 1733, Southack's sea atlas of the northeastern region demonstrates his skill as a hydrographer intimately familiar with waters frequented by New Englanders; it is significant, that as late as 1734 the Gulf of St. Lawrence remained outside the purview of his expertise, as his depiction of areas north of the Strait of Canso demonstrates.

St. Lawrence Charts and Directions

Walker's apparent failure to locate detailed charts of the St. Lawrence in Europe and his reliance on manuscript sources once in America might seem like dangerous laxity in an officer in command of a large amphibious expedition, but it reflected the nature of

the contemporary chart trade and the relatively limited practical purposes that nautical charts served in this period. Detailed printed representations of the St. Lawrence, and indeed of the entire northwest North Atlantic region, were few in this period. In fact, charts and sailing directions of British home waters themselves were dangerously inadequate, based largely on decades-old Dutch charts printed in publications such as John Seller's *The English Pilot*, first issued in 1671. John Thornton's *New and Exact Draught of the River Canada*, incorporating material gained during William Phips' 1691 expedition to Quebec, identified important hydrographic features including islands and tributaries draining into the St. Lawrence, exaggerated in the Dutch style to highlight their relative importance to navigation. The chart includes latitudes and directional lines to orient the mariner to these identifiable features, but the scale of the map ensures that these lines would be useless in the confined waters of the river itself.

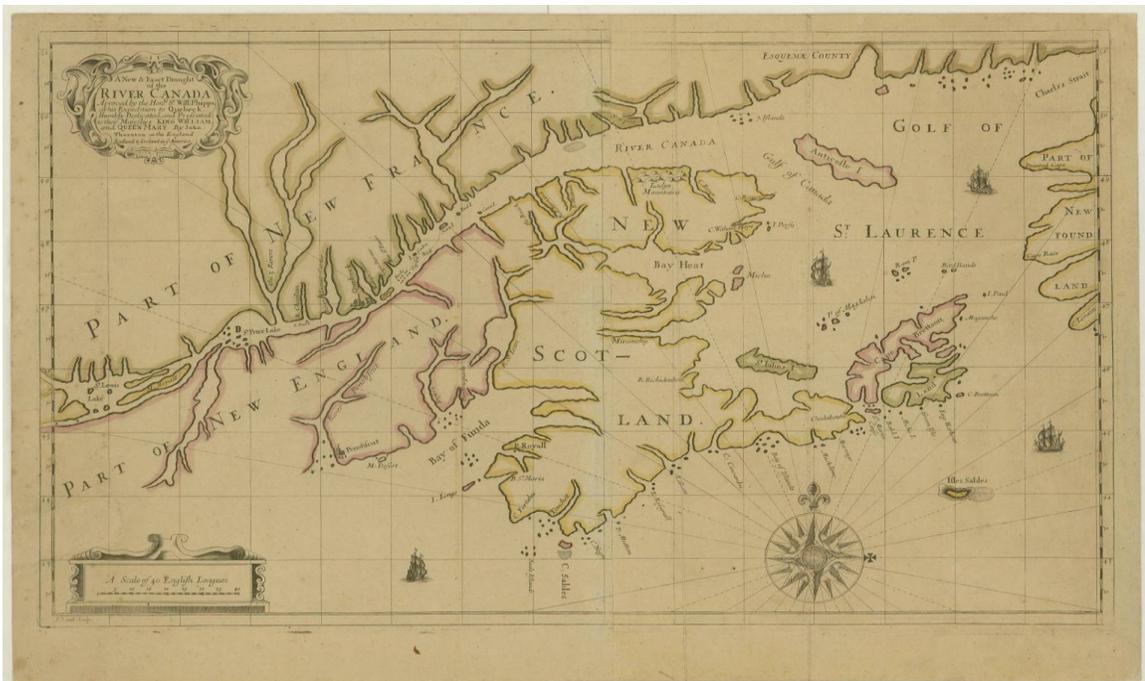


Fig. 2.3. John Thornton, *A New and Exact Draught of the River Canada Approved by the Honbl. Sr. Will. Phipps, at His Expedition to Quebeck* [c. 1691]. John Carter Brown Library, Archive of Early American Images, 30517. Thornton's chart of the gulf and river follows Dutch practice of exaggerating the scale of hydrographic features to indicate their

relative importance. The level of detail—particularly of the difficult passages between the Saguenay River and Quebec—was nevertheless grossly inadequate for the purposes of navigation.

Gerald Graham concludes that the best chart commercially available to Walker was that printed in *The English Pilot, the Fourth Book*, the 1706 edition of which reproduced large-scale charts of the Gulf and River St. Lawrence that included latitudes and soundings but that were otherwise so vague as to be useless for the intricate navigational work required to bring a fleet of 70 warships and transports from Boston to Quebec. It had no written directions at all for the river, a key feature of the dominant Dutch waggoner tradition that featured narrative descriptions and that used charts largely as illustrations of these, useful for identifying landfalls and other marks that mariners could use to “find their place” in the textual account of a given navigation.²⁹ While the French state had taken measures to improve and systematize hydrographic information on New France’s seaward approaches since the 1670s, this information was not yet readily available through commercial channels. The twenty years preceding 1711 had witnessed a great deal of very high quality French hydrographic work in the St. Lawrence, including Louis Jolliet’s manuscript charts of the lower north shore and Jean Deshayes’ partial triangulated survey of the river. This work would eventually produce charts—widely copied in Holland and Britain—that were the best available representations of the river’s

²⁹ *The English Pilot the Fourth Book describing the West-India Navigation from Hudson’s-Bay to the River Amazones* (London: John Thornton and Richard Mount, 1706). The 1729 edition of this work added very detailed charts of New England waters based on surveys by Cyprian Southack, whose ambiguous role in the Walker Expedition is referred to below; its representation of the St. Lawrence remained unchanged. See also Coolie Verner, *A Carto-Bibliographical Study of The English Pilot The Fourth Book with Special Reference to the Charts of Virginia* (Charlottesville, VA: University of Virginia Press, 1960). For British surveys in the Newfoundland and Gulf of St. Lawrence region, see Olaf Janzen, “‘Of Consequence to the Service:’ The Rationale Behind Cartographic Surveys in Early Eighteenth-Century Newfoundland,” *Northern Mariner* 11: 1 (2001), 1-10; Fabian O’Dea, *The 17th Century Cartography of Newfoundland* (Toronto: York University, 1971).

navigation until after the Seven Years' War, but the French surveys were not commercially available in time for Walker's use.³⁰

It was, in part, this lack of published information that led Walker to concentrate on finding manuscript charts and directions in Boston where, he correctly assumed, there were living seamen whose experience (with Phips, in cartel ships, or through illicit trade) had given them embodied knowledge of the navigation. In doing so he was relying on a common practice through which contemporary mariners, lacking printed charts and sailing directions, themselves recorded hydrographic details of the waters through which they passed—depths of water, contours of adjoining coasts, tidal range, prevailing winds and currents—that were kept for personal use or circulated in manuscript.³¹ These manuscript charts and pilot-books represented a large body of vernacular hydrographic knowledge, which was frequently the only knowledge sufficiently detailed to serve coastal and riverine navigation. Unfortunately, given the infrequent intercourse between New France and New England, much of what Walker identified, with Dudley's assistance, was decades old and based on scant, passing observation. Soon after his arrival in Boston, for example, Walker obtained Phips' journal of the 1690 expedition, which identified in a general way the perils of the river where, for example, "Sir William met with many Disasters going up, and most of his Ships were lost, though small Vessels, and several Sloops among them," but which offered little practical information on how to

³⁰ James S. Pritchard, "Hydrography in New France," in William Glover ed., *Charting Northern Waters: Essays for the Centenary of the Canadian Hydrographical Service* (Montreal: McGill-Queen's University Press, 2004), 10-21; James S. Pritchard, "French Developments in Hydrography with Particular Reference to the St. Lawrence River during the Reign of Louis XV 1665-1709" (MA thesis, University of Western Ontario, 1965).

³¹ A.H.W. Robinson, *Marine Cartography in Britain: A History of the Sea Chart to 1855* (Oxford: Leicester University Press, 1962), 36-41.

overcome these perils.³² The draughts and recollections of the mariners Dudley identified as having made the St. Lawrence passage—most of whom made the trip just once, many accompanying Phips twenty years before—were at best informal aids to navigation of this sort, and the chart that Southack compiled from them necessarily reflected their narrow empirical basis and datedness.

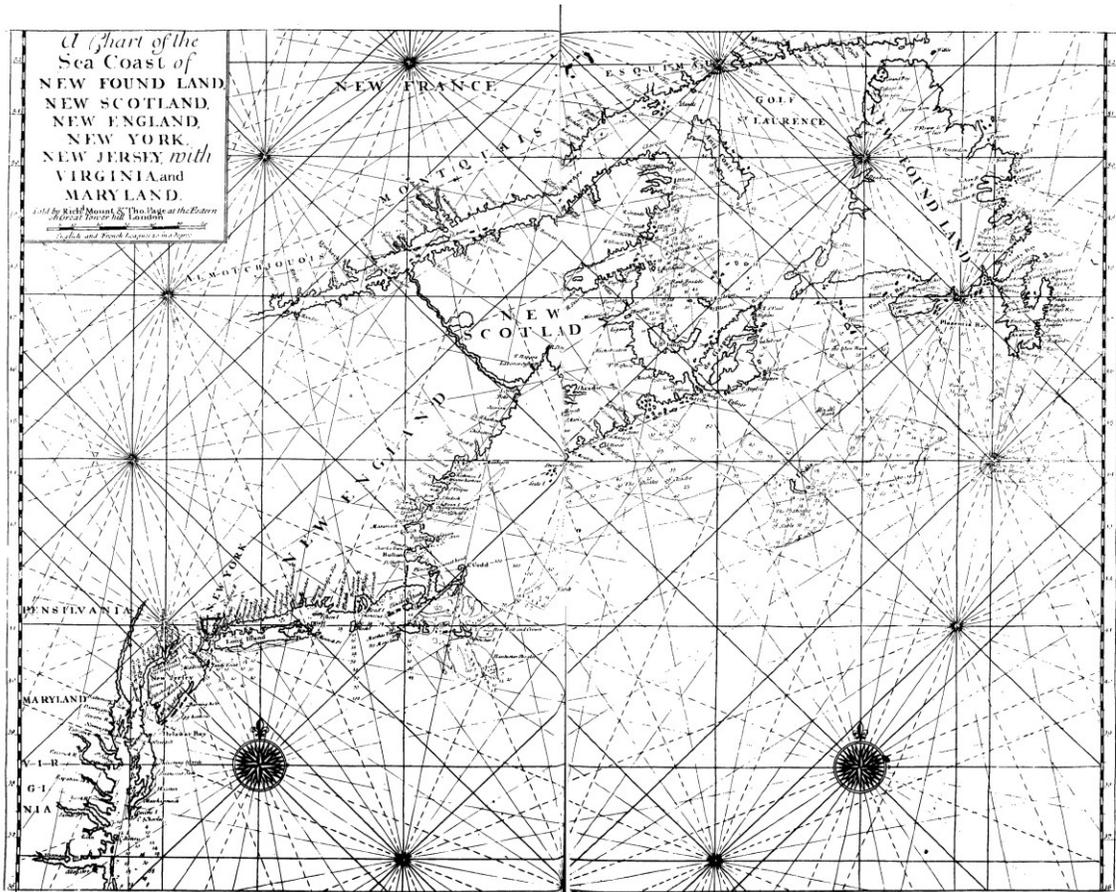


Fig. 2.4. The northwestern Atlantic from *The English Pilot, the Fourth Book Describing the West-India Navigation from Hudson's-Bay to the River Amazones* (London: John Thornton and Richard Mount, 1706). This rudimentary representation was probably the best printed chart available to Hovenden Walker on his 1711 expedition, which goes some way to explaining the effort he invested in seeking alternative, informal knowledge of the river's hydrographic features.

³² Walker, *Journal or Full Account*, 87.

St. Lawrence Pilot Knowledge

Printed charts were not, in fact, widely used for the purpose of inshore navigation in this period, beyond the identification of conspicuous marks when making a landfall. Rooted in the medieval portolan tradition, their chief function was to provide bearings and a general indication of distance between identifiable points on land, rather than a precise mimetic representation of geographic and hydrographic features. They were not accurately scaled, were seldom plotted on a graticule, and indications of latitude were meant only to assist navigators in orienting themselves along a north-south axis as they sought landfalls through dead reckoning and careful seamanship. There was as yet no reliable method of determining longitude at sea. Once an identifiable point on a known coast had been made, prudent mariners either used their own knowledge of local waters to identify hazards between landfall and their destination, or proceeded cautiously until they could locate a pilot to help them do so.³³ This was common practice in the approaches to British ports, where pilotage was the responsibility of the quasi-governmental Trinity House;³⁴ it was the practice of French traffic in the St. Lawrence, where pilots had been trained at state expense since 1664;³⁵ and it was the practice Walker followed when he made his own North American landfall, at Sable Island, on June 14th, 1711. On that day Walker sent a small transport vessel ahead to sound the island's bars before continuing southwestward to pick up a pilot, the master of a New

³³ William E. Carter and Merri S. Carter, "The Age of Sail; A Time when the Fortunes of Nations and Lives of Seamen Literally Turned with the Winds their Ships Encountered at Sea," *Journal of Navigation* 63 (2010), 717-731; D.W. Waters, "The English Pilot: English Sailing Directions and Charts and the Rise of English Shipping, 16th to 18th Centuries," *Journal of Navigation* 42:3 (1989), 351-352; J.H. Parry, *The Age of Reconnaissance* (New York: Mentor Books, 1964).

³⁴ G.G. Harris, *The Trinity House of Deptford, 1514-1660* (London: Athlone Press, 1969).

³⁵ James S. Pritchard, "Hydrography in New France," in William Glover ed., *Charting Northern Waters: Essays for the Centenary of the Canadian Hydrographical Service* (Montreal: McGill-Queen's University Press, 2004), 10.

England sloop, off Cape Sable, who then guided the fleet along the coast to Boston's hydrographically complex approaches. Off Nantasket in the entrance to Boston Harbour, the Royal Navy sailing master navigating Walker's vessel overrode a local pilot's identification of an unseen hazard; the ship went aground and remained stuck fast for several hours before getting off with little damage.³⁶ The practice of accessing local pilot knowledge in unfamiliar waters was a commonplace one, as were maritime incidents resulting from failure to obtain or to heed this knowledge.

For oceangoing vessels, then, pilotage was the primary means of ensuring navigational safety in inshore waters. Walker's recognition of the necessity of pilotage for the expedition was manifest well before he arrived in North America: days after departure from Plymouth in April 1711, a French sailor came to Walker offering his services as a pilot in the St. Lawrence. The fact that the fleet was still sailing under sealed orders made this offer highly suspect, but it could not be dismissed with an assumption that more secure knowledge of the navigation would be forthcoming.³⁷ Once in North America, Walker had extreme difficulty in finding and enlisting pilots for the expedition: mariners with experience in the river were almost uniformly unwilling to serve, disposed to flight, and ultimately responsive only to coercion. Walker initially tried and failed to find French-speaking pilots with experience of the St. Lawrence in Acadian settlements

³⁶ Hovenden Walker, *A Journal or Full Account of the Late Expedition to Canada* (London: Browne, Mears, and Strahan, 1720), 39, 62. The New England master taken off Cape Sable apparently did not wish to be made pilot for the fleet and attempted to flee; the sloop was, unsurprisingly, soon detained by the 60-gun ship *Montague*.

³⁷ Walker to St. John, 4 May 1711, in Graham ed., *Walker Expedition*, 181; cf. 28, 95, 131-132. This sailor did accompany the fleet in the capacity of pilot, but was strongly suspected of treacherous intent. In Samuel Vetch's words: "I find him to be, not only an ignorant, pretending, idle, drunken Fellow, but fear he is come upon no good Design." He does not seem to have had any role in guiding the fleet, and was not mentioned during the consultation convened on August 25th in the wake of the disaster.

on the Atlantic coast and Bay of Fundy.³⁸ Thereafter, he was left to find pilots in New England; when these were not immediately forthcoming, he concluded that men with direct experience in the river were hiding to avoid service, which was almost certainly correct. A key reason for this was that the scant knowledge they possessed of the river did not prepare them to take responsibility for thousands of lives and state property of immense value in its navigation.³⁹

Eventually, through the intervention of Dudley and other colonial officials Walker was able to identify thirteen men who had made the St. Lawrence passage, among them four who had been with Phips twenty years before, and two whose voyages had been as passengers on cartel ships redeeming them from captivity in Quebec. Most had made only one such voyage. Their combined knowledge of the river's perils was certainly minimal: adequate knowledge of the navigation simply did not exist in New England.⁴⁰ When summoned to report for service at Boston in early July they did not appear. At Walker's request Dudley issued warrants for their arrest, a request that had to be repeated again later in the month before it had the desired effect. While recognizing the truth of Dudley's protest that he had "no more, no other, nor better Pilots than they,"⁴¹ Walker was determined to make use of every observation of the St. Lawrence's hydrography, no matter how casual or dated it might be. Along with the few charts he had gathered or had

³⁸ Colonel Richard King attributed this failure to the harshness with which the Acadian population of Port Royal was treated after the town's fall in 1710: King to St. John, 25 July 1711, in Graham ed., *Walker Expedition*, 316.

³⁹ In the wake of the expedition's abandonment one pilot succinctly expressed reservations that were undoubtedly shared by his fellows: he maintained that piloting a merchant ship was one thing, "but a Ship of War was dangerous; and if she miscarry'd he might be tried for his Life." Few if any were willing to stake their lives on the scant knowledge of the river they possessed. In Graham ed., *Walker Expedition*, 236.

⁴⁰ "Proceedings by Governor Dudley for Obtaining Pilots, June 13th-July 23 1711," in Graham ed., *Walker Expedition*, 102; cf. 236-237.

⁴¹ Dudley to Walker, 9 July 1711, in Graham ed., *Walker Expedition*, 197.

made, these (along with the general seamanship ability of the naval personnel) were the sole resources he possessed to overcome a navigation that was, he was convinced, the greatest obstacle that stood between himself and the conquest of Quebec.⁴²

The inadequacy of these resources was made evident by the subsequent disastrous events in the river's mouth. Given its vital role in successful inshore navigation, it is unsurprising that the consultation of sea officers convened by Walker on August 25th focused entirely on pilotage. It sought chiefly to assess the amount and quality of lived experience and embodied knowledge of the river's navigation that the fleet possessed, and to determine whether this was sufficient to warrant risking the fleet in continued operations. Before the British American pilots were brought in one by one for interrogation, the warship captains unanimously agreed that these men were all "very ignorant, and not to be depended on."⁴³ The pilots did not challenge this assessment. Each was asked whether he felt he was capable of guiding the fleet to Quebec; all asserted that they were not, outlined their paucity of experience in the river, and stated that they were on the expedition involuntarily and that they had made their ignorance and unwillingness known in Boston prior to departure. A few offered concrete assessments of the navigation, noting that there were anchorages but no harbours in the river below Quebec, that Malbaie above the Saguenay was the best of these anchorages, and that at Coudres Island slightly higher up the channel narrowed and became very dangerous. Only one pilot, a Mr. Miller who had been detailed to the warship *Swiftsure*, even

⁴² Walker was unwilling to concede that his inexperienced pilots' concerns might be valid, attributing their behaviour instead to the dangerous political laxity he deemed prevalent in New England: "the people live here as when there was no King in Israel, but every one does what seems right in his own Eyes," adding that one day "measures will be taken to put things upon a better foot for the future..." Walker to Dudley, 9 July 1711; for Dudley's reply, Dudley to Walker, 9 July 1711, in Graham ed, *Walker Expedition*, pp. 196-197.

⁴³ "Minutes Taken at A Consultation of Sea Officers in the River of St. Lawrence, the 25th of Aug. 1711 aboard Her Majesty's Ship the Windsor," in Graham ed., *Walker Expedition*, 236.

acknowledged that a successful passage was possible; when asked if it was too late in the season to continue the attempt, he asserted that while it was late in the year there was at least the possibility that fair weather might prevail. This, however, was an assessment based on projection of vague possibilities rather than on positive knowledge of local meteorological conditions. The naval officers were unwilling to risk the expedition, their careers, and their lives on such grounds, and so unanimously decided to discontinue the expedition “by reason of the ignorance of the pilots aboard the men of war”⁴⁴

In the years after the expedition’s miscarriage, this decision was cited as little more than convenient cover for Walker’s cowardice, a hastily grasped means of ending an endeavour for which he had been unenthusiastic from the outset. Walker’s defense against these charges suggests, however, that his conviction that the tactical risk presented by hydrographical ignorance of a difficult navigation was both genuine and well founded. He recognized that the pilots had disavowed knowledge of the river and expressed their disinclination to accompany the expedition. Furthermore, he allowed that they were correct in doing so, and that to have done otherwise would have been a dangerous misrepresentation of their abilities. In doing so, he offered a full and sound definition of the art of pilotage, rooted in his own long experience at sea:

For every seaman knows very well that good and able pilots are made by frequent use, long experience, and continual observations of those parts where they undertake to conduct ships safely; and their whole science is founded upon the knowing and discerning the variety of the forms and makings of headlands and promontories at several distances, upon different points of the compass, the depths of shoalings, with the various kinds of grounds, in all manner of soundings and channels fit for anchorage, the true settings of currents and regular ebbings and flowing of tides,

⁴⁴ “Minutes Taken at A Consultation of Sea Officers in the River of St. Lawrence, the 25th of Aug. 1711 aboard Her Majesty’s Ship the Windsor,” in Graham ed., *Walker Expedition*, 235-237.

within all such places where they are to be pilots; and that so much knowledge is not acquired in a short time, or *ex intuitu*....⁴⁵

Pilotage was the key to inshore navigation, necessary to bring armed force to bear in difficult littoral waters. It was intensely local, embodied in the experience of those who undertook such navigation regularly and attentively. Its object was complex and ever changing. The casual experience obtained by making a voyage or two was not an adequate substitute for pilots' "science", and it would be irresponsible for an officer to risk substantial state resources on the basis of this casual experience. Walker's reasons for discontinuing the expedition were sound when examined from the perspective of practical seamanship. The tactical dilemma that they implied—that in order to operate effectively in local inshore waters, naval forces required embodied local knowledge—would have profound implications for British maritime imperial activity in northeastern North America throughout the eighteenth century.

Some of the expedition's land officers disagreed with their naval counterparts' conclusion. Vetch in particular thought that, as the majority of the force was intact and in the river during campaigning season, an attempt should have been made to continue the navigation to Quebec.⁴⁶ The wrecks were costly, inconvenient, and painful, but they did not seriously impair the expedition's capacity to act as an armed force. From the perspective of these officers, military capacity to attack Quebec had eroded only slightly between August 22nd and August 25th. This is unsurprising, as army and navy commanders frequently had trouble cooperating during combined operations in this period. Walker himself had experienced this previously during actions against

⁴⁵ Walker, *Journal or Full Account*, 29.

⁴⁶ National Archives, CO 5/9, Vetch to Walker, 26 August 1711, in Graham ed., *Walker Expedition*, 361-362.

Guadeloupe in 1703. The two armed services had mutually incommensurable duties and overlapping responsibilities. Neither group had the range of capacities to fully comprehend and judge amphibious operations in their totality.⁴⁷ There was no serious challenge to the sea officers' decision, however, and the army officers soon acquiesced to their naval counterparts' judgment of the risk involved in further navigation.

Material Constraints on Maritime Empire under Sail

In doing so they tacitly recognized the different nature of naval officers' responsibilities from their own. Army officers were professionally required to operate under threat of extreme privation, disease, and violence; sea officers operated under these and under threat of extreme meteorological violence as well. An eighteenth-century European warship's strength was that it made the exercise of concentrated military force mobile; its weakness was that it concentrated that force—dozens of large-calibre cannon and hundreds of military personnel—in a structure that was highly vulnerable to environmental influences. Wooden hulls, if well maintained, were robustly well adapted to the routine stresses of maritime conditions. But if a wooden hull went aground it was dangerously fragile and would soon disintegrate. Sailing ships regularly went ashore, because they relied on the wind for propulsive force and could direct that force only within a limited range determined by the wind's direction. Contemporary ships, heavy deep-draught warships in particular, could make no progress sailing into the wind. This made them extremely vulnerable to changes in wind direction in enclosed waters.⁴⁸ Such

⁴⁷ Richard Harding, "Sailors and Gentlemen of Parade: Some Professional and Technical Problems Concerning the Conduct of Combined Operations in the Eighteenth Century," *Historical Journal* 32: 1 (1989), 41-43. See also Gerald Graham, "Walker, Sir Hovenden," in *Dictionary of Canadian Biography*, http://www.biographi.ca/009004-119.01-e.php?&id_nbr=1156, accessed 12 June 2012

⁴⁸ William E. Carter and Merri S. Carter, "The Age of Sail; A Time when the Fortunes of Nations and Lives of Seamen Literally Turned with the Winds their Ships Encountered at Sea," *Journal of Navigation*

a shift confronted a vessel with a sudden lee shore and with the physical impossibility of avoiding it. Or, as those on Walker's transports found, undetected currents could carry a ship aground at night, in fog, or in calms. This unfortunate physical relationship between technology, climate, and geography meant that naval officers, unlike army officers, could expect to encounter situations that could destroy entire ships and crews—entire fleets, even—in a single catastrophic event.

This meant both that naval officers and seamen adapted their behaviour to maximize chances of avoiding or safely enduring a range of weather phenomena, and that they recognized the ultimate inadequacy of these adaptations when certain conditions—storms of overwhelming force, unfavourable winds in inshore areas, calms in fog and currents—prevailed for a sufficient length of time. Naval personnel were, prior to the development of artificially powered means of propulsion, permanently liable to being overmatched by the natural perils they faced in addition to the routine martial perils of their profession. They operated within a different frame of reference when considering geography and climate. Both army and navy officers were concerned with the spatial problem of bringing military force to bear in a given landscape, but for sea officers that landscape—or seascape—was fluid and its contours were largely unknown.

This awareness of the elemental realities of seamanship under sail and the sense of abjection it produced influenced contemporary seamen's perception of the marine environment and decisions based on those perceptions. Walker's fullest account of the difficulties of the St. Lawrence navigation is coloured by this sense of being overmatched by the natural challenges it presented:

63 (2010), 718-721; N.A.M. Rodger, "Weather, Geography and Naval Power in the Age of Sail," *Journal of Strategic Studies* 22: 2-3 (1999), 178-179.

Having informed myself by all means possible, of the Nature of Canada River, both from the French and English, I still perceived there were more Difficulties to surmount than could have been imagined; for the Master of the French Prize who had made forty Voyages, as he told me, in that River, out and home, assured me no Ships ever Winter'd there, but hazarded every thing, rather than let the Frost overtake them. That between the Mouth of the River and Quebec, being about 130 Leagues, there was neither Road, Bay, or Harbour where Ships could be in tolerable Security; that he never found Ground, tho' he had tried with a Line of 400 Fathom; that the Shoar was steep too all along, being exceeding high and mountainous, and in most Places you should have 100 Fathom within a Cable's Length of the Shoar; in some Parts as deep Water, and the Ships sides touching the Rocks: That it has been impossible for any Person, by their strictest Observations, hitherto to know the Currents and Tides in the River, the Stream being violently rapid and fierce, as well as uncertain, in most Places: That Fogs and Storms were so frequent, as they might well be esteem'd continual: That he had several times experienc'd upon his lying by (which he was very often constrained to do in dark Nights and foggy Weather:.) That when they might expect themselves on the North, they should find they were driven on the South Shoar, and so on the contrary: That in the Summer Season Fogs were most frequent, especially with Easterly Winds, and the Weather clearest in Winter, but then Subject to Storms: That he himself had lost two Ships in this River whereof he was Master.⁴⁹

This is remarkable not only for the number and variety of perils that it lists but also because, like the delineation of a coastline in a Dutch sea atlas, it exaggerates elements of the river's actual hydrography to cautionary effect. The greatest peril of the St. Lawrence was winter, which cast the entire northeastern North American region in ice and frost for several months of the year, and in which unprepared Europeans would freeze and starve without local assistance. Members of the expedition viewed the Laurentian landscape they had to pass through as a sort of boreal desert.⁵⁰ The St. Lawrence is in fact, as Walker suggests in this account, an immense estuary stretching for hundreds of miles. At the same time it is a sea, carrying deep water far inland. In places on the north shore cliffs do drop sheer into this deep water. The complex localized currents that wrecked the

⁴⁹ Walker, *Journal or Full Account*, 119-120.

⁵⁰ "Colonel Richard King's Journal," 9-12 July 1711, in Graham ed., *Walker Expedition*, 353.

transports in 1711 are still not adequately understood today. The meteorological patterns he describes are generally accurate, though not perhaps in their frequency. Taken together, the hydrographical impediments rendered the river effectively unnavigable for Walker, who concluded that “the bay and the river of St. Lawrence, from the frequency of fogs, unfathomable depths of water, rapidity and uncertainty of the currents, were enough to baffle the skill, and the care, diligence, and watchfulness of the most expert and able pilots....”⁵¹ The natural facts of the river’s navigation were thus sites of empire’s attenuation, literally its furthest reach.

But the natural facts that inhibited the exercise of imperial endeavour by maritime means were not confined to unknown navigations: British maritime empire was subject to the same material constraints in home waters as it was abroad.⁵² The approaches to the English Channel were at least as hazardous as were the approaches to the St. Lawrence, and the Thames estuary, while not as geographically monumental as the St. Lawrence, was as filled with natural perils. The Great Storm of 1703 drowned more than eight thousand seamen in British waters, many in the great anchorage in the Downs at the mouth of the Thames.⁵³ The destruction of part of a fleet commanded by Cloudesley Shovell at the Isles of Scilly in the entrance to the Channel in October 1707 claimed the lives of 1400 trained naval seamen.⁵⁴ For a growing maritime power, the furthest

⁵¹ Walker, *Journal or Full Account*, 29.

⁵² On the determining effects of the natural environment of patterns of seafaring endeavor, and so of imperial activity, see Richard Drayton, “Maritime Networks and the Making of Knowledge,” in David Cannadine ed., *Empire, the Sea and Global History: Britain’s Maritime World, c. 1760-c. 1840* (Houndsmills, Basingstoke, Hampshire: Palgrave Macmillan, 2007), 72-82.

⁵³ Robert Markley, “Casualties and Disasters: Defoe and the Interpretation of Climatic Instability,” *Journal for Early Modern Cultural Studies* 8:2 (2008), 102-124; Jan Golinski, *British Weather and the Climate of Enlightenment* (Chicago: University of Chicago Press, 2007); Daniel Defoe, *The Storm; Or, a Collection of the Most Remarkable Casualties and Disasters Which Happened in the Late Dreadful Tempest Both by Sea and Land* (London: G. Sawbridge, 1704).

⁵⁴ James Herbert Cooke, *The Shipwreck of Sir Cloudesley Shovell, on the Scilly Islands in 1707, from Original and Contemporary Documents Hitherto Unpublished* (Gloucester: John Bellows, 1883); see also

attenuation of empire could be anywhere in the maritime world. Walker expresses the situation succinctly when he exclaimed rhetorically: “There were ships and men lost in Canada River. O horrible! And was it never known that ships and men had been lost by storms and bad weather before?” To which he responds “Yes: In the Channel and upon our own coasts under the command and conduct of the most expert and best of our sea officers.”⁵⁵

Astronomical Navigation, Local Knowledge, and Overseas Expansion

The abjection experienced by men and women at Egg Island in 1711, the Isles of Scilly in 1707, and Gravesend in 1703 deeply impressed British popular consciousness with the perilousness of maritime endeavour and with the vulnerability that this implied for a nation ever more dependent on overseas economic activity and exercise of force. As Linda Colley has illustrated, narratives of captives and castaways were powerful images of the tenuousness of empire for eighteenth-century Britons.⁵⁶ Shipwrecks likewise became emblematic of anxieties over empire, increasingly so as volumes of traffic and the number of people affected by wreck rose in the course of the eighteenth century. Historiographically, the British public and British state’s response to these early eighteenth-century catastrophes has been interpreted, by Dava Sobel among others, as a distinctly modern moment in which Britons (and Europeans generally) finally confronted the horror and waste of marine disaster and their own fatalistic acceptance of the sea’s insuperable, providential force, and determined to end them. According to this account,

Dava Sobel, *Longitude: The True Story of a Lone Genius Who Solved the Greatest Scientific Problem of His Time* (New York: Penguin, 2005), 11-16.

⁵⁵ Walker, *Journal or Full Account*, 4.

⁵⁶ Linda Colley, *Captives: Britain, Empire and the World, 1600-1800* (London: Jonathan Cape, 2002), 1-11.

new technologies of determining position at sea ended humankind's long and sometimes total disorientation in the marine environment, permitting an enormous expansion of seaborne endeavour and great improvement in marine safety.⁵⁷ But while the ability to determine longitude accurately and reliably was a development of real importance to the imperial aspirations of Britain and other European nations overseas, particularly from the second half of the nineteenth century onward, it did not significantly alter the potentially fatal relationship between technology, climate, and geography that was the chief cause of marine disasters in the age of sailing ships. Pilot knowledge did. The ability to determine longitude at sea was useless, for example, if positions so determined could not be related to known positions of adjacent landforms, and to do so required laboriously compiled charts and lists of positions. Compendia of latitudes and longitudes had to be accurately determined through expensive programs of survey. This knowledge did not exist in a globally extensive sense until the end of the nineteenth century. James Cook's post-Seven Years' War circumnavigations have been seen as a vanguard of scientific globalism, bringing previously separate regions of the planet into fixed relation; but the number of terrestrial points fixed by Cook's voyages are scant and their utility narrow when seen from the perspective of an ambitious trader seeking opportunities across the maritime world, or of national navies asserting the right to exploit these opportunities.⁵⁸

In this context, the 1711 St. Lawrence expedition appears more relevant to the eighteenth-century development of British maritime empire than does the 1707 disaster in the Scillies. The ability (or inability) to access local pilotage information remained a

⁵⁷ Sobel, *Longitude: The True Story of a Lone Genius Who Solved the Greatest Scientific Problem of His Time* (New York: Penguin, 2005).

⁵⁸ David MacKay, *In the Wake of Cook: Exploration, Science and Empire, 1780-1801* (London: Croom Helm, 1985).

much greater determinant of the ability to safely navigate than did the ability to fix longitudes at sea. While chronometer-equipped steamships carrying nautical tables with positions of ports on all the world's oceans can be seen as an apt image of the technical power and global reach of British maritime empire during its late-Victorian apex, the hydrographic tools and techniques that facilitated that empire's rise in the eighteenth and much of the nineteenth centuries were simpler and less amenable to dramatic popular narrative. Long before people knew how to fix longitudes, they knew an enormous amount about the physical constitution and characteristics of the world's seas, and were able to apply this knowledge to the practice of safe navigation. Much of this knowledge was of extremely local waters and existed only in the memory of living pilots, the result of life-long accumulation of empirical fact regarding those waters: their depths and currents, distances between points known relative to features on the sea bottom or to adjacent landforms, relations to prevailing weather patterns, and to both predictable and uncommon seasonal changes.

As a consequence of its extremely local character, this knowledge was radically decentralized. Seafarers in foreign waters, whatever their business, were accordingly dependent on local pilots and guides to navigate safely and efficiently. Pilots were key links in an intercultural imperial nexus, linking different and frequently distant peoples, cultures, and economies by sea. As imperial interactions frequently included intense contention for commercial and military advantage, pilots' roles included espionage, complicity in smuggling and in military insurgencies. Pilots' unique capacity to provide or withhold information (and to disseminate misinformation) placed them at a privileged juncture of economic and cultural exchange among independent coastal societies,

individuals and groups engaged in imperial ventures overseas, colonial settlers, and the colonized. For pilots themselves, possession of this knowledge could have definite advantages, allowing them to trade on it to extract financial gains from penurious metropolitan agents (army and naval officers, colonial governors and officials); at the same time, as the veterans of Phips' Quebec expedition found in 1711, it could open pilots to coercion from those same agents, and (as discussed in Chapter Seven) from colonial peoples who wanted knowledge of their seaward approaches remain local in order to thwart the designs of enemies or of the imperial state itself.

For colonial peoples, pilot knowledge was a tool that allowed a degree of control over the hydrographic nexus between colony and empire: the local waters that mediated connections between overseas territories and the open waters of the maritime world. Authorities in pre-conquest New France, for example, repeatedly asserted that the extended estuary of the St. Lawrence was the colony's strongest bulwark against unwanted incursion; its extended and labyrinthine approaches gave a hydrographically knowledgeable local population tangible advantages over potential attackers lacking such knowledge. For metropolitan individuals and agencies engaged in overseas activity, local pilot knowledge was the key to overcoming challenges posed by the difficulties of navigation in unfamiliar waters, to completing maritime circuits that facilitated relatively easy and effective transportation and communication around the Atlantic basin and eventually the entire maritime world.

Conclusion

In an important sense, maritime circuits are as much cultural facts as they are natural ones. The Aboriginal inhabitants of northeastern North America, by means of

long experience and of a vessel type—the bark canoe—well-adapted both to glaciated inland watercourses and even to sea passages in coastal areas, had long integrated such circuits into the patterns of transhumant economic activity that sustained them in the region for thousands of years.⁵⁹ French colonists and imperial authorities in New France embraced these adaptations and applied them to commercial and state purposes and had, from the 1680s forward, applied growing colonial administrative capacity to systematic collection of hydrographic information on the colony’s seaward approaches and inland extensions, albeit sporadically. British Americans like Cyprian Southack had, in the half-century before 1713, gained a growing body of knowledge of the approaches to their own colonial settlements and to those of their adjacent rivals and had harnessed that knowledge for commercial and military purposes alike, allowing them to undertake independent actions such as those of William Phips in the 1690s and to provide expert local guidance to metropolitan naval forces in American waters, as at Louisbourg in 1745.⁶⁰ Like their French colonial counterparts, British Americans also began to adapt Aboriginal methods of navigation and warfare in the continental interior where strategic relations to local First Nations permitted. This process of gathering hydrographic knowledge to define circuits of routine maritime communication continued throughout the first half of the eighteenth century but, as during the War of the Spanish Succession, it was accelerated and accorded greater resources in periods of international conflict,

⁵⁹ See, for example, Russel Lawrence Barsh, “*Netukulimk* Past and Present: Mikmaw Ethics and the Atlantic Fishery,” *Journal of Canadian Studies* 37:1 (2002), 15-42; Charles A. Martijn, “An Eastern Micmac Domain of Islands,” in William Cowan ed., *Actes du vingtième congrès des algonquistes* (Ottawa: Carleton University Press, 1989), 208-231; Charles A. Martijn ed. *Les micmacs et la mer* (Montreal: Recherches amérindiennes au Québec, 1986); Horace Beck, *The American Indian as a Colonial Sea Fighter* (Mystic, CT: Marine Historical Association Inc., 1959).

⁶⁰ Daniel Vickers discusses the customary basis of New England seafarers’ knowledge of the marine environment in *Young Men and the Sea: Yankee Seafarers in the Age of Sail* (New Haven, CT: Yale University Press, 2005), 61-95.

often—as with Walker—in response to specific tactical challenges. As the scale of these challenges grew to an unprecedented degree in the middle decades of the eighteenth century, so too did the scale of state efforts to obtain and systematize hydrographic knowledge of northeastern North America and its approaches.

Chapter Three
Louisbourg's Wake: Amphibious Irregular Warfare in the
Gulf and Fundy Campaigns, 1758

British military forces' successful maritime siege of the fortified French colonial town of Louisbourg in the summer of 1758 opened the way for a thorough penetration of northeastern North American watercourses and communities then subject to Aboriginal and French sovereignty. The Gulf of St. Lawrence and Bay of Fundy campaigns echoed the Walker Expedition of 1711, and prefigured British operations in the Laurentian heartland in 1759 and 1760, insofar as all of these actions sought to direct military power by amphibious means deep into the glaciated woodland landscapes of the North American continental interior. British forces' 1758 operations in the gulf and Fundy differed from Walker's earlier attempt, however—and prepared the way for future campaigns—in that they were able to adapt military tactics much more closely to the specific geographical and hydrographical conditions of the northeastern region. These conditions ensured that standard European martial practices, such as were employed at Louisbourg, would be of relatively little use. French and Aboriginal forces in unconquered areas of Mi'kmaqi/Acadia/Nova Scotia and in Canada maintained effective control of forested areas through the application of forms of warfare—of *petite guerre*—developed in and appropriate to eastern North American landscapes. At the outset of the 1758 campaigns, British capacity to assert effective sovereignty was restricted largely to seas, coasts, and rivers where its superior naval capacity could be brought to bear. As the campaigns proceeded, however, British forces honed military practices that combined the skills of naval seamanship, army engineering, and irregular warfare, forging a means of

forcibly asserting authority in forested littoral and riverine areas. Deployment of these practices, particularly in scorched-earth campaigns intended to deprive enemy populations of the means to continue offensive operations, was central to the subsequent course of the Seven Years' War in North America.

This chapter accordingly continues the examination of connections between state hydrographic information-gathering capacity and the extension of overseas empire by amphibious means begun in the Chapter Two's discussion of the 1711 Walker Expedition. It extends that analysis by looking at ways that hydrographic information was gathered and used in the amphibious conquest of north-eastern North America between 1755 and 1760. It shows how the expanded resources of the maturing British fiscal-military state permitted a concentrated accumulation of local hydrographic knowledge of North American coastal and inland waters. This knowledge and the techniques used to gather it were instrumental to the success of the 1759 amphibious expedition against Quebec, and to the effective penetration and conquest of large areas of the American interior from the Ohio Valley to Nova Scotia and the coast of Labrador.¹

¹ Several excellent accounts of events in north-eastern North America during the Seven Years' War have appeared in the years bracketing the war's two-hundredth anniversary; these include Hugh Boscawen, *The Capture of Louisbourg, 1758* (Norman, OK: University of Oklahoma Press, 2011); Matt Schumann and Karl W. Schweizer, *The Seven Years War: A Transatlantic History* (New York: Routledge, 2008); A.J.B. Johnston, *Endgame 1758: The Promise, the Glory, and the Despair of Louisbourg's Last Decade* (Lincoln, NB: University of Nebraska Press, 2007); Brendan Simms, *Three Victories and a Defeat: The Rise and Fall of the First British Empire, 1714-1783* (New York: Allen Lane, 2007); Colin Calloway, *The Scratch of a Pen: 1763 and the Transformation of North America* (New York: Oxford University Press, 2006); Guy Chet, *Conquering the American Wilderness: The Triumph of European Warfare in the Colonial Northeast* (Amherst, MA: University of Massachusetts Press, 2003); Fred Anderson, *Crucible of War: The Seven Years' War and the Fate of Empire in British North America, 1755-1766* (New York: Alfred A. Knopf, 2000). The term "conquest" in this context does not imply the immediate and full establishment of British dominion in the territories under consideration; many of Britain's North American gains in the Seven Years' War, especially those in areas where aboriginal societies remained powerful military and political actors, were ambiguous and marked the beginning of a renewed phase of negotiation among aboriginal, colonial, and imperial groups for effective sovereignty there. See Reid et al., *The 'Conquest' of Acadia, 1710*, x-xii.

In the fifty years after the Walker Expedition's miscarriage, Britain's growing domestic economy, overseas trade, and fiscal capacity financed expanded state military capacity that won more trade and more tax revenue, creating a "maritime-imperial system" of increasing strength and coherence.² The creation and maintenance of formidable armed forces—particularly naval forces—fuelled Britain's rise from a western European littoral state to a burgeoning global maritime power in this period. As a result, Britain was able to maintain local naval supremacy in the north-eastern Atlantic for significant and sustained periods during the eighteenth century through the well-documented success of the Royal Navy's "Western Squadron," which contributed materially to growing diplomatic influence in Europe and commercial presence overseas. Control of Europe's Atlantic approaches was unusually effective during the Seven Years' War and this, combined with political will of William Pitt's Ministry, and enhanced administrative and logistical capacities, allowed Britain to mount large and expensive amphibious operations in North American waters over several consecutive years. These operations were particularly intense and effective in 1758. This does not mean, however, that the war in North America was won in the western approaches to the English Channel.³ Britain's maintenance of an intermittent and permeable naval mastery in

² Daniel A. Baugh, "Maritime Strength and Atlantic Commerce: The Uses of 'A Grand Maritime Empire,'" in Lawrence Stone, ed., *An Imperial State at War: Britain from 1689 to 1815* (London: Routledge, 1984), 186. See also P.J. Marshall, "The British State Overseas, 1750-1850," in Bob Moore and Henk van Nierop, eds., *Colonial Empires Compared: Britain and the Netherlands, 1750-1850* (Aldershot, Hampshire: Ashgate, 2003), 171-184; Baugh, "Withdrawing from Europe: Anglo-French Maritime Geopolitics, 1750-1800," *International History Review* 20: 1 (1998), 9-11; H.V. Bowen, "British Conceptions of Global Empire, 1756-83," *Journal of Imperial and Commonwealth History* 26: 3 (1998), 9; Bowen, *Elites, Enterprise and the Making of the British Overseas Empire 1688-1775* (London: Macmillan, 1996), 32-34, 85; John Brewer, *The Sinews of Power: War, Money and the English State, 1688-1783* (Cambridge, MA: Harvard University Press, 1988).

³ N.A.M. Rodger, *The Command of the Ocean: A Naval History of Britain, 1649-1815* (New York, 2004), 250-256; Rodger, "Seapower and Empire: Cause and Effect," in Bob Moore and Henk van Nierop, eds., *Colonial Empires Compared: Britain and the Netherlands, 1750-1850* (Aldershot, Hampshire: Ashgate, 2003), 103-106; Rodger, "Sea-Power and Empire, 1688-1793," in P.J. Marshall, ed., *The Oxford History of*

European waters, sustained by the state's growing fiscal and administrative capacity, was a necessary condition for gains made in Atlantic, Asian, and Pacific regions during the war. But it was not a sufficient condition. If—as British naval historians such as N.A.M. Rodger assert—the arduous sea-keeping of the Western Squadron made Britain's globalizing maritime empire of 1763 possible, the navy's numerous and frequently obscure amphibious expeditions overseas made it actual. Line-of-battle ships in Europe shielded maritime empire; frigates, sloops, and indigenous small craft in America, Africa, and the East Indies made it.

Amphibious Warfare and Local Knowledge in North America

While recent analyses have reasserted the importance of combined operations to mid-eighteenth-century British military success in Europe and the West Indies, these works have had relatively little to say about the clear contributions of amphibious warfare to contemporary gains on the North American continent.⁴ This is especially notable given the fact that nearly all of the Britain's North American military victories in the Seven Years' War—in Acadia, the Gulf of St. Lawrence, in Canada, and on the Great Lakes—were dependent on the effective combination of army and naval forces.⁵ Exactly how

the British Empire Volume II: The Eighteenth Century (Oxford: Oxford University Press, 1998), 178-179; Daniel A. Baugh, "Great Britain's 'Blue Water' Policy, 1689-1815," *International History Review* 10: 1 (1988), 40.

⁴ Nicholas Tracy, *Manila Ransomed: The British Assault on Manila in the Seven Years War* (Exeter: University of Exeter Press, 1995); Richard Harding, *Amphibious Warfare in the Eighteenth Century: The British Expedition to the West Indies, 1740-1742* (Woodbridge, Suffolk: Royal Historical Society, 1991), 158-165; Harding, "Sailors and Gentlemen of Parade: Some Professional and Technical Problems Concerning the Conduct of Combined Operations in the Eighteenth Century," *Historical Journal* 32: 1 (1989), 35-55; David Syrett, ed., *The Siege and Capture of Havana 1762* (London: Navy Records Society, 1970); Marshall Smelser, *The Campaign for the Sugar Islands, 1759* (Chapel Hill, NC: University of North Carolina Press, 1955).

⁵ The "combined" nature of British warfare the North American is evident even in operations that did not follow riverine routes to the interior; as this chapter will demonstrate, naval expertise and frequently personnel were essential elements of virtually all expeditions that sought to bring significant force to bear in areas far in the continental backcountry.

these successes were achieved has not been closely analyzed. Just as eighteenth-century projectors like Walker failed to master overseas littoral geography with standard European military techniques, so modern naval historians fail to account for the success of North American campaigns with the analytical lens of standard European maritime siege tactics. What is lacking in both cases is sufficient attention to local conditions and to local knowledge. Without due appreciation of the specific material and cultural conditions encountered in North America during the war, traditional naval historians—even those specifically concerned with the importance of amphibious capabilities—have tended to dismiss the difficulty of bringing significant force to bear on riverine settlements deep inland. Instead, these works focus almost exclusively on the joint work of army and navy to formally invest and capture fortified positions such as Louisbourg and Quebec; at the same time they disregard the complex engagement with local peoples and geography required to bring these forces to bear in the first place. Obstacles that appeared insurmountable to Walker in 1711—an unknown navigation several hundred miles long through hostile territory in a boreal climate—are either ignored altogether in these accounts, or are asserted to be no match for the inborn maritime abilities of British seamen. This is evident in accounts that attribute the successful 1759 St. Lawrence ascent to the navigational precocity of the young James Cook, for example, or to the bluff Trinity House pilot Killick who, in John Knox’s account of the campaign, dismissed the difficulties of Quebec’s maritime approaches with blithe hyperbole, asserting that there were “a thousand places in the Thames fifty times more hazardous than this...”⁶

⁶ This attribution of the expedition’s successful ascent of the St. Lawrence to the inherent capacities of British mariners was long the orthodox English-language explanation for this feat; the absence of these same capacities in 1711 has received less attention. See, for example, Francis Parkman, *France and England in North America Volume II: Montcalm and Wolfe* (New York: Literary Classics of the United

But the St. Lawrence system cannot be assimilated to the Thames, hydrographically or historiographically. The techniques used to bring the full force of British military capabilities to bear on New France and allied First Nations in the continental interior during the Seven Years' War were, if not unprecedented, then different in scale from earlier efforts. Britain had conducted large-scale, successful combined operations overseas in the first half of the eighteenth century, but they had manifestly failed to do so in the world's largest estuary, or in an intricate glaciated watershed draining half a continent. Richard Harding argues that a key factor separating successful amphibious expeditions from failed ones in the mid-eighteenth century was possession of adequate geographical and hydrographical knowledge of the specific regions in which operations were undertaken, and the use of this knowledge to coordinate action between army and navy forces.⁷ It was difficult to obtain this information even in regions with relatively uncomplicated and well-known approaches like the West Indies, and this difficulty was compounded in regions like Canada, where British forces had almost no direct experience and little reliable information. Hovenden Walker possessed very limited knowledge of local conditions in the St. Lawrence Basin, and this ignorance contributed both to the loss of part of his force through shipwreck and to the expedition's ultimate failure. During the Seven Years' War, powerful members of Britain's political

States, 1983), 1338-1339; Julian Corbett, *England in the Seven Years' War* (London: Longmans, Green, 1907), 416-417. The source of such accounts is John Knox, *An Historical Journal of the Campaigns in North America for the Years 1757, 1758, 1759, and 1760* (Toronto: Champlain Society, 1914), I: 373-374. ⁷ Harding, *Amphibious Warfare in the Eighteenth Century*, 158-165; Harding, "Sailors and Gentlemen of Parade: Some Professional and Technical Problems Concerning the Conduct of Combined Operations in the Eighteenth Century," 45-47. As has been the case in historiography of the 1759 Quebec Expedition, where James Wolfe's sympathy for the requirements of the naval side of combined operations is posited as a key element of success, histories of other successful combined operations in the Seven Years' War have tended to undervalue the role played by knowledge of local conditions. See Smelser, *The Campaign for the Sugar Islands, 1759*; Syrett ed., *The Siege and Capture of Havana 1762*; Tracy, *Manila Ransomed*.

and military leadership recognized this connection between local intelligence and operational effectiveness, and acted on it.

Amphibious operations in northeastern North America in 1758 relied on extensive, effective, and sustained efforts to gain information of local conditions and to integrate this information into tactical decision making. Much of this information related to communication routes that facilitated the logistical work of bringing the enormous equipment of European siege warfare to bear on fortified positions sited to protect vital chokepoints in the marine and riverine routes into New France's Laurentian heartland: the route from the open Atlantic across the gulf and upriver to Quebec; the route from the Hudson River and Lake Champlain to the Richelieu; and the route from the Lake Ontario downriver to Montreal. It was, in short, hydrographic information. As in 1711, British imperial agents and British American authorities sought out both formal chart knowledge and embodied pilot and guide knowledge of these routes. Unlike the earlier attempt, these efforts were effective. The changing nature of the international map market, for example, ensured that more and better charts of the St. Lawrence system were available in 1759 than had been in 1711.⁸ Following a practice suggested by Samuel Vetch in the wake of

⁸ Accounts of the maturation of British and international mapmaking during the eighteenth century include Jeffers Lennox, "*L'Acadie Trouvée: Mapping, Geographic Knowledge, and Imagining Northeastern North America, 1710-1763*" (PhD thesis, Dalhousie University, 2010); David Bosse, "Maps in the Marketplace: Cartographic Vendors and Their Customers in Eighteenth-Century America," *Cartographica* 42: 1 (2007), 1-52; Mary Pedley, *The Commerce of Cartography: Making and Marketing Maps in Eighteenth-Century France and England* (Chicago: University of Chicago Press, 2005); Laurence Worms, "The Maturing of British Commercial Cartography: William Faden (1749-1836) and the Map Trade," *Cartographic Journal* 41: 1 (2004), 5-11; Daniel R. Headrick, *When Information Came of Age: Technologies of Knowledge in the Age of Reason and Revolution, 1700-1850* (Oxford: Oxford University Press, 2000); Pedley, *The Map Trade in the Late Eighteenth Century: Letters to the London Map Sellers Jefferys and Faden* (Oxford: Voltaire Foundation, 2000); David Turnbull, "Cartography and Science in Early Modern Europe: Mapping the Construction of Knowledge Spaces," *Imago Mundi* 48 (1996), 16-19; David A. Woodward, "English Cartography, 1650-1750: A Summary," in Norman J.W. Thrower, *The Compleat Plattmaker: Essays on Chart, Map, and Globe Making in England in the Seventeenth and Eighteenth Centuries* (Berkeley: University of California Press, 1978), 159-193; William P. Cumming, *British Maps of Colonial America* (Chicago: University of Chicago Press, 1974).

the Walker disaster, naval commander Charles Saunders devised effective means of sounding the river and marking its perils en route.⁹ Preparations also included a focused effort to identify, detain, and employ French and Canadian pilots for the gulf and river. Negotiating this service entailed reward and coercion, and touched on difficult issues of loyalty that reflected the sometimes malleable identities of people in areas where sovereignty and effective dominion were fluid and contested. It also implicated the expedition's commanders in the violence and murky legitimacy of the North American "First Way of War", as colonial ranger and light infantry units assumed an important role both in identifying potential pilots among enemy populations, and in conducting reconnaissance for land and sea forces alike.¹⁰ Organizers also identified Britons who, through the exigencies of trade and war, had first-hand experience of conditions on the St. Lawrence and in the interior and were willing to serve as guides. Together these efforts located a significant corps of river pilots, some with formal training of the river's

⁹ As this dissertation seeks to demonstrate, the British navy's capacity for on-the-spot survey was an important and underappreciated element of its ability to extend maritime empire in poorly charted waters worldwide. The few works that address this topic include M.K. Barritt, *Eyes of the Admiralty: J.T. Serres, An Artist in the Channel Fleet, 1799-1800* (London: National Maritime Museum, 2008); John Blake, *Charts of War: The Maps and Charts that Have Informed and Illustrated War at Sea* (London: Conway, 2006); Luciana de Lima Martins, "Mapping Tropical Waters: British Views and Visions of Rio de Janeiro," in Denis E. Cosgrove ed., *Mappings* (London: Reaktion Books, 1999), 148-168; Susanna Fisher, "Captain Thomas Hurd's Survey of the Bay of Brest during the Blockade in the Napoleonic Wars," *Mariner's Mirror* 79:3 (1993), 293-304.

¹⁰ On irregular warfare and its relation to local knowledge in the North American context during the Seven Years' War, see John Grenier, *The First Way of War: American War Making on the Frontier, 1607-1814* (Cambridge: Cambridge University Press, 2005), 115-145; Armstrong Starkey, *European and Native American Warfare 1675-1815* (Norman, OK: University of Oklahoma Press, 1998), 92-103; Ian K. Steele, *Warpaths: Invasions of North America* (New York: Oxford University Press, 1994), 175-247; Daniel Beattie, "The Adaptation of the British Army to Wilderness Warfare, 1755-1763," in Maarten Utee, ed., *Adapting to Conditions: War and Society in the Eighteenth Century* (Tuscaloosa, AL: University of Alabama Press, 1986), 56-83; Peter E. Russell, "Redcoats in the Wilderness: British Officers and Irregular Warfare in Europe and America, 1740 to 1760," *William and Mary Quarterly* third series 35:4 (1978), 629-652; K. L. Parker, "Anglo-American Wilderness Campaigning 1754-1764: Logistical and Tactical Developments," (PhD diss., Columbia University, 1970). Geoffrey Plank discusses the British army's use of extreme violence and its relation to perceptions of the "savagery" of those subjected to it in the context of the Jacobite Rising of 1745; see Plank, *Rebellion and Savagery: The Jacobite Rising of 1745 and the British Empire* (Philadelphia, PA: University of Pennsylvania Press, 2006), 22-23, 53-76. See also Eliga H. Gould, "Zones of Law, Zones of Violence: The Legal Geography of the British Atlantic, circa 1772," *William and Mary Quarterly* third series 60: 3 (2003), 471-510.

hydrography and others with knowledge of local maritime environments gained from experience as fishers and maritime traders. In addition to formal hydrographic knowledge gained from charts and sounding, and to the embodied knowledge of pilots, the large number of regular army personnel committed to North America at this time included army engineers serving the various campaigns' artillery, many of whom were trained observers who could tactically analyze and map terrain and watercourses. This on-the-spot capacity to assess and represent topography was likewise closely integrated with amphibious operations, and formed an important element of the cross-fertilization of army and navy abilities to gather information about the localities in which they acted.¹¹

These multiple sources of information about the coastal and riverine geography of eastern North America—charts and sounding, living pilots and guides, and army survey—combined to generate a radically abstracted image of American coastal and riverine landscapes, the product of a “hydrographic gaze” that facilitated the extension of British imperial power deep into the continental interior. The practices that constituted this gaze were employed in the post-war period to help order the littoral spaces of

¹¹ The professionalization of engineering in the British army coincides with the Seven Years' War in North America, and many of the army's engineers would be central figures in post-war mapping projects that sought to consolidate British power in the Gulf of St. Lawrence region, as is discussed in later chapters. See Stephen J. Hornsby, *Surveyors of Empire: Samuel Holland, J.F.W. Des Barres, and the Making of The Atlantic Neptune* (Montreal and Kingston: McGill-Queen's University Press, 2011); Alexander V. Campbell, *The Royal American Regiment: An Atlantic Microcosm, 1755-1772* (Norman, OK: University of Oklahoma Press, 2010); Carolyn Jane Anderson, “State Imperatives: Military Mapping in Scotland, 1689-1770,” *Scottish Geographical Journal* 125: 1 (2009), 15-21; Jeremy Black, “A Revolution in Military Cartography? Europe 1650-1815,” *Journal of Military History* 73: 1 (2009), 49-68; John E. Crowley, “‘Taken on the Spot’: The Visual Appropriation of New France for the Global British Landscape,” *Canadian Historical Review* 86:1 (2005), 1-28; Matthew Edney, “British Military Education, Mapmaking, and Military ‘Map-mindedness’ in the Later Enlightenment,” *Cartographic Journal* 31 (1994), 14-19; Jim Burant, “The Military Artist and the Documentary Record,” *Archivaria* 26 (1988), 33-51; Bruce Robertson “Venit, Vidit, Depinxit: The Military Artist in America,” in Edward J. Nygren with Bruce Robertson, eds., *Views and Visions: American Landscape before 1830* (Washington: Corcoran Gallery of Art, 1986), 83-103; Douglas William Marshall, “The British Military Engineers 1741-1783: A Study of Organization, Social Origin, and Cartography,” (PhD diss., University of Michigan, 1976); J.B. Harley, “Specifications for Military Surveys in British North America, 1750-75,” in W.P. Adams and F.M. Helleiner eds., *International Geography 1972* (Toronto: University of Toronto Press, 1972), 424-425.

Britain's North American conquests and to make the polities established there secure and productive elements of an expanding maritime empire. This process is examined in the Chapters Six and Seven. Chapters Three, Four, and Five present a detailed examination of the systematic collection and use of geographic and hydrographic knowledge in Britain's North American campaigns during the Seven Years' War, focusing particularly on operations against Quebec under the joint command of Admiral Charles Saunders and General James Wolfe. This examination begins with discussion of the 1758 capture of the French fortified town of Louisbourg, the most conventional amphibious siege operation in North American waters during the war. It does so both to situate North American events in the broader context of contemporary British maritime imperial assertion, and to demonstrate how metropolitan Britons comprehended these events through normative conceptions of European warfare that disregarded the specific geographical context in which they occurred. It then examines joint army-navy assaults against French and Aboriginal communities in the Gulf of St. Lawrence and Bay of Fundy undertaken in the autumn of 1758, showing how these operations were linked with established scorched-earth and deportation tactics developed in Mi'kmaq/Acadia/Nova Scotia in the preceding two decades. Operations against the fisheries and refugee settlements of eastern Acadia and the Gaspé in particular are examined to demonstrate the close relation between the radical and brutal assertion of dominion by military means, and the techniques of geographic and hydrographic knowledge-gathering as practiced by navy sailing masters and army officers, particularly engineers and artillery officers. Chapter Four reconstructs extensive information-gathering efforts made in preparation for the 1759 assault on Quebec, assessing the role of the contemporary international cartographical marketplace,

the enhanced ability of the navy to undertake on-the-spot hydrographic surveys, and the role of army engineers and irregular military forces in systematizing local guide and pilot knowledge. Chapter Five examines how geographical and hydrographical knowledge was deployed in the assault fleet's successful navigation of the Gulf and River St. Lawrence, and how it informed day-to-day operations during the naval siege of Quebec in ways that contributed materially to the success of those operations. Finally, this chapter examines how Jeffery Amherst's campaign culminating in the 1760 capitulation of Montreal combined hydrographic knowledge, army engineering, and irregular warfare to facilitate the exercise of unprecedented military force not only in littoral areas easily accessed by naval power, but also deep in the continental interior.

Louisbourg 1758 and the Expansion of British Maritime Empire

The fall of France's north-western Atlantic enclave of Louisbourg in the late summer of 1758 was greeted with jubilation in Britain and in the colonies of British America. The successful blockade, landing, and siege seemed an object lesson in British military supremacy, amply demonstrating the nation's growing ability to project force overseas by means of well-conducted combined operations. The Louisbourg campaign represented the largest and best-organized amphibious campaign undertaken by a European power to date in the eighteenth century, far larger than Hovenden Walker's failed 1711 expedition against Quebec, Edward Vernon and Thomas Wentworth's West Indian operations in 1740-1742, or the earlier joint British and British American assault on Louisbourg itself in 1745. Celebration of the victory was intensified by its contrast with repeated military failures in the American interior in preceding years—at the forks of the Ohio River in 1755, at Oswego on Lake Ontario in 1756, and at Fort William

Henry on the Lake Champlain/Richelieu route to the St. Lawrence in 1757—that gave rise to serious doubts about Britain’s ability to adapt its naval and military resources to North American landscapes and ways of war. In the affections of contemporary Britons, and in the estimation of subsequent historians, the 1758 success at Louisbourg represented a turning point. Victory turned the tide of British fortunes in America, prefiguring both Wolfe’s triumph at Quebec in the following year and Jeffery Amherst’s campaigns in the interior, culminating in the capitulation of all New France in 1760.¹²

In the assessment of recent historians of empire, it was also part of a turning point in the development of British overseas activities, after which the intertwined processes of trade, taxation, and military capacity encapsulated in the term “maritime-imperial system” were extended on a global scale. Successes in North America, in this view, need to be understood in the broader context of British gains made in other, more distant regions of the maritime world—likewise as a result of well-executed amphibious operations—during the Seven Years’ War. The gains were especially dramatic and potentially lucrative in the West Indies (with the fall of Havana, 1762) and in southern Asia (with the capture of Pondicherry in Tamil Nadu, 1761, and of Manila, in 1762). These victories ultimately afforded British merchants access to overseas resources and territories on a hitherto unseen scale, facilitating a gradual but pervasive shift away from the relatively loose littoral and commercial forms of imperial activity that characterized Britain’s overseas experience in the seventeenth and eighteenth centuries, and towards the more tightly regulated and territorially based empire of the later nineteenth century.

¹² J.H. Elliot, *Empires of the Atlantic World: Britain and Spain in America 1492-1830* (New Haven and London: Yale University Press, 2006), 294; P.J. Marshall, *The Making and Unmaking of Empires: Britain, India, and America c.1750-1783* (Oxford: Oxford University Press, 2005), 88, 99; Jeremy Black, *The British Seaborne Empire* (New Haven and London: Yale University Press, 2004), 117-118

To the “empire of trade,” built through a centuries-long decentralized process of private enterprise, state regulation, and occasional overseas military action, was added an “empire of conquest” that, after 1763, encompassed a greater expanse of territory than any rival empire in history, ancient or modern.¹³ Shifts in the geographic composition of Britain’s imperial endeavour were paralleled by shifts in Britons’ conception of empire, evident in both official and popular culture. Patriotism and loyalty became increasingly intertwined with the successes of British arms overseas, successes that were celebrated in art and literature, architecture and landscape gardening, in sermons, pamphlets, maps, inexpensive prints and broadside literature depicting overseas triumphs.¹⁴ The key role of naval power and of amphibious warfare in this extension of imperial influence manifested itself in Britons’ growing tendency to understand their experience and place in the world in explicitly maritime terms: Britain was increasingly understood as an inherently maritime nation, shaped by the ocean that defined its insular geography, and possessed of specifically maritime virtues that permitted the extension of its Protestant commercial values to ever-larger areas of the globe. This shift in national self-conception, like the fiscal and military capacities it was based on, added potent impetus to further extension of maritime empire and helped to naturalize empire politically and culturally in the ensuing century and a half.¹⁵

¹³ Elizabeth Mancke, “Negotiating an Empire: Britain and Its Overseas Peripheries, c. 1550-1780,” in Christine Daniels and Michael V. Kennedy, eds., *Negotiated Empires: Centers and Peripheries in the Americas, 1500-1820* (New York: Routledge, 2002), 235-265; Baugh, “Withdrawing from Europe,” 28-29; Bowen, “British Conceptions of Global Empire,” 5-8

¹⁴ Kathleen Wilson, *The Sense of the People: Politics, Culture and Imperialism in England, 1715-1785* (Cambridge: Cambridge University Press, 1998), 137-205; Bowen, *Elites, Enterprise and the Making of the British Overseas Empire*, 77-78.

¹⁵ The elevation of Admiral Vernon to heroic status as a result of amphibious campaigns fought under his command in the 1740s, which were understood to represent the extension of liberal trade and Protestantism at the expense of the corrupt Roman Catholicism of imperial Spain, well represent this emerging imperial identity. As David Armitage and N.A.M. Rodger suggest, however, this interpenetration of anti-Catholicism and perceived maritime destiny were important constituents of English and later British self-



Fig. 3.1. Richard Paton, *To the Captains Other Officers & Seamen, Who (with a Detachment of Boats from the Fleet Commanded by Admiral Boscawen) Burnt the Prudent & Took the Bienfaisant in the Louisburgh Harbour, About 1 O'clock in the Morning of the 26th July 1758* (London: John Boydell, 1771). Library and Archives Canada R13133-261. In this conventionalized scene of British naval heroism the realities of the northwestern Atlantic landscape are completely obscured, as are the architectural realities of contemporary Louisbourg. In their place is a generic, imagined European military landscape.

Louisbourg and the Iconography of Empire

This celebration of Britain’s increasingly militant and effective maritimicity was evident in popular metropolitan representations of the Louisbourg victory. British marine painter Richard Paton’s engraving of a dramatic episode in the Louisbourg siege—the 25

conception from the late-sixteenth century onward. P.J. Marshall, “Empire and British Identity: The Maritime Dimension,” in David Cannadine, ed., *Empire, the Sea and Global History: Britain’s Maritime World, c. 1760-c. 1840* (Houndmills, Basingstoke, Hampshire: Palgrave Macmillan, 2007), 41-59; N.A.M. Rodger, “Queen Elizabeth and the Myth of Sea-Power in English History,” *Transactions of the Royal Historical Society* 14 (2004), 153-174; David Armitage, *Ideological Origins of the British Empire* (Cambridge: Cambridge University Press, 2000), chapter 4, “The Empire of the Seas, 1576-1689,” 100-124; Wilson, *Sense of the People*, 140-165; Kathleen Wilson, “Empire, Trade and Popular Politics in Mid-Hanoverian Britain: The Case of Admiral Vernon,” *Past and Present* 121:1 (1988), 74-109.

July 1758 small-boat assault on the French warships *Prudent* and *Bienfaisant*—demonstrates how metropolitan observers understood American events through the lenses of maritime patriotism and conventional European warfare, landscape, and material culture, thereby obscuring the particularity of the places in which these events occurred and the nature of the events themselves. The print presents a tableau of British naval virtue centred compositionally and ideologically on the bravery of the seamen who breached the town's harbour defenses, boarded the ships, destroyed one and captured the other. The image shows *Prudent* facing to the town, baroque stern gallery ruined and main topmast falling to the dark water below, carrying with it the French naval commander's pennant and, symbolically, the fortune of French arms. *Bienfaisant* faces the viewer and the harbour mouth as British sailors board from boats alongside, joining those who have already replaced the French ensign with a British naval jack. Rowers strain to tow the ship out of the harbour under fire from the town's batteries. Paton's depiction of the naval action is naturalistic, accurately representing details of hulls and rigging, of boat types employed in the assault, and of naval tactics employed—detail that heightens the heroism of the sailors' actions. His depiction of the town and the specific geographic context in which these events occurred is, by contrast, entirely conventional. It is clear from the line of cut stone bastions fronting the harbour that the artist has never seen Louisbourg, and that the town as depicted is a generic composite of European fortifications imagined to illustrate one element of a conventional European naval siege. There is no hint of the specific military challenges presented by the North American context in which this dramatic scene actually occurred, or of the adaptations that British forces made to overcome these challenges.

It is not surprising that depictions of overseas events marketed to contemporary British audiences highlight Britons' specifically naval virtues, while framing them in the context of metropolitan material culture and aesthetic standards. While the Seven Years' War occasioned great curiosity about operations in North America, the flood of representations created to feed this curiosity frequently depicted the war either in an entirely conventional manner (as in Thomas Jefferys' 1758 map of operations at Louisbourg, which presents the town as an object-lesson in investment and attack), or focused on exemplary individuals whose martial virtues were presented as being representative of the qualities that vouchsafed continued British triumphs overseas (as in Benjamin West's famous adaptation of the techniques of history painting to contemporary events in *The Death of General Wolfe*).¹⁶ These representations were largely unconcerned with the precise physical realities of sites of imperial warfare; rather, they abstracted the martial potency of overseas events and used it to buttress a national identity defined in terms of specifically European interests and material cultures.

¹⁶ West's depiction of Wolfe's death in particular has been interpreted as an icon of contemporary British imperial aspirations and realities; see, for example, Pamela D. Toler, "Heroes in Coats, Breeches, and Cock'd Hats," *MHQ: Quarterly Journal of Military History* 22: 4 (2010), 90-93; Alan McNairn, *Behold the Hero: General Wolfe and the Arts in the Eighteenth Century* (Montreal and Kingston: McGill-Queen's University Press, 1997); Simon Schama, *Dead Certainties (Unwarranted Speculations)* (London: Granta, 1991), 21-39; Dennis Montagna, "Benjamin West's 'The Death of General Wolfe': A Nationalist Narrative," *American Art Journal* 13: 2 (1981), 72-88.

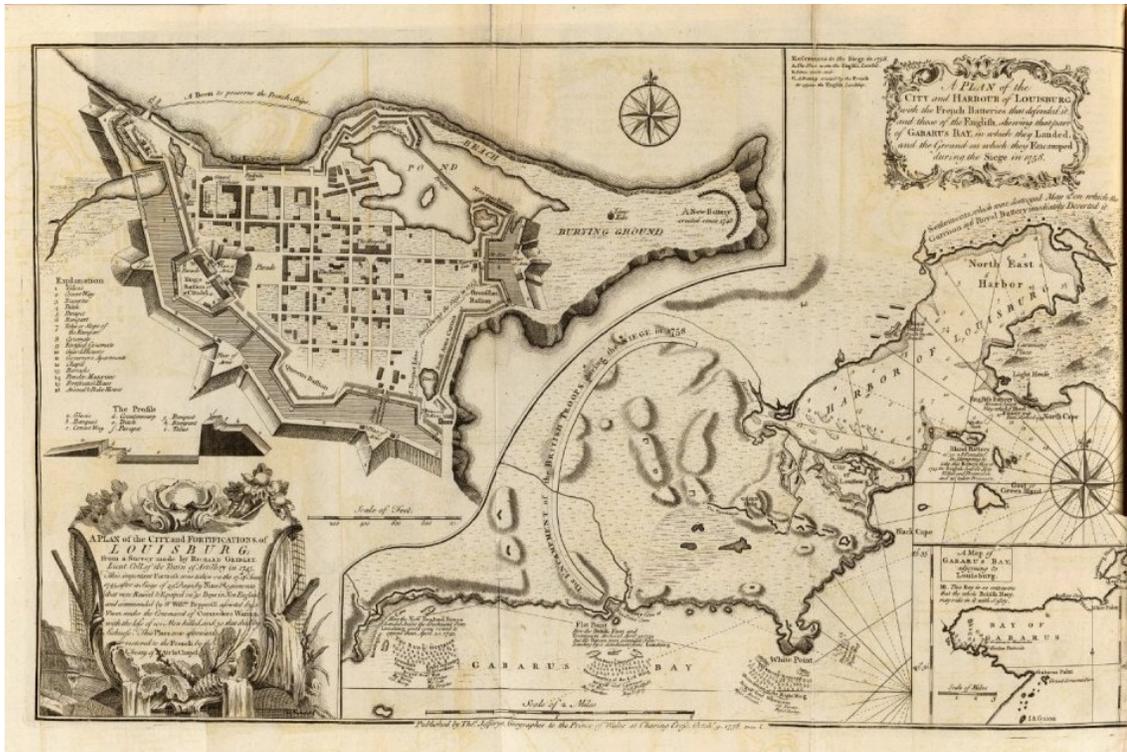


Fig. 3.2. “A Plan of the City and Harbour of Louisburg, with the French Batteries that Defended it, and those of the English, shewing that part of Gabarus Bay, in which they Landed, and the Ground on which they Encamped during the Siege in 1758,” from *The Natural and Civil History of the French Dominions in North and South America* (London: Thomas Jefferys, 1760). Library and Archives Canada C39042 71-13140. Battle plans offered a highly abstract and conventionalized image of spatial realities, presenting very little specific information on the North American landscapes in which events depicted occurred.

Another class of visual representations of the Louisbourg campaign was, however, deeply implicated in British military adaptation to the specific conditions of North American warfare. These were topographical drawings made on the spot by military personnel, frequently army engineers, in the course of their duties. Military artists were experienced in the analysis of spatial relations in landscapes as they related to specific tactical challenges, frequently those associated with siege warfare. They were trained to produce visual representations of these tactically significant landscapes that could be used directly in the planning and execution of military operations: by identifying high ground for batteries for example, or communications routes for military units on

campaign. While military topographical drawing had its own conventions, it aimed to be as “plain” and “transparent” as possible, in order to present a straightforward representation of the tactical qualities of the terrain depicted with as few decorative embellishments as possible.¹⁷ Two images of the 1758 Louisbourg siege derived from drawings made on the spot by army personnel highlight the differences between topographical representations and celebratory or schematic ones. The first, drawn by Captain Charles Ince of the 35th regiment, was engraved and sold in England by Thomas Jefferys in 1762, but is very unlike Paton’s imaginative reconstruction of distant events. Prior to its deployment at Louisbourg, Ince’s regiment had formed part of the besieged garrison at Fort William Henry in 1757, an experience that would have introduced him to American military landscapes and ways of war. This familiarity is evident in the published image. The actual town of Louisbourg is depicted from an identifiable position: the tactically important high ground behind Lighthouse Point on the northeastern side of the harbour. The barrenness of the glaciated landscape is apparent in the sparseness of the vegetation and in the large boulders that frame the view of the town. In the foreground officers direct a fascine party that follows a detail hauling an artillery piece into place; the need for fascines is evident in the clear lack of topsoil for defensive works. It is early in the siege, the town is intact, and the men depicted are establishing a battery that will soon be employed against French harbour defenses. Actual events are depicted in an actual landscape that is identifiably non-European; details show European siege tactics being adapted to a specific geographic context. Taken from an elevated position the image

¹⁷ Black, “Revolution in Military Cartography?,” 50, 53-54; Burant, “Military Artist,” 33-34; Edney, “British Military Education,” 17; Robertson, “Venit, Vidit, Depinxit,” 83-84

“commands” the scene, just as the battery being established will command the town and the harbour stretched out below, to devastating effect.



Fig. 3.3. Charles Ince, *A View of Louisbourg in North America, Taken from the Light House when the City was Besieged in 1758* (London: Carrington Bowles, 1762). Library and Archives Canada R9266-1520. Many of the earliest British depictions of actual northeastern North American landscapes were made by military personnel and memorialized military victories. Note the prominence accorded to the glaciated geography and to the relatively scant flora typical of the region.

The second image is a drawing by a twenty-one-year-old artillery officer, Thomas Davies, who had also spent the previous campaign season in North America and was familiar with the challenges its landscapes presented to the exercise of contemporary European military techniques. Davies’ view of Louisbourg is diagrammatic in that it aims to provide a concise overview of operations keyed to a legend, but it does so in a way that emphasizes the specific qualities of the landscape in which they occur. Again the glaciated terrain is evident, scattered with erratic boulders and punctuated by mullein and

other identifiable plants. The image is evidently taken from one of the advance redoubts between the main British camp and the town; individual batteries and siege lines can be identified; officers at repose watch the bombardment. The precise day can be inferred from the action: the large burning ship in the harbour is the 74-gun *Entreprenant*, set aflame by fire from a battery on Lighthouse Point on 21 July. British warships punctuate the horizon, cutting the fortress's defenders off from hope of succour. The town is under heavy bombardment and it is clear that the siege is nearing its climax: capitulation came five days later, on 26 July.

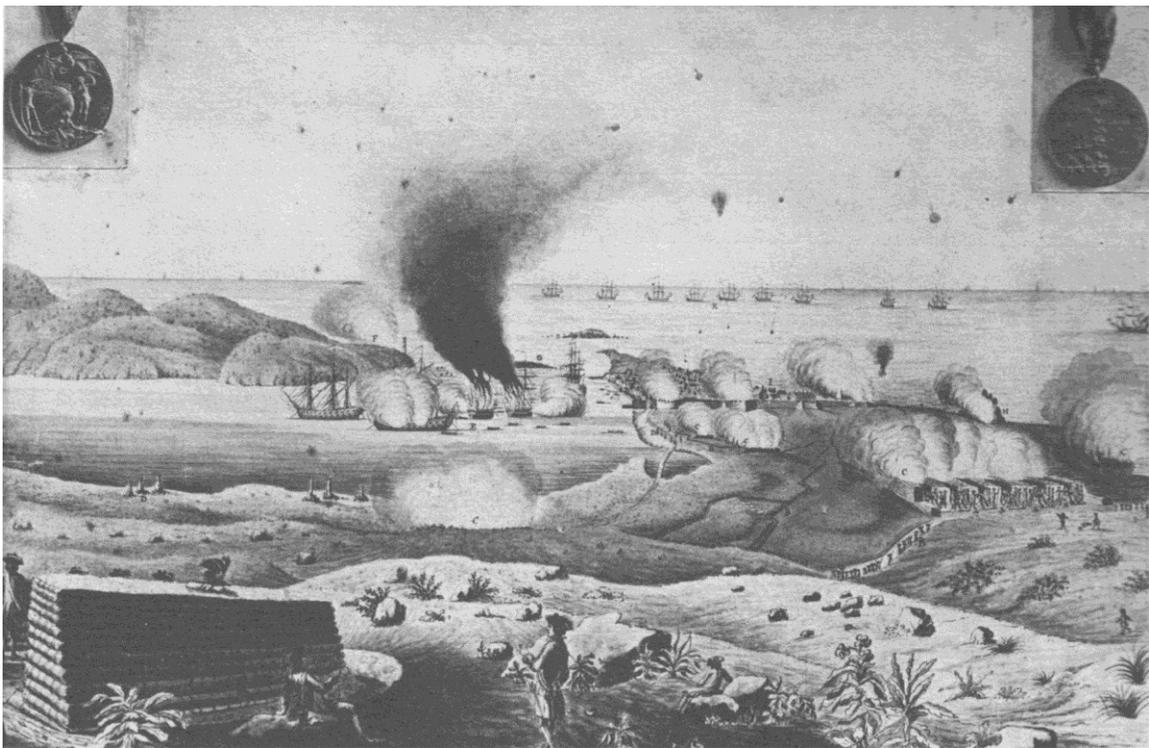


Fig. 3.4. Thomas Davies, “A View of the Siege of Louisbourg Commanded by His Excellency Major General Amherst in the Year 1758 Taken from the Center Redout Hill Drawn on the Spot by Thomas Davies[1758].” Royal Artillery Institution, Woolwich. Davies’ manuscript sketch displays a new attentiveness to the empirical actualities of northeastern North American landscapes, a result of the emphasis placed on “plain” or topographical drawing in contemporary military engineers’ training.

Engineers, Pilots, Rangers: Tactical Analysis of American Space

While these two on-the-spot images neatly bookend the Louisbourg siege, and offer a telling contrast to conventionalized metropolitan images of North American events, their primary significance here is as examples of a topographical approach to landscape, a tactical disciplining of the perception and representation of geography, that played an important role in the success of British military operations in North America during the Seven Years' War. This discipline was developed in Europe as a technique deployed in conventional warfare, but it proved to be an important tool used to bring force to bear on targets in both littoral and interior regions of north-eastern North America. The British army in North America was well provided with artillery and engineering officers trained in topographical drawing at the Royal Military Academy, Woolwich (founded in 1741), and with foreign Protestant officers trained on the continent serving in the 60th or Royal American Regiment (first raised in 1756).¹⁸ Their presence was made necessary by a French strategy of fortified encirclement in the continental interior, countering which required officers capable of directing formal siege operations like those undertaken at Louisbourg. But their skills also proved essential to overcoming specifically American impediments to effective imperial warfare, in particular to the work of mastering transportation and communication routes between fortified posts, routes that followed labyrinthine watercourses through thickly forested landscapes. Inasmuch as British-led military operations in North America entailed mastery of these routes, followed by effective assaults on the posts they connected, it is useful to think of the Seven Years' War in the northeastern North American region not as

¹⁸ Campbell, *Royal American Regiment*, passim; Marshall, "British Military Engineers," 131-198.

a series of disjointed amphibious sieges, dominated by those against Louisbourg and Quebec, but as a sustained amphibious campaign begun in 1755 with operations against French forts at Chignecto and on the Ohio River and continued, with setbacks, until the fall of Montreal in 1760. A gradual evolution of tactics during this five-year period resulted in a remarkable degree of cooperation among army and navy officers, colonial ranger units and allied Aboriginal fighters, and coerced or collaborating enemy pilots and guides. Their joint capacity to gather information on local conditions, and to adapt military operations in accordance with these conditions, was a necessary element of Britain's North American victories in the Seven Years' War. Dramatic victories like those at Louisbourg and Quebec depended on this unglamorous work in obscure backcountry locales.

The operation of this integrated practice of topographical analysis, hydrographic survey, piloting and guiding is well illustrated by small amphibious expeditions or "descents" against settlements and fortified positions in coastal and backwoods riverine settings. These operations were characteristic of British military efforts in North America during the war, and embody important elements of larger assaults such as those against Quebec and Montreal. Indeed, New France's St. Lawrence heartland can itself be seen as a particularly extensive backwoods riverine settlement, hedged between the Laurentian Shield and the dense Appalachian forests of Acadia and western New England.¹⁹ British

¹⁹ The spatial complexity of the Laurentian heartland of New France, a region that mediated between the Atlantic and the continental interior while embodying characteristics of both, has been intensively examined. See R. Cole Harris, *The Reluctant Land: Society, Space, and Environment in Canada before Confederation* (Vancouver, BC: University of British Columbia Press, 2008); Hornsby, *British Atlantic, American Frontier*, 214-215; James Pritchard, *In Search of Empire: The French in the Americas, 1670-1730* (Cambridge: Cambridge University Press, 2004), passim; Kenneth J. Banks, *Chasing Empire Across the Sea: Communications and the State in the French Atlantic, 1713-1763* (Montreal and Kingston: McGill-Queen's University Press, 2003), 69-76; Serge Courville, "Le Saint-Laurent des uns, le Saint-

military victory in this area thus entailed the progressive mastery of New France's oceanic and continental marine approaches and the fortifications protecting them. Naval personnel, in particular sailing masters with specialized navigational knowledge, undertook sounding, identification of channels and marine perils, and rough surveys of coasts, rivers, and lakes that extended the exercise of sea power to the furthest extent of navigability. Sailing masters led invading forces and their powerful siege trains from the open Atlantic and its deep-water inlets into the rivers and creeks that represented the only means of access to most settlements and military targets in the North American interior. Army officers, especially those with specialized training in engineering and ordnance, used their abilities to analyze landscapes spatially to secure tactical advantage and to identify routes of inland communication that were as direct and secure as possible. Their ability to represent routes and landscapes by means of on-the-spot mapping and topographical drawing facilitated the extension of armed force beyond and between waterborne routes identified by naval survey. Together these specialized army and navy personnel allowed military forces in the Seven Years War to master the terrain in which they operated to a degree that far surpassed earlier extensions of British imperial power and influence into the North American continent.

But this formal mastery of American geography and hydrography was, in itself, insufficient to assure military success. This required knowledge not only of the physical environment, but of social and cultural environments as well. This was especially true in the particular context of North American warfare as practiced by Aboriginal peoples and by British and British American irregular military units. Irregular or guerilla warfare, *la*

Laurent des autres...," *Cahiers de Géographie du Québec* 29:76 (1985), 119-125; R. Cole Harris, "The Saint Lawrence: River and Sea," *Cahiers de Géographie du Québec* 23 (1967), 171-180.

petite guerre, was well suited to disrupting the progress of formal military advance along attenuated water routes and through forested landscapes. It was based on an especially intimate knowledge of local terrain and local peoples. Its characteristic tactic was the well-planned ambush against which concentrated conventional forces had little recourse. It aimed specifically to disrupt the logistical networks upon which British forces in America necessarily relied. It was able to do so through effective use of surprise, by establishing and maintaining superior intelligence-gathering capacity, by scouting, taking prisoners, and meeting with people of diverse loyalties whose local knowledge could be effectively exploited for tactical advantage.

Practitioners of irregular warfare were frequently experienced guides and pilots themselves, and often sought out others with specialized local knowledge when operating in unfamiliar areas. Aboriginal military forces were particularly skilled at this kind of warfare, as were New France's colonial militias and *Troupes de la Marine*.²⁰ The failure of General Edward Braddock's 1755 expedition to the forks of the Ohio River is often depicted as the result of British failure to comprehend *petite guerre* tactics; however, British forces had considerable experience in irregular warfare, both in the form of colonial ranger units comprised of experienced woodland fighters, and of grenadier and light infantry soldiers with experience of partisan warfare in Flanders, the Scottish Highlands, and elsewhere.²¹ These units operated with intermittent effectiveness from the outbreak of armed conflict but became increasingly prominent in 1759 and 1760 as their operations became more closely integrated with regular army and naval operations, and in particular with the intelligence-gathering work of naval survey and army

²⁰ Grenier, *First Way of War*, 120-122; Starkey, *European and Native American Warfare*, 88-90.

²¹ Grenier, *First Way of War*, 87-114; Russell, "Redcoats in the Wilderness," 637-640.

reconnaissance. Irregular operations were notorious brutal, particularly in their treatment of non-combatants, and the successful subjugation of New France was deeply implicated in this brutality.²² There was also another, little-recognized form of irregular warfare that likewise contributed to British military success: the work of colonial mariners, usually former privateersmen or members of provincial navies or sea militias, who had extensive experiential knowledge of North American maritime routes and conditions, and who were frequently employed for coastal reconnaissance and on riverine expeditions into the interior. Irregular warfare thus incorporated a sort of *petite guerre navale*, examined in detail in Chapter Five, which was essential to the success of British forces in their sustained North Americans amphibious campaigns.²³

While Britain's sustained amphibious campaign in North America intensified in 1758 with operations against Louisbourg and in its aftermath, the effective cooperation of regular army, navy, and colonial forces to extend the reach of the British military into the interior dates from the earliest days of the Seven Years' War in America. Already in July 1754 amphibious expeditions were employed to stake claims to counter perceived encroachments in disputed areas, as when Massachusetts militia officer John Winslow

²² John Grenier discerns a multi-stage process through which initially skeptical British commanders in North America came to recognize the need to employ "ranging" tactics to counter the tactical advantage possessed by French and Aboriginal forces in the forested terrain of the continental interior; by 1759-1760 moral qualms about the occasionally extreme nature of these tactics were quieted, and they were used extensively and effectively in campaigns against Quebec and Montreal. Grenier, *First Way of War*, 138-140.

²³ The irregular naval warfare I describe as *petite guerre navale* has not been systematically studied. While its personnel and tactics overlapped with colonial privateering, it was perhaps practiced most systematically by colonial Provincial Marines and sea militias. See, for example, W.A.B. Douglas, "The Sea Militia of Nova Scotia: A Comment on Naval Policy," *Canadian Historical Review* 47: 1 (1966), 22-37. At present the best introduction to its functions and tactics is contained in the biographies of its practitioners; see Phyllis R. Blakeney, "Cobb, Silvanus," *Dictionary of Canadian Biography* http://www.biographi.ca/009004-119.01-e.php?&id_nbr=1265 (accessed 1 April 2012); W.A.B. Douglas, "Rous, John," *Dictionary of Canadian Biography* http://www.biographi.ca/009004-119.01-e.php?&id_nbr=16370 (accessed 1 April 2012). The seaborne warfare practiced by the Mi'kmaq in coastal areas also fits this pattern; see Olive Patricia Dickason, "La «guerre navale» des Micmacs contre les britanniques, 1713-1763," in Chester A. Martijn, ed., *Les micmacs et la mer* (Montreal: Recherches amérindiennes au Québec, 1986), 233-248.

(who would become a central figure in the execution of Acadian deportations in the following year) led 800 colonial troops with artillery up the Kennebec River, establishing fortified posts at Fort Western (present-day Augusta, Maine) and Fort Halifax (present-day Winslow, Maine). The means by which this was accomplished could serve as a model for effective backcountry amphibious operations throughout the war. Artillery was transported in large, flat-bottomed gundalows, an indigenous boat type (described by Winslow as being like “West Country Barges, but draw[ing] less water”) well suited to shallow riverine waters. Boatmen in small craft preceded the artillery upstream, sounding constantly to identify navigable channels. In the forests lining the banks troops kept pace with the advance, scouting ahead and screening the main party from possible attack by Aboriginal or French colonial forces similarly intent on checking British encroachments in territory where they exercised functional sovereignty. Trained surveyors made a running traverse of the route as they moved, taking observations of latitudes at intervals. Low water levels meant frequent portages, over which everything—guns, boats, gear—was laboriously manhandled. It was slow and arduous work, at one point making only eighteen miles in five days, but it succeeded both in penetrating disputed woodland terrain and in bringing the powerful equipment of European warfare into the continental backcountry.²⁴

Information gathered from this and similar expeditions and scouts could be incorporated in rough travel itineraries or “sailing directions”; while relatively primitive, these brief abstracts of local geographic and hydrographic conditions could nevertheless prove valuable in a period during which alternative routes into the interior did not exist.

²⁴ John Winslow to Charles Gould, 30 December 1754, in Stanley Pargellis ed., *Military Affairs in North America 1748-1765: Selected Documents from the Cumberland Papers in Windsor Castle* (New York: D. Appleton-Century, 1936), 54-58.

A 1754 document recording a “Route to the Ohio by Water” identifies the logistical challenges presented by local terrain and watercourses: “From the mouth of the Potomac River to Great Falls is 170 miles, navigable for vessels of 200 or 300 tons. From Alexandria at the lower part of the falls to where the river is again navigable, a land carriage of 30 miles good road. From thence to next falls [through] the Blue Ridge 60 miles, navigable for canoes carrying about 1000 Wt.”²⁵ When in the following year Braddock’s expedition to the Ohio traversed a similar route, it did so with significant naval assistance: the Admiralty instructed Augustus Keppel to provide officers and men to accompany ground forces beyond the limits of deep-water navigation, to manage the siege train over the Allegheny Mountains, to build floats en route for river crossings, and to make on-the-spot charts of the territory through which they passed.²⁶ The disastrous military defeat of this expedition has overshadowed its remarkable logistical success in overcoming an attenuated inland navigation, a success attributable in part to the cooperation of army and navy personnel, regular and colonial.

Campaigns in the Gulf of St. Lawrence and in the Bay of Fundy in the wake of Louisbourg’s fall offer a fuller demonstration of the integration of army, navy, and local knowledge-gathering in the work of meeting the military challenges of North American landscapes. In the two years after the fall of Louisbourg, the British navy and army jointly asserted sovereignty across much of north-eastern North America, from the Bay of Fundy to the fortified enclaves of the Great Lakes interior. They did so largely through a sustained campaign of amphibious descents. On the St. John River and in the Gulf of St. Lawrence these operations were a violent continuation of the policy of expulsion begun

²⁵ “Different Routes in North America [1754],” in Pargellis ed., *Military Affairs in North America*, 31-33.

²⁶ “Instructions from the Lords of Admiralty to Admiral Keppel,” in Pargellis ed., *Military Affairs in North America*, 48-53; National Archives, ADM 1/480, Augustus Keppel to John Cleveland, 14 March 1755.

in 1755 and executed throughout Acadian-occupied lands as they became subject to effective British sovereignty.²⁷ In addition to the significant military and civilian populations of Ile Royale and Ile St. Jean, unconquered areas of Acadia and the gulf region in 1758 were occupied by independent Aboriginal societies living in areas of nominal French sovereignty; small, long-established seigneurie-based fisheries; seasonal sealing and trading communities; patches of agricultural settlement; raw encampments of refugee Acadians; and in the still-disputed interior of continental Mi'kmaq/Acadia by mixed Acadian, Canadian, Mi'kmaq, and Maliseet forces that remained actively at war.²⁸ It remained a deeply unsettled region. Intelligence regarding the size and disposition of French forces on land and at sea was strictly limited. While British forces clearly enjoyed local naval superiority, they were aware that French naval forces remained active in the St. Lawrence and that Acadian privateers were at large in the Bay of Fundy. With Louisbourg's capitulation in late July, British commander Jeffery Amherst had large military resources at his disposal. While the immediate and urgent necessity was to use these forces to render Louisbourg militarily unusable and to transport its garrison and naval complement out of the theatre of war, by late August Amherst was able to consider a resumption of offensive actions in the remainder of the campaigning season. Army

²⁷ In the extensive English-language historiography of the forcible removal of Acadians from north-eastern North America, there is relatively little examination of actions against Acadians in the St. John River and Gulf of St. Lawrence regions, outside of Île St-Jean and Île Royale. See John Mack Faragher, *A Great and Noble Scheme: The Tragic Story of the French Acadians from Their American Homeland* (New York: Norton, 2005), 404-406; Geoffrey Plank, "New England Soldiers in the St John River Valley, 1758-1760," in Stephen J. Hornsby and John G. Reid, eds., *New England and the Maritime Provinces: Connections and Comparisons* (Montreal and Kingston: McGill-Queen's University Press, 2005), 59-73; Plank, *An Unsettled Conquest: The British Campaign Against the Peoples of Acadia* (Philadelphia: University of Pennsylvania Press, 2001), 150-152, 160; Earle Lockerby, "The Deportation of the Acadians from Ile St.-Jean, 1758," *Acadiensis* 27: 2 (1998), 45-94; D.C. Harvey, *The French Régime in Prince Edward Island* (New Haven: Yale University Press, 1926), 188-200. For a fascinating reflection on the historiographical legacy of these events, see P.D. Clarke, "À la recherche de la Petite-Rochelle: Memory and Identity in Restigouche," *Acadiensis* 28: 2 (1999), 3-40.

²⁸ Mario Lalancette, "Exploitation of the Gulf of St. Lawrence," in R. Cole Harris, ed., *Historical Atlas of Canada Volume I: From the Beginning to 1800* (Toronto: University of Toronto Press, 1987), plate 54.

officers pushed to continue operations on to Quebec, but were successfully resisted by naval commander Edward Boscawen, who was engaged with the difficult work of transporting the town's population and who knew well the North Atlantic's dangerous autumn climate. After garrisoning Louisbourg and providing forces to extend the Acadian expulsion to Ile St. Jean, Amherst pursued three separate objectives. He sent forces to Boston to support flagging operations in the Lake Champlain and Great Lakes regions, and he outfitted two substantial amphibious expeditions against the remaining Acadian and *Canadien* communities in southern Nova Scotia and along the St. John River, in western Newfoundland, and throughout the southern and western gulf region, the Miramichi and Restigouche Rivers, and the Gaspé Peninsula as far up the river as resources and weather would permit.²⁹ These expeditions targeted military forces that had escaped to the mainland after Louisbourg's fall, expelled the civilian population and destroyed their property, and cut access to the interior to isolate partisan and Aboriginal forces there. Armed force was used to settle on the ground what had not been settled by European diplomacy prior to the outbreak of war: the actual limits of British and French claims to sovereignty in north-eastern North America.³⁰

²⁹ J. Clarence Webster ed., *The Journal of Jeffery Amherst: Recording the Military Career of General Amherst in America from 1758 to 1763* (Toronto: Ryerson, 1931), 73-74; Wolfe to Amherst, 8 August 1758, in Beckles Willson, ed., *The Life and Letters of James Wolfe* (London: Heinemann, 1909), 394.

³⁰ For analyses of the role of geographical knowledge in diplomatic efforts to settle rival imperial claims prior to 1755, see Jeffers Lennox, "Nova Scotia Lost and Found: The Acadian Boundary Negotiation and Imperial Envisioning, 1750-1755," *Acadiensis* 40:2 (2011), 3-31; *idem*, "L'Acadie Trouvée: Mapping, Geographic Knowledge, and Imagining Northeastern North America, 1710-1763," (PhD thesis, Dalhousie University, 2010); Lennox, "An Empire on Paper: The Founding of Halifax and Conceptions of Imperial Space, 1744-55," *Canadian Historical Review* 88: 3 (2007), 373-412; Mary Pedley, "Map Wars: The Role of Maps in the Nova Scotia/Acadia Boundary Disputes of 1750," *Imago Mundi* 50 (1998), 96-104.

Coasts, Rivers, Forts, Forests: Tactical Geography of Northeastern North America, 1758

The north-eastern North American regions in which British amphibious forces were deployed in the autumn of 1758 were profoundly unsettled. They were subject to rival claims of sovereignty and to fluid shifts in functional control exercised by Aboriginal people of the Wabanaki Confederacy, by Acadian, *Canadien*, and French soldiers and partisan fighters and, to a lesser degree, by British forces engaging in raids from fortified bases. West of Chignecto power was not concentrated geographically but was diffused, in Elizabeth Mancke's words, in "multiple and overlapping forces of influence and control...some without frontiers between them..."³¹ This palimpsest of sovereign claims and actions was rooted in long-established Aboriginal networks of exchange onto which were grafted competing and ultimately incompatible interests of European and Euro-American settlers, traders, and soldiers. At Gaspé, perhaps six hundred permanent residents lived in fishing communities sited at the mouths of the peninsula's rivers.³² The Acadian population in the interior of the region defined by present-day New Brunswick had swollen in the wake of deportation operations in Nova Scotia and Île St-Jean, with substantial settlements growing up on the St. John River at Grimross (modern-day Gagetown) and Sainte-Anne (modern-day Fredericton). A significant refugee population existed also in the Shepody/Petitcodiac region, where a British American amphibious expedition in 1755 had met with significant armed resistance. More recently, a centre of resistance had developed on the Miramichi under

³¹ Elizabeth Mancke, "Spaces of Power in the Early Modern Northeast," in Stephen J. Hornsby and John G. Reid, eds., *New England and the Maritime Provinces: Connections and Comparisons* (Montreal and Kingston, 2005), 33, 37-38.

³² David Lee, "Gaspé, 1760-1867," in *Canadian Historic Sites: Occasional Papers in Archaeology and History No. 23* (Ottawa: National Historic Parks and Sites Branch, Parks Canada, 1980), 121-122.

the leadership of *Troupes de la Marine* officer Charles Deschamps de Boishébert.³³ Mi'kmaq fighters in the region had been involved in almost unbroken warfare with British forces since 1749 and had been subject to scalp bounties intermittently during that time. Acadians knew from experience that dispossession of their property and deportation were the best outcomes they could expect from any military encounter, and civilians no longer expected quarter from British regular forces or from colonial ranger units active in the region. At Gaspé, people who initially fled British soldiers surrendered with relief when they learned they would be transported out of the country personally unmolested.³⁴ Warfare in the region had in the preceding years taken on the characteristics of total war, in which civilians were not exempt from violence, and in which British forces systematically pursued a scorched-earth policy intended to deprive French and Aboriginal forces of the logistical means with which to continue the fight.³⁵

The armed forces deployed in the Gulf of St. Lawrence and Bay of Fundy in the autumn of 1758 proved to be greatly disproportionate to the small and frequently abject groups of refugees, French regulars and partisans, and Aboriginal allies they were sent against. The expedition to the St. John River (including related actions in Cape Sable and Petitcodiac River regions) comprised two regiments supplemented with three ranger companies totaling more than 1,900 men under Robert Monckton, a naval force of two warships escorting fifteen transports, and 55 pieces of artillery.³⁶ It was intended as an overwhelming force that would assert full British possession of the area. The expedition

³³ Stephen E. Patterson, "1744-1763: Colonial Wars and Aboriginal Peoples," in Phillip A. Buckner and John G. Reid eds., *The Atlantic Region to Confederation: A History* (Toronto and Fredericton: University of Toronto Press and Acadiensis Press, 1994), 144-145.

³⁴ Thomas Bell, "My Journal of the Gaspee Expedition and Other Matters," in J.S. McLennan, *Louisbourg from Its Foundation to Its Fall* (London, 1918), 417.

³⁵ Patterson, "Colonial Wars," 146-148.

³⁶ Robert Monckton to James Abercrombie, St. John River, 15 October 1758, in *The Northcliffe Collection* (Ottawa, 1926), 62.

deployed in the gulf included three regiments with over 1500 men commanded by James Wolfe, and a powerful naval squadron of seven ships of the line and three frigates under Charles Hardy. Five frigates patrolled the Atlantic approaches to the gulf to intercept French shipping entering or leaving.³⁷ French military and civilian presence in the region, in contrast, numbered only a few hundred people supplemented by Mi'kmaq and Maliseet allies whose strategic decisions were based on their own independent interests. Despite this preponderance of force, the expeditions largely failed to engage French and Aboriginal personnel militarily and instead focused almost exclusively on the destruction of property and the forced deportation of the relatively few civilians encountered. While the destruction of French settlements was an integral part of the process through which British possession was asserted, and so one of the reasons the expeditions were deployed in the first place, the expeditions were less successful in achieving their other objectives. They failed, in the autumn of 1758, to close with significant enemy forces or to engage them.

The specifically military ineffectiveness of these expeditions was directly related to the geographical and hydrographical conditions in which they were conducted, and highlighted British forces' need to further adapt their offensive capacities to these conditions. In the gulf and Fundy regions, as in much of the world open to maritime imperial warfare, it proved relatively easy to secure the mouths of bays and rivers leading into the interior and, with the assistance of naval sailing masters, to land bodies of troops in these areas. Moving large numbers of men upstream proved more difficult, and deploying these forces far inland more difficult still. Scouts in both the gulf and the St. John River concluded almost immediately that inland transportation was practically

³⁷ Boscawen, *Capture of Louisbourg*, 298.

impossible given the density of the forest and the apparent lack of roads and even of footpaths. Collaborating guides advising Monckton informed him that Aboriginal and Acadian people in the region travelled entirely by water, exploiting the superior mobility



Fig. 3.5. Hervey Smyth, *A View of the Miramichi, a French Settlement in the Gulf of St. Lawrence Destroyed by Brigadier Murray Detached by General Wolfe* (London: Thomas Jefferys, 1760). Library and Archives Canada, R9266-1110. Smyth’s view, while reflecting the picturesque aesthetic standards of contemporary British visual culture in its composition, nonetheless conveys important information about the landscape in which the image had its origin: the littoral, enclave character of European settlement in the northeast; the densely forested physical geography and the consequent reliance on riverine communications; and the disorienting lack of distinctive natural landmarks.

afforded by shallow-draft bark canoes. Indeed, men in canoes shadowed Monckton’s expedition at a distance throughout his ascent of the St. John River.³⁸ British army

captain Hervey Smyth, deployed with Brigadier General James Murray on the Miramichi,

³⁸ Knox, *Historical Journal*, 279-280; Robert Monckton to Thomas Pownall, St. John, 12 November 1758, in *Northcliffe Collection*, 63; “Report of the Proceedings of the Troops on the Expedition up the St. Johns River in the Bay of Fundy Under the Command of Col. Monckton,” in *Northcliffe Collection*, 107.

laid down an on-the-spot drawing that, even when later engraved for public sale in London, vividly conveys the impenetrability of the forested terrain and its extension to the very edge of the river itself. Riverine settlement in this region was itself discontinuous, even littoral in nature: small islands of settlement reclaimed from a sea of forest, accessible only by shallow rivers that twisted away into an interior framed by low, indistinct hills that offered little guidance for inland navigation.³⁹

The only effective way to move large numbers of men and their equipment into this landscape was by boat, and despite their formidable size neither expedition was prepared to do this on a scale sufficient to achieve their tactical objectives. At the outset of operations on the St. John River, soundings showed that the expedition's vessels were too deep-draught even to safely enter the river, a fact dramatically emphasized by the wreck of the naval escort *Ulysses*, and the near loss of the light infantry troops it carried, in tidal currents in the river's extreme lower reaches.⁴⁰ In response, Monckton sought small craft and Acadian pilots from Annapolis Royal and Chignecto with which to carry and guide his forces upstream, delaying his advance during a dwindling campaign season. While waiting for boats and guides he employed six hundred men and the engineers of the 35th and 60th Regiments building a substantial fortification at the river's mouth, effectively sealing the river off from the Atlantic for any but British marine traffic. Thomas Davies' topographical drawing of Fort Frederick illustrates both the substantial

³⁹ Bell, "Gaspee Journal," 418.

⁴⁰ "Proceedings of the Troops on the Expedition up the St. Johns River," 103-104.



Fig. 3.6. Thomas Davies, “A North View of Fort Frederick Built by Order of the Honble. Col. Robert Monckton, on the Entrance of St. John’s River in the Bay of Fundy, Nova Scotia, in 1758 Drawn on the Spot by Thomas Davies Capt. Lieut. of the Royal Regt. of Artillery [1758].” National Gallery of Canada 6269. Davies’ view well illustrates the spatially constrained character of British maritime empire in the northeast during the Seven Years’ War: effective exercise of military force was limited to watercourses and to fortified positions on their banks. As events would show, personnel undertaking routine activities even within sight of fortified positions, including the one depicted here, were by no means secure.

fixed works that Monckton’s large and sophisticated force could effect in a matter of weeks, and the enforced idleness that resulted from the expedition’s inability to adapt to local hydrographic conditions. Britain’s commitment of huge resources to the war in America ensured that by 1758 it could effectively secure approaches to the continental interior; it could not yet operate reliably in the interior itself. While Fort Frederick ensured that French and Aboriginal forces in the interior could no longer be supplied by way of the St. John River, until the fall of Quebec effective control did not extend beyond the fort’s walls and the armed vessels that transported troops in raids against Acadian

settlements. Outside the fort or a boat soldiers were not safe. Stragglers were repeatedly lost in the woods and not recovered.⁴¹ As late as June 1759 a soldier was killed in an ambush while fishing outside the fort's walls and another was badly wounded.⁴² Operations in the gulf were similarly hampered by a lack of boats, forcing infantry to scramble inland along river banks and narrow coastal strips inundated at high tide, greatly limiting their effectiveness.⁴³ At Miramichi, Murray's effort to engage with the fighters and refugees concentrated in the river's upper reaches was broken off due to his lack of small craft with which to carry troops against forces deeper in the riverine interior.⁴⁴ Captain Thomas Bell lamented the lack of small craft, noting that "small sloops [and] boats with guns in their prows and others without...are the proper vessels for the kind of work we were sent upon of which we had none..."⁴⁵

Pilots, Guides, Coercion, Loyalty

In such areas the expeditions were dependent on pilots and guides taken from local enemy populations, who repeatedly demonstrated they could dependably direct a force and its boats to the furthest extent of inland navigation. The value of the knowledge they provided was based on its extreme locality. When, for example, British forces travelled on an upper arm of Gaspé Bay in autumn 1758, a local pilot identified passable stretches of water with reference to low hills that were indistinguishable one from another, even to trained and experienced military observers.⁴⁶ Acadian guides retrieved from Chignecto for service on the St. John River were excepted from the policy of

⁴¹ "Report of the Tour to the Petitcodiac River," in *Northcliffe Collection*, 99.

⁴² Plank, "New England Soldiers," 66.

⁴³ Bell, "Gaspee Journal," 420.

⁴⁴ *Ibid*, 421.

⁴⁵ *Ibid*, 420-421.

⁴⁶ *Ibid*, 417.

deportation and detained specifically because they possessed this knowledge and discernment. Experienced pilots were sought out after the capitulation of Louisbourg, while the garrison and civilian population of the town were completely and rapidly removed. Monckton's expedition was led upstream by an Acadian pilot tracking the channel from a schooner deployed ahead of the main force. As the force advanced on the settlement at Sainte-Anne des Pays-Bas, this pilot successfully threaded the transports and their naval escort through twisting channels and stillwaters to the extent of practicable navigation. When he concluded the force could go no higher, British seamen were sent out to sound and confirmed the accuracy of his conclusion. A Briton in the force who had been a captive on the river in 1755 suggested another channel that proved impassable. The expedition's naval escort and several transports went aground as a result, leaving those in the grounded vessels vulnerable to attack from forces concealed along the riverbank.⁴⁷ Throughout the ascent, army officers noted this embodied local spatial knowledge in journals that recorded rough sailing directions and in field maps made on the spot, making it available for future interventions in the region.⁴⁸

Because they could solve the hydrographic puzzle of local inland navigation, pilots and guides were highly valued by armed forces seeking to exercise power through maritime means. This made them subject to coercion in very unequal negotiations of loyalty, and ensured that they were specifically targeted by invading forces both before and during active operations. When, for example, James Wolfe led the initial reconnoitre of Gaspé on 5 September 1758, his first recorded action was to identify a pilot among the

⁴⁷ "Proceedings of the Troops on the Expedition up the St. Johns River," 105.

⁴⁸ Samuel Holland's map of the river is reproduced in W.O. Raymond, *The River St. John: Its Physical Features Legends and History from 1604 to 1784* (Saint John, NB: J.A. Bowes, 1910), 227; Knox, *Historical Journal*, I: 281. See also the rough "sailing directions" in "Report of the Tour to the Petitcodiac River," 100.

local population who could assist British forces' penetration of the upper reaches of the bay. This man led Wolfe's forces to others who had fled the settlement, and guided them up the bay and into the interior.⁴⁹ At Grimross on the St. John River on 3 October 1758, Monckton sent ashore a ranger scout party with an Acadian guide to take a prisoner from whom they could extract more precise local information.⁵⁰ Whenever possible, parties carried prisoners with them both as guides to unfamiliar watercourses and terrain, and as interpreters to mediate the capture, surrender, and deportation of enemy populations. This was an especially delicate task, as local civilians and refugees were very reluctant to surrender in some areas, having learned from experience not to accept promises of quarter and fair treatment at face value. In areas where civilian and military populations were mixed, as at Sainte-Anne and Miramichi, this concern was certainly well-founded. The reluctance to surrender was intensified by involvement of irregular military forces in these operations. Identifying and capturing individuals with local geographic knowledge was a task frequently assigned to ranger units whose tactics included harsh treatment intended to ensure collaboration, and who were known to summarily execute enemy non-combatants.⁵¹ Monckton repeatedly sent out rangers to take prisoners who could provide local information and act as guides with, however, relatively little success.⁵²

Rangers led by Major George Scott, an officer with extensive experience of North American irregular warfare, had more success gaining local information during a November 1758 action against Acadian refugees and partisans in the Petitcodiac River region. This did not ensure the force's security, but their actions demonstrated the

⁴⁹ Bell, "Gaspee Journal," 417

⁵⁰ "Proceedings of the Troops on the Expedition up the St. Johns River," 105

⁵¹ When in February 1759 British forces finally reached Sainte-Anne, Rangers under Moses Hazen treated the inhabitants there with extreme brutality, even by the standards of North American irregular warfare. See Plank, "New England Soldiers," 61-62.

⁵² "Proceedings of the Troops on the Expedition up the St. Johns River," 105

coercive nature of the information-gathering process and its direct relation to tactical decision-making. Scott's scouting parties succeeded in capturing Acadian men, women, and children; examining his prisoners he was told that local partisans were weak and dispersed. Scott decided to land his force and was met with repeated ambushes by fighters concealed behind dykes and in dense woods. He sent out a prisoner to inform local forces that if they did not surrender they would be hunted down without quarter, keeping the prisoner's wife and children hostage to vouchsafe his return. Thereafter local Acadian forces retreated further upriver, reportedly seeking rendezvous with French and Aboriginal partisans mustering at Miramichi. Scott, realizing that further pursuit would require extended travel through difficult-to-navigate, enemy-held territory, broke off operations. Instead, his forces systematically destroyed houses, barns, livestock, grain, and anything else that could sustain enemy military and civilian populations in the region.⁵³ Local knowledge could assist invaders in extending military force into enemy territory via marine transportation; it could not, however, provide reliable means of countering partisan forces operating in woodland areas, against which the British had few effective means of defense. But the knowledge gained in these operations and recorded by military personnel opened the way to repeated incursions into these areas. This, along with scorched-earth tactics that deprived local populations and military forces alike of the means to remain in the area, proved to be effective in pacifying regions that could not be conquered outright. Scott's incursion forced enemy forces to make a tactical retreat to the remaining concentration of French and Aboriginal influence on the Miramichi. This pattern, through which British forces established control over watercourses, undertook raids to destroy communities and to force enemy military and civilian populations to

⁵³ "Report of the Tour to the Petitcodiac River," 100.

concentrate in ever-fewer centres of influence, would characterize the course of the war in northeastern North America through 1759 and 1760.

Scorched Earth and the Attenuation of Imperial Influence

Accordingly, British operations in the gulf and Fundy regions consisted almost entirely of scorched-earth campaigns designed to destroy and depopulate settlements and military posts, and to starve their inhabitants into capitulation. As implemented in the autumn of 1758, with winter approaching, British officers recognized the probable effectiveness of this campaign, even as they questioned whether it was an appropriate task for the formidable armed force they commanded. Wolfe, for example, commented acidly on the “great exploit” of sending a large amphibious force “to rob the fishermen of their nets, and to burn their huts.”⁵⁴ Given the terrain in which they operated and the forces they commanded, however, there were few alternative means of bringing force to bear; furthermore, it proved quite effective in driving fighters and refugees from the Acadian interior overland to Quebec. Thomas Davies’ illustration of the abandoned settlement of Grimross—where a few dozen houses, livestock and grain stores, were totally destroyed by a landing party of some seven hundred soldiers on November 4th—well illustrates both the ferocity and the limitations of the 1758 amphibious expeditions. Pillars of smoke from the destroyed hamlet fill the air and pillars of flame are reflected in the twisting channel of the river. In mid-stream the decks of anchored transports are thronged with soldiers idly watching the spectacle. On either side of the ruined settlement and on the riverbank opposite, thick forest bars access like the pickets of a long palisade.

⁵⁴ Willson, *Life and Letters of James Wolfe*, 36.



Fig. 3.7. Thomas Davies, “A View of the Plundering and Burning of the City of Grymross, Capital of the Neutral Settlements, on the River St. John’s in the Bay of Fundy, Nova Scotia by the Army Under the Command of the Honble. Col. Robert Moncton, in the Year 1758 Drawn on the Spot by Thos. Davies Capt. Lieut. of the Royal Regt of Artillery [1758].” National Gallery of Canada 6270. This view conveys the simultaneous strength and weakness of maritime empire’s reliance on marine transport in the northeast: on the one hand, amphibious capacity allowed for intensive concentration of military force against settled enclaves; on the other—as the impenetrable barrier of trees in the right foreground suggests—it could not overcome the material constraints presented by forested landscapes.

As long as hostilities continued, British forces’ range of operation was limited almost entirely to the fort at the river’s mouth and to armed vessels on the river itself. It was an entirely maritime dominion: it relied on ships and boats, seas and rivers for both sustenance and security. It nevertheless served to implant effective British sovereignty across the region.

Conclusion

While evidently disappointed with his forces' failure to reach Sainte-Anne and to engage in significant offensive actions against military targets, Monckton nevertheless expressed his satisfaction that the enemy now knew the British could navigate the river.⁵⁵ This was not mere consolation, but a statement of fact with important near-term implications. British forces thereafter navigated the river regularly and in force. Similarly at Gaspé, British mastery of the approaches and coasts would never again be contested after September 1758. British amphibious campaigns in north-eastern North America were effective within range of their boats' guns and not much further. But this was far enough to effectively destroy the material basis of life in these littoral and riverine settlements. In the eleven months between the end of Monckton's expedition in November and the fall of Quebec, strongly armed irregular forces repeatedly ascended the river and rendered the area it supported uninhabitable. In February 1759, a ranger force reached Sainte-Anne and destroyed it with extreme brutality, torturing, killing, and scalping Acadian captives, burning structures and slaughtering livestock.⁵⁶ By autumn 1759 French settlements on the St. John and Petitcodiac Rivers, Cape Sable Island and the Gaspé coast as high as Mont Louis were destroyed and depopulated. Their local, refugee, and Aboriginal populations had mostly fled.

The combination of local pilot knowledge, army and navy information-gathering activity, and unrestrained irregular warfare proved a potent means of extending maritime empire into territory that had long eluded British influence. In 1759 and 1760 this same combination would be extended throughout large areas of the eastern North American

⁵⁵ Robert Monckton to James Abercrombie, St. John, 12 November 1758, in *Northcliffe Collection*, 64.

⁵⁶ Plank, "New England Soldiers," 61-62.

interior and the entirety of New France. In the following years traces of this amphibious conquest—images taken on the spot by army engineers in naval boats with local guides—provided the armature on which metropolitan Britons’ structure of imagined empire in America was constructed. Hervey Smyth’s images of Wolfe and Hardy’s joint destruction of settlements in the southern gulf would join his depictions of the victory at Quebec as iconic depictions of British maritime empire, widely distributed in popular engravings from 1760, and in the *Scenographia Americana* after 1768.⁵⁷ Hervey Smyth’s images preserve the purposive topographical flesh of the places depicted beneath an aestheticized



Fig. 3.8. Hervey Smyth, *A View of Gaspe Bay in the Gulf of St. Lawrence* (London: Thomas Jefferys, 1760). McCord Museum M2478. As John E. Crowley persuasively argues, views taken on the spot by British military personnel during the Seven Years’ War could also be used to subsume sites of violent conflict to prevailing European aesthetic discourses, naturalizing conquest and obscuring the exercise of power that made such depictions possible.

⁵⁷ Crowley, “Taken on the Spot,” 12-13. Fred Anderson reprints the twenty eight plates of the *Scenographia Americana* in *Crucible of War*, 423-450.

imperial dress. In his view of Gaspé the low, indistinct hills that baffled the army's geographic sense are still evident. The forest comes down to the very edge of the water on all sides. The channel of the river twists and sharply ends in the near distance. But this local information is assimilated to a picturesque scene of bucolic marine peasantry like those of Smyth's French contemporary, Claude Joseph Vernet. A hunting party shoots at birds from a shallop. Local small craft are hauled up on the beach. Beehive stacks of made fish rest on the strand alongside a tidy store and stage. It is an image in which colonial possession is aestheticized and assimilated to the sensibilities of a metropolitan public whose fortunes were increasingly invested in maritime empire, quite literally, and would be even more so in the aftermath of the events depicted. It is also, strictly speaking, an impossible image: by the time Smyth was in a position to see this place, the people had fled, the boats were destroyed, the fish and the houses were burned.

Chapter Four
Plotting the Conquest: Charts, Pilots, and
Organized Seamanship, Spring 1759

While the fall of Louisbourg and the gulf and Fundy campaigns were seen as turning points in British fortunes during the Seven Years' War, no event figured more prominently or was celebrated more thoroughly than the 1759 campaign against Quebec. The fall of Quebec long remained central to the historiographies both of Canadian nationhood and of British imperial expansion; in each case James Wolfe's 13 September victory on the Plains of Abraham was a watershed that radically altered the shape of future developments on the North American continent and globally. It is surprising, then, given the growing prominence of naval myths to British self-conception in the eighteenth and nineteenth centuries, that the amphibious and specifically maritime elements of this campaign long escaped the scrutiny of British imperial and Canadian national historians. Admiral Charles Saunders, naval commander of the Quebec campaign, has been eclipsed almost totally by Wolfe's long historiographical shadow. Two eminent British maritime historians of different generations—Julian Corbett and N.A.M. Rodger—gloss over the British fleet's 1759 navigation of the St. Lawrence with relatively little comment. Corbett's brief account in his two-volume analysis of amphibious operations during the Seven Years' War describes an ascent that occurred without much preparation or difficulty, a mere prelude to the geopolitically significant events that transpired thereafter in the Basin of Quebec and on the Plains.¹ Rodger lauds the tiny Bombay Marine's efforts to develop operational charting capacity to bring force to bear in riverine settings

¹ Julian Corbett, *England in the Seven Years' War: A Study in Combined Strategy* (London: Longmans, Green, 1907), I: 407-417.

during the war, while dismissing the navigational challenge of bringing more than two hundred ships safely up a thousand-mile estuary with the observation that the “navigation of the river proved to be much easier than the French had supposed....”² Canadian military historian C.P. Stacey offers an excellent analysis of French failure to defend the river, but concludes with regard to the difficulties of the navigation itself that the “obstacles that ruined Walker [in 1711] presented no serious difficulty to men like Saunders and Cook.”³

Generations of historians have greatly underestimated the obstacles the St. Lawrence navigation presented to the extension of British maritime empire to Canada. As this chapter demonstrates, the Royal Navy’s passage to Quebec in 1759 was a singular feat of fleet navigation and amphibious campaigning, one in which hydrographic knowledge was organized and made effective to an unprecedented degree. In the fifty years since the failure of the Walker Expedition, new sources of geographical and hydrographical information about eastern North America had emerged, allowing expedition planners to pursue tactical aims on the basis of detailed assessments of challenges presented by the St. Lawrence navigation. They were able in advance to establish specific protocols designed to overcome these challenges, dividing the fleet into divisions with sloops and sounding vessels ahead identifying channels and probing harbours and islands, for example, with ships in the van signalling hydrographic information to traffic behind. They had access to charts that represented the course of the river in considerable detail, with written directions highlighting perils to be avoided. They employed forethought, effort, organization, money, and physical force to ensure

² N.A.M. Rodger, *The Command of the Ocean: A Naval History of Britain 1649-1815* (New York: Norton, 2004), 274-275, 278.

³ C.P. Stacey, *Quebec, 1759: The Siege and the Battle* (Toronto: Macmillan, 1959), 35.

that they identified and retained pilots who possessed experiential knowledge of the river's hydrography and its relation local weather and climate. And they organized a system of knowledge-gathering that, when connected to Britain's burgeoning commercial map trade, produced a more comprehensive representation of the hydrography of the St. Lawrence system in a single year than France had in over one hundred years of state activity in the region. In doing so, they brought Canada into the purview of British maritime empire, and prefigured a merging of spatial survey and amphibious military force that would extend that empire broadly in the course of the nineteenth century.

Hydrographical Historiography: A Maritime Interpretation of the Quebec Campaign

One historiographical tradition that does examine the specifically maritime and navigational aspects of the Quebec campaign is the internalist historiography of hydrographic survey. This work examines hydrography and marine cartography as scientific disciplines developed under state patronage, and much of this work itself was written under the auspices or with the cooperation of government departments responsible for marine or land surveys. It is explicitly concerned with state projects made possible by improved techniques of hydrographic survey and representation. The key narrative of this historiography is relentless technical refinement, leading from rough sketching of coastlines to triangulated trigonometrical survey, and finally to the *ne plus ultra* of technical accuracy: satellite remote-sensing's promise of exact spatial representation.⁴ In this technologically determined hydrographical historiography Canada and the Gulf and River St. Lawrence play a paramount role. In histories by Royal Navy

⁴ For a representative example of this sort of technological-determinative cartographic history that demonstrates the extremely refined analysis this approach is capable of, see Malcolm G. Lewis, "Changing National Perspectives and the Mapping of the Great Lakes between 1755 and 1795," *Cartographica*, 17:3 (1980), 1-31.

hydrographers George Ritchie and Archibald Day, for example, Admiralty-sponsored surveys undertaken in Nova Scotia, Newfoundland, and Canada during and after the Seven Years' War by Samuel Holland, J.F.W. DesBarres, and James Cook, represent the genesis of modern, scientifically based marine cartography. The cross-fertilization of land-survey and hydrographic-survey methods, of army engineering and navy pilotage, in these men's interrelations at Louisbourg and Quebec not only contributed to military victory but placed hydrographic practice on a new and more rational foundation. The first-fruits of this development formed the basis of Charles Saunders' 1760 *New Chart of the River St. Laurence*, in which British surveyors' work delineated the navigation with unprecedented accuracy.⁵ By applying mathematical techniques developed for military and geodetic purposes to the charting of coastal waters, Cook not only produced nautical charts of unprecedented accuracy (a self-evident good in this historiography), but also began the process of adapting the techniques of trigonometrical survey to maritime use. According to this literature these improved survey techniques both facilitated the 1759 amphibious conquest of Canada and, by developing technologies necessary to the scientific circumnavigations of the last decades of the eighteenth century, permitted the nineteenth century's tremendous expansion of safe, liberal maritime trade under the aegis of a benign *Pax Britannica*.⁶

⁵ *A New Chart of the River St. Laurence: from the island of Anticosti to the Falls of Richelieu: with all the islands, rocks, shoals, and soundings, also particular directions for navigating the river with safety; taken by the order of Charles Saunders, Esqr. Vice-Admiral of the Blue, and Commander in Chief of His Majesty's ships in the expedition against Quebec in 1759.* (London: Thomas Jefferys, 1760).

⁶ Archibald Day, *The Admiralty Hydrographic Service, 1795-1919* (London: HMSO, 1967); George S. Ritchie, *The Admiralty Chart: British Naval Hydrography in the Nineteenth Century* (London: Hollis & Carter, 1967); see also Mary Blewitt, *Surveys of the Seas: A Brief History of British Hydrography* (London: McGibbon and Kee, 1957). In the Canadian context, this historiographical approach is strongly evident in Stanley Filmore and R.W. Sandilands, *The Chartmakers: The History of Nautical Surveying in Canada* (Toronto: Published by NC Press Limited in association with The Canadian Hydrographic Service, Department of Fisheries and Oceans, 1983), and D.W. Thomson, *Men and Meridians: The History of Surveying and Mapping in Canada* (Ottawa: R. Duhamel, 1966-1969.). An exception to the technological-

In this literature James Cook is understood as the omega point of centuries' accumulation of seafaring knowledge and the alpha of a new maritime science. As Stanley Fillmore and R.W. Sandilands note in their institutional history of the Canadian Hydrographic Service, "[if] one approaches hydrography in Canadian waters as a kind of religious movement...Cook is the one true god..."⁷ Cook's hydrographic legend begins outside the walls of Louisbourg on 27 July 1758, the day after the town's defenders surrendered to the British. On that day Cook, master of the Royal Navy ship *Pembroke*, sought an impromptu lesson in plane table surveying from military engineer Samuel Holland. Thirty-five years later, Samuel Holland recalled the event in a letter to John Graves Simcoe, Lieutenant Governor of Upper Canada and son of John Simcoe, *Pembroke's* captain:

The day after the surrender of Louisbourg, being at Kensington Cove surveying and making a plan of the place, with its attack and encampments, I observed Capt. Cook (then master of Capt. Simcoe's ship, the *Pembroke* man-of-war) particularly attentive to my operations; and as he expressed an ardent desire to be instructed in the use of the Plane Table (the instrument I was then using) I appointed the next day in order to make him acquainted with the whole process; he accordingly attended, with a particular message from Capt. Simcoe expressive of a wish to have been present at our proceedings; and his inability, owing to indisposition, of leaving his ship; at the same time requesting me to dine with him on board; and begging me to bring the Plane Table pieces along. I, with much pleasure, accepted that invitation, which gave rise to my acquaintance with a truly scientific gentleman, for the which I ever hold

determinative tendency in the British literature, one that is alert to discontinuities in the relation between technological change and hydrographic practice, is found in A.H.W. Robinson, *Marine Cartography in Britain: A History of the Sea Chart to 1855* (Oxford: Leicester University Press, 1962). For a recent narrative of Cook's work in the Gulf and River St. Lawrence that reflects the attitudes of technological-determinative historiography, see Victor Suthren, *To Go Upon Discovery: James Cook and Canada, from 1758 to 1779* (Toronto: Dundurn Press, 2000), chapter 7.

⁷ Fillmore and Sandilands, *The Chartmakers*, p.32. This tendency to idolize Cook frequently abstracts him from the military context of his career and dissociates him from imperial activity. For example: "His work was the culmination of the maritime enterprise begun by the Portuguese three centuries earlier, but at the same time it inaugurated a new era of deliberate reconnaissance and charting that was sponsored by governments not simply in pursuit of trade or military supremacy, but in pursuit of geographical knowledge to chart the still-unexplored oceans of the world." Peter Whitfield, *The Charting of the Oceans: Ten Centuries of Maritime Maps* (Rohnert Park, Ca.: Pomegranate Artbooks, 1996), 107. For a critical perspective on this view, see David Mackay, *In the Wake of Cook: Exploration, Science & Empire, 1780-1801* (London: Croom Helm, 1985).

myself much indebted to Capt. Cook. I remained that night on board, in the morning landed to continue my survey at White Point, attended by Capt. Cook and two young gentlemen whom your father, ever attentive to the service, wished should be instructed in the business.⁸

Hydrographic historiography presents this encounter as the moment at which marine navigation and pilotage (a set of traditional practices used to identify a vessel's position with reference to marks ashore, depth of water, strength and direction of currents and tides, astronomical phenomena, and other empirical data: the purview of pilots and sailing masters, such as Cook) and land survey (a technical discipline concerned with the measurement of terrestrial features using precision instruments and with the measurement of the earth itself, or geodesy: the purview of geographers and military engineers) first came into sustained contact.⁹ This cross-fertilization was seen as a necessary precondition of accurate, worldwide survey, which spread rapidly in the following decades as Cook passed his technique on to a school of superlative surveyors including William Bligh and George Vancouver. In this narrative Cook's hydrographical legacy became institutionalized with the creation of the Admiralty Hydrographic Office in 1795. His 1758 surveying lesson is, accordingly, seen as a key landmark in the emergence of scientific hydrographical survey. As Cook biographer J.C. Beaglehole asserts, neither

⁸ H. Scadding, "Surveyor-General Holland," *The Canadian Magazine* 5 (1895), 521-524; Ward Chipman, "The Life and Times of Major Samuel Holland," *Ontario History* 21 (1924), 11-90. This seems to be the only extant account of this meeting. It was presented to Scadding, an Anglican priest and writer of local histories of Toronto by one of John Graves Simcoe's daughters. He considered its value to lie in its connection to Simcoe père, particularly as the younger Simcoe had added the annotation "Major Holland told me that my father was applied to know whether his body should be preserved to be buried on shore, he replied, 'Apply your pitch to its proper purpose; keep your lead to mend the shot holes and commit me to the deep.'" Captain Simcoe was presented as a true "Son of Neptune".

⁹ On the implications of this see Josef Konvitz, "Changing Concepts of the Sea, 1550-1950," *Terrae Incognitae* 11 (1979), 9.

party to the Louisbourg meeting “knew that their encounter that day was not less important than the great event they had just witnessed....”¹⁰

Pilotage, Seamanship, and the Extension of Maritime Empire

British military and administrative personnel organized and deployed pilotage and seamanship during the 1759 Quebec campaign to extend military force deep in the continental interior of a hostile rival power’s territory. The nature of this feat was both unprecedented and portentous. But the ability to do this owed little to triangulated trigonometrical survey. Royal Navy sailing masters including James Cook were certainly important elements of that success; not because they pioneered scientific innovations that gave British forces an insuperably advanced navigational technique with which to extend their empire globally, but because they embodied a tradition of pilot-knowledge doggedly focused on identifying hazards to navigation empirically and responding to them in a prompt and appropriate manner. In short, masters charged with overcoming the difficulties of this navigation and leading the fleet into the interior excelled in pilotage and practical seamanship. In this regard, Cook’s 1758 chart of Gaspé Bay is more representative of the skills that brought British forces to Quebec than is Charles Saunders’ more technically sophisticated chart of 1760.¹¹

The Gaspé chart was a product of the autumn 1758 campaign in the gulf, during which Cook served as master in one of the ships supporting James Wolfe’s scorched-earth raids on Gaspé Bay and Mount Louis in the mouth of the river. Cook’s *Draught of*

¹⁰ Beaglehole, *Life of Captain James Cook*, 33-34. See also Robinson, *Admiralty Chart*, 34; Robinson, *Marine Cartography*, 102, 112; Thomson, *Men and Meridians*, 111; Whitfield, *Charting of the Oceans*, 110.

¹¹ *To the Right Honourable the Master and Wardens of the Trinity House of Deptford Sound this Draught of the Bay and Harbour of Gaspee in the Gulf of St. Lawrence taken in 1758 is Humbly Presented by Their Most obedt. Servt. James Cook Master of His Majesty’s Ship the Pembroke* (London: Mount and Page, 1758).

the Bay and Harbour of Gaspee, published by the London firm of Mount and Page, displays no particular technical innovation: except for the fineness of its engraving it could be a sheet in a seventeenth-century Dutch pilot book. The chart is centred on a compass rose radiating directional lines to marks ashore; these are keyed to detailed profile views of the north and south coasts of the bay. Above the profiles are brief lines of text identifying the distance and bearing from the point at which the views were taken. There is a single contour line ringing the bay to identify the extent to which shoal water extended from the shore, and this is supplemented by lines of soundings concentrated along the shore and in the narrow passage toward the head of the bay. The chart is a practical tool designed to perform a single function: to allow mariners to locate themselves relative to the shore and the sea-bottom by means of empirically derived information. Soundings, bearings and distances to known marks ashore are all that is required to perform this function. The chart identifies the information essential for safe navigation of a particular region, and disseminates this information through commercial channels so that mariners who did not have Cook's first-hand local experience could nevertheless operate in this region safely and effectively. It radically abstracts the Gaspé inshore landscape for the sole purpose of safe navigation. The chart's cartouche reinforces this empirical bent: while the engraver makes it bristle with cannons, pikes, and other martial symbols, the inscription (evidently written by Cook himself) dedicates the chart not to a naval patron or a scientific organization, but to "the Right Honourable the Master and Wardens of the Trinity House of Deptford", the agency responsible for training British pilots and for certifying masters serving in Royal Navy ships.¹² This type of practical pilotage knowledge and training was the key to British amphibious forces'

¹² G.G. Harris, *The Trinity House of Deptford, 1514-1660* (London: Athlone Press, 1969).

successful navigation of the very difficult St. Lawrence navigation. The Quebec campaign was the outstanding example of Britain's growing ability to exploit this knowledge in operational settings in hostile overseas contexts, and to rapidly organize and disseminate this knowledge through the burgeoning outlets of the nation's commercial map trade. Scientific survey of the sort celebrated by hydrographic historiography was in fact practiced on a limited scale during the campaign but, in the context of estuarine navigation under sail, it was of limited utility. It was not scientific survey but experientially based common sense, and its organization, that maximized the odds of navigational success during the campaign.

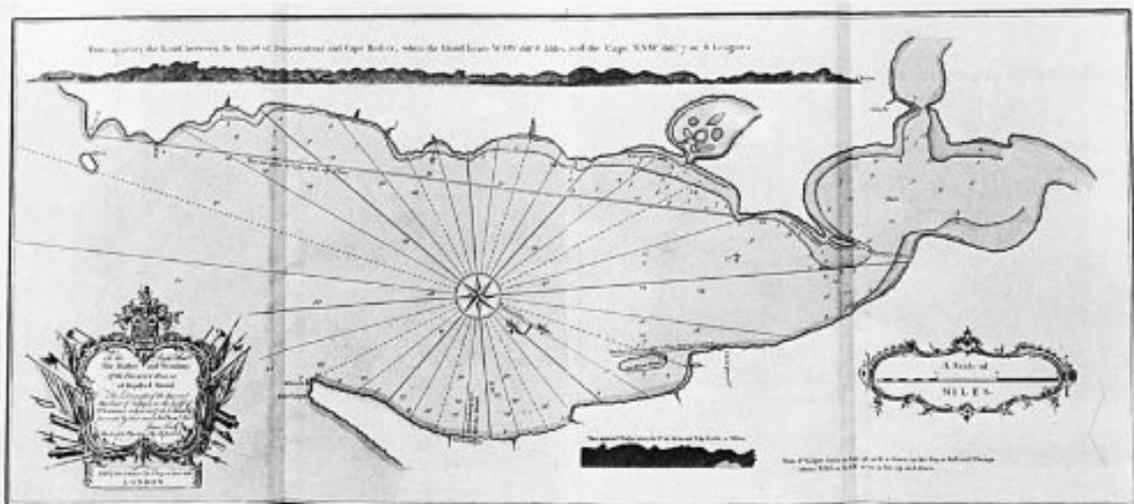


Fig. 4.1. James Cook, *To the Right Honble the Master and Wardens of the Trinity House of Deptford Sound this Draught of the Bay and Harbour of Gaspee in the Gulf of St. Lawrence Taken in 1758 is Humbly Presented by their Most Obedt. Servt. James Cook Master of His Majesty's Ship the Pembroke* (London: Mount and Page, 1759). Reproduced from J.C. Beaglehole, *The Life of Captain James Cook* (London: Adam and Charles Black, 1974), 81. Cook's first published chart was based on observations taken while supporting scorched-earth operations against French settlements in the mouth of the St. Lawrence in autumn 1758. The habits of empirical observation learned as a naval sailing master were essential training for the reconnaissance undertaken during his global exploratory voyages of the late 1760s and 1770s.

Amphibious Operations and Littoral Geography

Like other European states engaged in maritime imperial activity in the early modern period, Britain had a long history of involvement in amphibious warfare. At its most basic this took the form of the quasi-piratical “descents” that characterized English activity in the West Indies in the seventeenth century. While carried out by regular military personnel, much of the 1758 activity in the gulf and Fundy regions was tactically indistinguishable from such descents. By the mid-eighteenth century, however, amphibious warfare had become a large and highly organized endeavour that took the elaborate protocols of European siege warfare made them mobile, and directed them against coastal and estuarine fortified positions of great size and strength. By this time, the British Admiralty had extensive experience of mounting amphibious campaigns transoceanically.¹³ The Quebec campaign was one of a series of unprecedentedly large amphibious operations undertaken by European powers—particularly Britain and France—from the 1740s onward, but it differed from earlier and later efforts in significant respects. In terms of sheer numbers of ships and personnel involved, it was actually somewhat smaller in scale than the largest contemporary operations: the fleet sent to Quebec comprised 49 warships (including 22 ships of the line), 119 transports, and approximately 8,000 soldiers. The attack on Cartagena in 1741 included more than 50 warships, 130 transports, and 12,000 soldiers; operations against Louisbourg in 1758

¹³ J.R. Jones, “The Limitations of British Sea Power in the French Wars, 1689-1815,” in Jeremy Black and Philip Woodfine eds., *The British Navy and the Use of Naval Power in the Eighteenth Century* (Atlantic Highlands, NJ: Humanities Press International, 1989), 34-37.

were carried out by 40 warships, 150 transports, and 14,000 soldiers; British forces sent against Havana in 1762 comprised 42 warships, 160 transports, and 13,000 soldiers.¹⁴

Cartagena, Louisbourg, and Havana shared another, more important trait that distinguished them from Quebec: all were located directly on coasts readily accessible from the open ocean. Quebec was located at the end of a thousand-mile estuary that combined elements of the open ocean with twisting channels and currents characteristic of inland navigation. The British state's willingness to deploy forces of such a large scale on such a long and difficult navigation was unprecedented. To the already formidable challenges of organizing and coordinating a large amphibious operation—challenges so formidable they ensured such operations failed more often than they succeeded—was added the navigational challenge of carrying forces deep into the continental interior along watercourses unknown to all but a very few of those involved.

While accounts subsequent to the success of the 1759 campaign have tended to minimize the difficulties of this navigation, the fears it evoked in 1711 remained very much current half a century later, and for good reason.¹⁵ Passage up and down the St.

¹⁴ While Havana shares this trait, British forces in 1762 actually approached the city by means of the exceedingly difficult and relatively little used passage along Cuba's eastern coastline in order to exploit the element of surprise. In doing so, they replicated some of the navigational techniques used effectively on the St. Lawrence three years earlier. See Richard Harding, *Amphibious Warfare in the Eighteenth Century: The British Expedition to the West Indies, 1740-1742* (Woodbridge, Suffolk, 1991), 158-165; Harding, "Sailors and Gentlemen of Parade: Some Professional and Technical Problems Concerning the Conduct of Combined Operations in the Eighteenth Century," *Historical Journal* 32: 1 (1989), 35-55; David Syrett, ed., *The Siege and Capture of Havana 1762* (London, 1970).

¹⁵ On 18 January 1759, six months before the departure of the fleet for Quebec, Jeffery Amherst wrote to Secretary of State William Pitt expressing his opinion that "the difficulties supposed to attend the navigation of the river St. Lawrence to be more imaginary than real...." This, along with Amherst and other army officers' efforts to convince naval commander Edward Boscawen to continue on to Quebec in the autumn of 1758 demonstrate an important challenge to the success of amphibious operations: the imperfect comprehension of the exigencies of navigation on the part of army officers, and of military operations on the part of naval officers. Army officers conducting scorched-earth operations against Gaspé were similarly rankled by their naval escorts' apparent impatience, while naval officers were rightly wary of remaining at anchor in an area where French naval forces were known to be at large. Amherst to Pitt, 18 January 1759, in Gertrude Selwyn Kimball ed., *Correspondence of William Pitt when Secretary of State with Colonial Governors and Naval Commissioners in America* (New York: Macmillan, 1906), II: 8-9. See also Richard

Lawrence under sail was perilous in the eighteenth century and would remain so until the advent of steam-powered navigation in the nineteenth century. The St. Lawrence system stretches nearly 2000 kilometers from its most distant headwaters to the Atlantic Ocean.

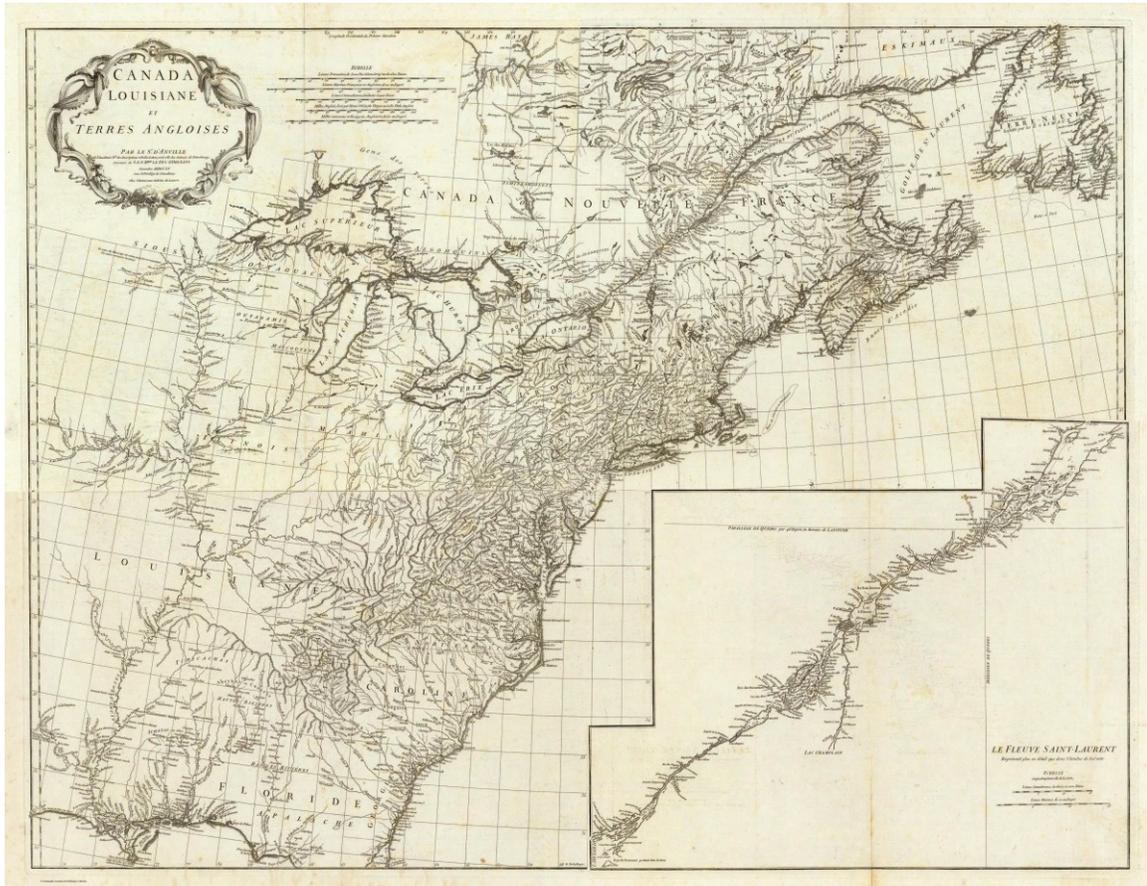


Fig. 4.2. Jean Baptiste Bourguignon d'Anville, [Composite of] *Canada, Louisiane et Terres Angloises*. *Par le Sr. d'Anville, de l'Academie Rle. des Inscriptions et Belles-Lettres, et de celle des Sciences de Petersbourg, Secretaire de S.A.S. Mgr. le Duc d'Orleans*. Novembre MDCCLV. *Sous le Privilege de l'Academie* (Paris: G. De-la-Haye, 1756). David Rumsey Historical Map Collection, 2603.036. Anville's map illustrates the strongly hydrographic conception of North American geography held by European geographers in the era of the Seven Years' War, and the centrality of the St. Lawrence system to that conception. See fig. 6.1.

The gulf is a large inland sea, the coasts of which presented a lee shore to sailing ships in storms regardless of wind direction. The Laurentian Channel leading from the edge of the continental shelf to the Saguenay River has an average depth of 300 metres, beyond most

Harding, "Sailors and Gentlemen of Parade: Some Professional and Technical Problems Concerning the Conduct of Combined Operations in the Eighteenth Century," *The Historical Journal* 32: 1 (1989), 41.

eighteenth-century navigators' ability to measure. The system drains the largest chain of freshwater lakes in the world, the discharge of which is joined by the flow of large rivers such as the Saguenay and the Ottawa, along with many lesser tributaries; this enormous volume of water runs northward toward the Strait of Belle Isle, around the island of Anticosti in the river's mouth, and eastward towards the Cabot Strait. These flows are influenced by local tidal effects to create a labyrinth of moving waters—"coastal currents, gyres, large eddies...and tidal fronts"¹⁶—that were little known even to the river's most experienced pilots in the eighteenth century and that, in some areas, remain imperfectly understood today. Prevailing winds and storms in summer run south to north in the gulf and southwest to northeast in the river, and in winter west to east in gulf and river alike: local winds run parallel to the river's flow, making ascents difficult in any season.

The river and gulf were also subject to a variety of powerful storm systems, from endemic localized thunder squalls in the summertime to Atlantic hurricanes in the autumn. In storms conflicting currents and temperature differences in the deep waters of the Laurentian Channel generated complex wave patterns that could overmatch the most skilful efforts of experienced navigators. Fog was a frequent occurrence in certain seasons, particularly the early summer; in foggy conditions a mariners' only aid was the sounding lead used in conjunction with charts that, as we shall see, offered only rudimentary hints of the river bottom's contours. In the deep waters of the gulf the lead

¹⁶ R. Dufour and P. Ouellet, eds., *Estuary and Gulf of St. Lawrence Marine Ecosystem Overview and Assessment Report* (Mont-Joli, PQ: Fisheries and Oceans Canada, 2007), 3. Dufour and Ouellet present an excellent concise description of the oceanography of the gulf and river. Other accounts of the geographical and meteorological hazards of the St. Lawrence navigation include Kenneth J. Banks, *Chasing Empire Across the Sea: Communications and the State in the French Atlantic, 1713-1763* (Montreal and Kingston: McGill-Queen's University Press, 2003), 69-72; Gilles Proulx, *Between France and New France: Life Aboard the Tall Sailing Ships* (Toronto and Charlottetown: Dundurn Press, 1984), 47-51.

was useless, especially in areas like the lower north shore where deep water extended almost to the very margin of the land itself. The St. Lawrence was closed to navigation by winter conditions for as long as five months a year, during which time ships caught in the river could be abraded or crushed by ice until they were no longer able to remain afloat. Vessels seeking to leave the river late in the season or arriving early frequently met with devastating storms, and those arriving later would sail past coasts marked by wrecked ships awaiting salvage or disintegrating in exposed locations.

Though British experience of the St. Lawrence was minimal, Royal Navy ships had already experienced the river's contrary disposition: the 1758 gulf campaign ended when strong southwesterly winds prevented British forces from ascending higher than Mount Louis on the south shore, a fact that seemed to confirm the river's evil reputation among British mariners.¹⁷ Despite these manifold difficulties, the open gulf and the deep-water channel to the mouth of the Saguenay in many ways represented the easiest part of the passage. The "greatest nicety of the navigation," as General Charles Lawrence delicately put it, begins as the Laurentian Channel becomes increasingly shallow above Bic, near Rimouski.¹⁸ From the Saguenay to the Basin of Quebec the navigable channel narrows as it twists through beds of rock, mud, and sand continually reshaped by freshwater and ice flows accelerated by tidal floods and ebbs that reach velocities of seven knots or more. Attenuated channels and powerful currents were especially notable off the mouth of the Saguenay, at Coudres Island, and in the Traverse leading into the channel opening on the Basin of Quebec. The St. Lawrence navigation was not only long, intricate, and subject to climatic extremes, but was also constantly shifting. Accurate

¹⁷ See, for example, Boscawen to Pitt, 1 November 1758, in Kimball ed., *Correspondence of William Pitt*, I: 377.

¹⁸ Lawrence to Pitt, 5 September 1758, in Kimball ed., *Correspondence of William Pitt*, I: 335-336.

hydrographical knowledge of the system required either regular resurvey or the embodied experience of river pilots who traced and studied its channels on a regular basis as part of their professional duties.

The St. Lawrence Navigation during the French Regime

While this litany of perils did not prevent mariners from traversing the St. Lawrence fairly routinely before 1759, the river's hydrographic complexity presented an impediment to overseas imperial development that elicited state efforts to improve its navigability during the French regime. A measure of the seriousness of this impediment is that the inshore leg of voyages from France to Canada—i.e. from the Grand Banks to Quebec—frequently took as long as the transatlantic passage from French ports to the Banks: up to six weeks in each case.¹⁹ The inshore navigation's difficulty spurred the development of Louisbourg as an entrepôt for French Atlantic trade in the middle decades of the eighteenth century.²⁰ The peril of the Laurentian navigation is likewise evident in the high volume of wrecks in the region, including wrecks of ships carrying officials, correspondence, and funds on which the transatlantic administration of the colony in large part depended. The wreck of the flute *Chameau* on the Cape Breton coast in 1725, with the deaths of over 200 people including Canada's incoming *Intendant*, is perhaps the best known of several similarly disruptive wrecks that occurred on Anticosti and in the river itself.²¹ These disasters encouraged French efforts to improve navigation to and within its North American colonies, a process begun as early as 1664 with the

¹⁹ Proulx, *Between France and New France*, 57.

²⁰ James S. Pritchard, "The Pattern of French Colonial Shipping to Canada before 1760," *Revue française d'histoire d'Outre-Mer* 63 (1976), 189-210.

²¹ Banks, *Chasing Empire*, 72. For a detailed examination of the patterns of shipwreck in the St. Lawrence system prior to 1759, see Jean LaFrance, *Les Épaves du Saint-Laurent (1650-1760)* (Montreal: Les éditions de l'homme, 1972).

assumption of royal control over the colony. From this date the French state undertook concerted (if sometimes discontinuous) efforts both to train pilots and to chart the river. From 1671 the state supported navigational instruction at Quebec, a duty executed by Jesuits from 1701 onward. Recipients of this instruction, such as Louis Jolliet and Richard Testu de la Richardière, used this formal training in navigational techniques as a tool with which to compile extensive experiential knowledge of the St. Lawrence's hydrographic features. While their knowledge was sometimes recorded in manuscript charts, these men relied primarily on their personal experience of the river's hydrography to safely pilot ships, especially royal ships, between French ports and Canada.²² This pilot knowledge was living knowledge, not just in the sense that it was embodied in particular individuals rather than in formal published charts and sailing directions, but also in the sense that it was regularly refreshed. Just as the river's contours were constantly reshaped by the shifting of channels and the scouring action of winter ice, pilots were expected to continually resurvey vital areas of the navigation, year after year.

French imperial concern to improve the navigation also resulted in the production of the first charts of the St. Lawrence based on directed survey. Charts continued to be used throughout the French period, because while pilotage improved during the last decades of the seventeenth century, there was no comprehensive pilotage regime in the river sufficient to guide all traffic through the labyrinth of the river's perils. Accordingly, many mariners making the passage to Quebec relied on their own seamanship and on the

²² On hydrographic instruction in Canada, see James S. Pritchard, "Hydrography in New France," in William Glover ed., *Charting Northern Waters: Essays for the Centenary of the Canadian Hydrographical Service* (Montreal: McGill-Queen's University Press, 2004), 10-21; *idem*, "French Developments in Hydrography with Particular Reference to the St. Lawrence River during the Reign of Louis XV 1665-1709" (MA thesis, University of Western Ontario, 1965); *idem*, "Testu de la Richardière, Richard," in *Dictionary of Canadian Biography*, http://www.biographi.ca/009004-119.01-e.php?&id_nbr=1680 (accessed 28 May 2012).

few extant charts of the gulf and river. Prior to 1702 this meant relying on charts in Dutch sea atlases. These charts were based not on formal hydrographic survey but were compiled from diverse sources, including mariners' logs and travellers' accounts of regions traversed. The positioning information they offered was not detailed on local levels, but gave rough indications of latitudes keyed to soundings on the continental shelf and to major landfalls, indicating the chief perils of a given navigation in a conventionally exaggerated manner. They generally included profile views of prominent landmarks and narrative sailing directions that provided a step-by-step account of navigational perils and of the courses and distances (indicated textually and by directional lines printed on the charts themselves) required to pass them safely. The Dutch sea atlases, called waggoners in English, sought in effect to transcribe the embodied pilot knowledge of mariners familiar with a given passage and to make it generally available through the burgeoning Dutch commercial map trade.²³

The nature of chart coverage of Canadian waters began to change, however, from 1685 onward as French engineer Jean Deshayes arrived in the colony with instructions to undertake a formal scientific survey of the river. Deshayes was associated with the Paris Royal Academy of Sciences and had previously participated in expeditions to the coast of Africa and to the West Indies, where he had undertaken astronomic determinations of longitude.²⁴ Arriving at Quebec in August, he soon established the meridian of the town before spending the summer season charting the river, in part at least by means of

²³ For good introductions to the history and conventions of seventeenth and eighteenth-century Dutch marine cartography, see Susanna Fisher, "The Organisation of Hydrographic Information for English Navigators—Five Hundred Years of Sailing Directions and Charts," *Journal of Navigation* 54: 2 (2001), 157-159; D.W. Waters, "The English Pilot: English Sailing Directions and Charts and the Rise of English Shipping, 16th to 18th Centuries," *Journal of Navigation* 42:3 (1989), 322-30; Peter Whitfield, *The Charting of the Oceans: Ten Centuries of Maritime Maps* (London: The British Library, 1996), 67-74.

²⁴ Nicholas Dew, "Scientific Travel in the Atlantic World: the French Expedition to Gorée and the Antilles, 1681-1683," *British Journal for the History of Science* 43:1 (2010), 1-17.

triangulated survey. Deshayes left the colony in the same year and the results of his survey remained in French archives until 1702, when the state granted permission for the publication of a chart based on his work. This chart served as the basis of virtually all representations of the St. Lawrence navigation prior to Admiral Charles Saunders' 1760 chart based largely on data collected during the Quebec campaign.²⁵ Deshayes' chart was methodologically different from Dutch charts based on compilation: while he incorporated the experiential knowledge of pilots such as Jolliet, the chart's claims to accuracy and authority were rooted in the scientific pretensions of trigonometrical survey. While Dutch chart information was based on the more-or-less casual recollections of individual mariners (whose authority was based only on their own experience), Deshayes' information was derived from measurement. A trigonometrical survey was based on measured baselines anchored by astronomical observations of latitude and longitude, extended geometrically between stations located on prominent landmarks or conspicuous perils. This method in theory promised a one-to-one relationship between the chart and the terrestrial and marine features represented therein, though in fact it was subject to multiple sources of error. Scientific charting of the St. Lawrence system was further extended prior to 1759 by prominent French geographers and mapmakers including Jean-Baptiste Bourguignon d'Anville and Jacques-Nicolas Bellin. So while *Canadien* pilots active on the river might question the utility of these surveys for the purposes of practical navigation (on grounds that will be discussed hereafter), the St.

²⁵ Jean Deshayes, *De la Grande Riviere de Canada Appellée par les Européens de St. Laurens* (Paris: N. de Fer, 1715). The 1706 edition of this chart bears the title *Carte marine de l'embouchure de la rivière de S. Laurens levee de cap en cap jusqu'à Québec*. On the influence of this chart, see Pritchard, "Hydrography in New France," 12-14.

Lawrence had in fact been surveyed trigonometrically decades before James Cook visited American waters.

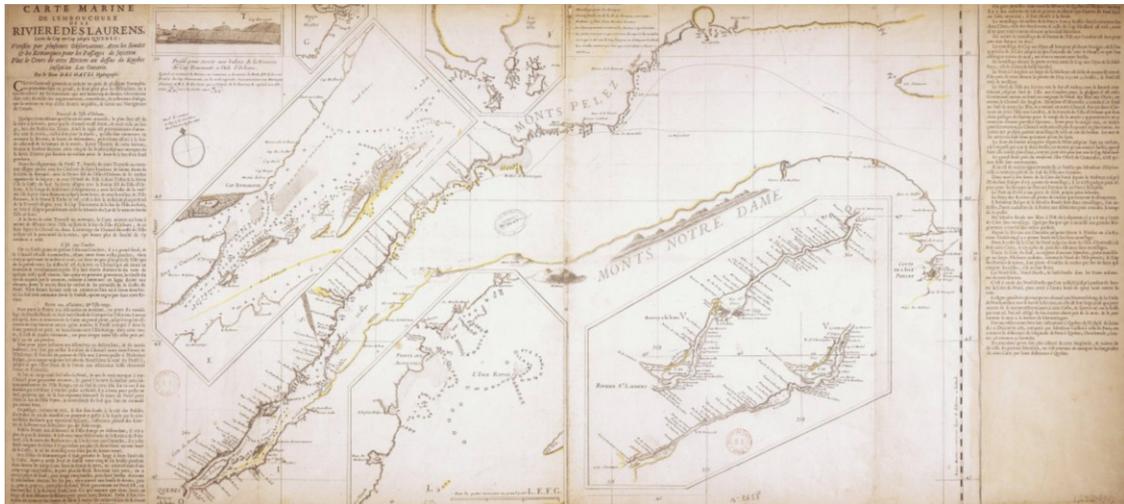


Fig. 4.3. Jean Deshayes, *Carte marine de l'embouchure de la rivière de S. Laurens levee de cap en cap jusqu'à Québec* (Paris: s.n., 1706). Bibliothèque nationale de France, département cartes et plans, CPL GE DD-2987 (8658 B). Based in part on a rough triangulated trigonometrical survey and incorporating the local knowledge of New France's most experienced local mariners, Deshayes' work served as the basis for nearly all charts of the St. Lawrence River published during the eighteenth century. The combination of graphic representation of the navigation and printed sailing directions followed a pattern set by the seventeenth-century Dutch sea atlas tradition.

Quebec Campaign 1759: Charts, Pilots, Organized Seamanship

French authorities recognized the very real difficulties of the St. Lawrence navigation, and sought to harness the administrative and scientific resources of the state to the task of mitigating them. Indeed, the evil reputation generated by these perils led some defenders to rely on the difficulty of Canada's approaches in lieu of active preparations to meet a British attack via the river during the Seven Years' War.²⁶ But how did British forces approach the challenge of overcoming these difficulties in 1759? What had changed since Walker's time that permitted Britain not only to successfully

²⁶ M. Joannes, "Mémoire sur la campagne de 1759 depuis le mois de mai jusqu'en septembre," in A. Doughty in collaboration with G.W. Parmelee, *The Siege of Quebec and the Battle of the Plains of Abraham* (Quebec: Dussault and Proulx, 1901), IV: 220.

mount a large-scale amphibious operation there, but to do so with such apparent ease that historians and some contemporaries alike were able to dismiss the river's perils as a "mere bugbear"?²⁷ More precisely, what role did vernacular and directed practices of geographical and hydrographical reconnaissance play in this success? The manner in which these techniques operated during the 1759 Quebec campaign differed somewhat from earlier North American operations undertaken during the war. The navigational challenges of the Louisbourg expeditions were substantial, as was evident in the near-disaster of 1757 when a hurricane battered the British fleet and ended the operation. Once a landing was effected on the open Atlantic coast at Gabarus Bay in 1758, however, both the inter-service cooperation and geographic knowledge required were restricted to those of a standard European-style siege.²⁸ In contrast, the Gulf of St. Lawrence and St. John River campaigns of autumn 1758 combined deep-water navigation with intricate small-craft passages to the furthest extent of inland navigation, during which naval and army personnel, engineers and impressed pilots were quite literally in the same boat for extended periods. The geographical and hydrographical information available to assist each operation likewise varied considerably: while commercially available charts existed for areas of the gulf and for Fundy, the only information available for the St. John River or Gaspé Bay was embodied in collaborating pilots or gathered in the course of the operations by army and navy personnel. The Quebec campaign combined deep-water navigation in charted areas with military operations far inland, requiring embodied local knowledge and on-the-spot charting.

²⁷ This particular view of the navigation was offered by an unnamed army officer present during the campaign. "Extract of a Letter from an Officer in Major Gen[era]l Wolfe's Army," in Pargellis ed., *Military Affairs in North America*, 433.

²⁸ For contemporary accounts of the navigational challenges of the Louisbourg expeditions with particular reference to the hurricane of 1757, see J.S. McLennan, *Louisbourg from its Foundations to its Fall 1713-1758* (London: Macmillan, 1918), 207-217; Fred Anderson, *Crucible of War*, 209.

The scale and extent of the campaign, however, made it quite unlike the operations of preceding years. Navigation of the St. Lawrence system from the open Atlantic to Quebec, with a fleet and transports comprising more than 200 vessels, elicited a complicated and sustained program of geographic and hydrographic information gathering on a large scale. This program had three main elements: a high degree of fleet organization, including a system of signals and protocols that permitted effective responses to navigational difficulties encountered; efforts to identify extant chart material and to ensure that all ships in the expedition had access to at least some formal hydrographic knowledge of waters traversed; and an effort to identify pilots and other mariners with experience of the St. Lawrence navigation, and to make them available to the expedition. In addition, British forces in 1759 were able to draw on the experience of a significant cadre of naval officers and seamen familiar with North American waters and ways of irregular warfare. They were able to set the expedition in motion early enough to coordinate its timetable with seasonal variation of the North American climate. Finally, as analysis of the expedition's ascent of the river makes clear, British forces benefitted from very good luck in the conditions encountered on the river. No military commander, however, could afford to consign the fate of several dozen warships and thousands of trained soldiers and seamen to luck. Success resulted from a program of systematic knowledge gathering, a program that would in turn serve as a template for operations that extended British maritime empire globally in the course of the following century.

A crucial difference between the 1759 Quebec Expedition and Hovenden Walker's 1711 attempt was that operations in 1759 took place in the context of a European conflict in which Britain made a serious and sustained effort to make major

gains in North America, and in rival colonial theatres across the globe. William Pitt's strategic use of British naval power to contain France in the eastern Atlantic, while simultaneously degrading French imperial power in North America through amphibious means, included the commitment of unprecedented military resources to the northeastern region.²⁹ In mid-eighteenth-century Britain, marshaling hydrographic knowledge to facilitate the exercise of imperial power transoceanically was a political challenge rather than a strictly technological or commercial one. A crucial requirement to straighten the crooked paths of coastal and riverine navigation was money, and the political will to direct money toward this end. In the first half of the eighteenth century the English fiscal-military state's access to money grew tremendously as a result of wide-ranging logistical, administrative, and financial changes. One measure of the expansion of these resources is the scale and cost of Britain's North American operations in the Seven Years' War. By 1758 there were nearly 50,000 Anglo-American troops under arms on the continent, equivalent to two-thirds of Canada's entire population. The average annual expenditure required to sustain these troops was almost three times what it had been in the War of Spanish Succession, during which Walker's expedition had been staged. But as John Brewer notes, economic resources are a necessary condition of a nation's exercise of power, not a sufficient one. Economic resources are essential, but so too are the "organizational means to deploy resources in the cause of national aggrandizement."³⁰

²⁹ On Pitt's role in the prosecution of the war in North America, see Fred Anderson, *Crucible of War*, 212-215; Richard Middleton, *The Bells of Victory: The Pitt-Newcastle Ministry and the Seven Years' War, 1757-1762* (Cambridge: Cambridge University Press, 1985); Richard Cooper, "William Pitt, Taxation, and the Needs of War," *Journal of British Studies*, 22: 1 (1982), 94-103. For a critical assessment of Pitt's "system" for defeating France, see Marie Peters, "The Myth of William Pitt, Earl of Chatham, Great Imperialist: Part One, Pitt and Imperial Expansion 1738-1763," *Journal of Imperial and Commonwealth History*, 21: 1 (1993), 31-74.

³⁰ John Brewer, *The Sinews of Power: War, Money and the English State, 1688-1783* (Cambridge, Mass.: Harvard UP, 1988), xv, 176. On the emergence of the British "fiscal-military" state, see Patrick O'Brien,

Organizational sophistication was crucial to Britain's victory in the Seven Years' War, and to obtaining the hydrographical knowledge required to make the St. Lawrence system a viable route to the strategic (and later to the commercial) resources of the continental interior.

Organization of hydrographic resources in preparation for an attack on Quebec began years before the campaign itself did, and sought to maximize chart information, pilotage knowledge, and the organizational efficiency of attacking forces. As early as autumn 1756 Royal Navy captain Richard Spry undertook detailed reconnaissance in the St. Lawrence as high as Sept Iles, burning settlements of refugee Acadians and taking detailed soundings of the bay and harbour of Gaspé that he rendered in chart form for his superiors' use.³¹ British war planners considered wide-ranging schemes to survey and chart the river covertly under Royal Navy protection in 1758. An unsigned but strategically sophisticated contemporary document stressed that because New France was essentially a riverine settlement on a continental scale, accessible only through the Mississippi and the St. Lawrence, a successful strike against its head at Quebec would inevitably lead to the fall of the whole. It emphasized that British forces should concentrate on gaining knowledge of the interior riverine approaches to the colony's capital, particularly experiential or embodied knowledge in the form of French mariners among prisoners of war in Britain, and of British mariners (presumably former prisoners

"The Nature and Historical Evolution of an Exceptional Fiscal State and its Possible Significance for the Precocious Commercialization and Industrialization of the British Economy from Cromwell to Nelson," *Economic History Review* 64: 2 (2001), 408-446; Jeremy Black, *Britain as a Military Power, 1688-1815* (London: UCL Press, 1999); H.V. Bowen, *War and British Society, 1688-1815* (Cambridge: Cambridge University Press, 1998); Lawrence Stone ed., *An Imperial State at War: Britain from 1689-1815* (London: Routledge, 1994); Patrick O'Brien and P.A. Hunt, "The Rise of the Fiscal State in England, 1485-1815," *Historical Research* 66 (1993), 19-76. On the scale of British military operations in North America, see Fred Anderson, *Crucible of War*, 236.

³¹ LAC, ADM 1/481, Charles Holmes to Richard Spry, 28 August 1756; LAC, ADM 1/481, Richard Spry to Charles Holmes, 7 October 1756.

of war) with experience in the river.³² In the autumn of 1758 Charles Lawrence, an experienced army officer and colonial administrator central to the formulation of a policy of Acadian expulsion, wrote to Secretary of State William Pitt outlining detailed means through which the obstacle of the St. Lawrence navigation might be overcome and Quebec taken. Lawrence did not minimize the seriousness of the challenge, asserting that it was essential “that a competent knowledge be first obtained of the river St. Lawrence the navigation of which, though confessedly so intricate, I have never been able in the course of eleven years residence in America, to discover that we have any tolerable conception of...”³³ Perhaps aware of Walker’s failure to enlist seamen, French or British, with experience in the river, Lawrence proposes a method both to survey the river en route and to train competent river pilots who could guide a larger fleet upriver:

Let three or four armed vessels drawing little water be sent under the protection of a frigate into the river as early as possible in the spring each having on board an able surveyor, and each perfectly well found as to ground tackle and whatever else may tend to their security in anchoring as it shall be necessary in spite of the snow storms and tempests which infest that river early in the season[.] [Let] the vessels be schooners in preference to any other kind as being the most handy and so weatherly that they gain to windward even when laying to, let these be diligently employed in surveying[,] sounding[,] taking land marks and other such observations as belong to that branch, beginning on account of the ice at the mouth of the river in the month of May and so proceeding upwards until the end of the month of June when the fogs come on, within which time the whole survey of the river...may be completed and though not perhaps with the utmost accuracy, yet so as to remove in a great measure the apprehensions that seamen seem to be too justly under about the shoals, rocks,

³² “Considerations Offered by [...] upon a Scheme for Attacking Louisbourg & Quebec, 1757,” in Stanley Pargellis ed., *Military Affairs in North America 1748-1765: Selected Documents from the Cumberland Papers in Windsor Castle* (Hamden, Conn.: Archon Books, 1969), 294.

³³ Charles Lawrence to William Pitt, 5 September 1758, in Kimball ed., *Correspondence of William Pitt*, 335-336. The energetic Lawrence, army officer and governor of Nova Scotia, was a key figure in the decision to deport the Acadians after the fall of Fort Beauséjour in 1755; the relation between pilotage, irregular military forces, and forced expulsion is not a casual one, as this thesis seeks to establish.

currents, gales and a variety of other dangers and difficulties so universally dreaded for want of pilots....”³⁴

Lawrence’s proposal is quoted here as an example of the advanced planning undertaken for the Quebec campaign, but it is also indicative of certain changes in outlook among British military planners since Walker’s day that contributed materially to the success of operations in 1759. While Lawrence was an army officer, he was clearly sensitive both to the well-founded apprehensions of naval personnel confronting an unknown navigation. He was also familiar with the type and degree of hydrographic knowledge required for the purposes of practical navigation: soundings, directions and distance to marks ashore, he recognized, were the most vital elements of pilot knowledge; surveys of the “utmost accuracy” were superfluous to the purpose envisioned. In consequence of his long experience there, he was very aware of the particular challenges of North American climate and geography. This awareness was fairly rare among British military personnel prior to the 1760s, and its lack probably contributed to the failure of the Walker Expedition, which sailed relatively late in the navigation season and suffered the effects of late-season weather. Finally, Lawrence actively considered means to overcome these climatic difficulties, suggesting both an early start for potential operations and advocating the use of technologies suited to the requirements of North American riverine navigation, specifically schooners, an American vessel type adapted to shallow and narrow seaways. Pitt apparently accepted Lawrence’s recommendations, ordering the construction of 40 sloops and schooners and 70 whaleboats and stressing that the builders must “not fail, on any pretense whatever, to be finished by the 1st of

³⁴ *Ibid.*

April at the latest. . . .”³⁵ This advanced planning, sensitive to the specific requirements of amphibious military activity in an American context, was implemented with remarkable fidelity and success in the spring and early summer of 1759.

Organization of Chart Knowledge

While Lawrence’s plan to generate pilot knowledge of the St. Lawrence *during* an expedition against Quebec was innovative, in other respects preparations in the years leading up to 1759 paralleled those undertaken by Walker. Naval commander Charles Saunders and his fellow officers sought to gather extant chart information of the river, for example, and even to effect a sort of on-the-spot chart compilation to ensure that all vessels participating in the expedition had some rudimentary chart information of at least part of the St. Lawrence navigation. Records of what, precisely, this information entailed are scanty; nevertheless, survey historians have speculated as to what chart material was available to the expedition and how, exactly, it was processed and disseminated in the year prior to the expedition’s departure. The immediate reason for this interest is that James Cook and Samuel Holland spent the winter of 1758-1759 on board *Pembroke* at Halifax, compiling a chart for use in operations against Quebec. Little is known with certainty about what materials were available for this compilation, what form the finished chart took, and even how or if it was used on the expedition. It seems certain that Cook and Holland had access to chart material, manuscript or printed, derived from French sources taken either from vessels captured in the Atlantic or from state sources at

³⁵ William Pitt to Jeffery Amherst, 29 December 1758; William Pitt to James DeLancey, 29 December 1758, in Kimball ed., *Correspondence of William Pitt*, 436-437, 442-443. Efforts to procure adequate numbers of small craft continued to the eve of the expedition’s departure: see, for example, Library and Archives Canada, ADM 1/481, Charles Holmes to John Cleveland, 2 February 1759; Charles Saunders to Admiralty, 6 June 1759, in *Despatches of Vice-Admiral Charles Saunders 1759-1760: The Naval Side of the Capture of Quebec* (Halifax: Maritime Museum of Canada, 1958), 10.

Louisbourg after its fall. More than thirty years after the event, Holland asserted that one of the products of this compilation was Charles Saunders' *New Chart of the St.*

Laurence.³⁶ Given the exigencies of transatlantic navigation under sail, however, it is extremely unlikely that this could have been available in time for the expedition's departure. Furthermore, this chart records events that occurred during the summer of 1759 and incorporates new material, including terrestrial survey of areas under French occupation, that could not have been gathered in an active theatre of war.³⁷

Holland recollects another product of this collaboration, however, that was more likely to have actually been used in 1759: a "chart of the river, including Chaleur and Gaspé Bays, mostly taken from plans in Admiral Durell's possession."³⁸ Durell was Boscawen's third in command at Louisbourg in 1758 and overwintered at Halifax thereafter; he would almost certainly have had access to captured French cartographic material as a result. He may also have had access to Spry's surveys from his 1756 raids at Gaspé, material that Cook would have supplemented with his own surveys of that region undertaken during the gulf campaign of autumn 1758. It seems likely that this second chart mentioned by Holland, representing the gulf and the lower reaches of the river, was

³⁶ Charles Saunders, *A New Chart of the River St. Laurence from the Island of Anticosti to the Falls of Richelieu: With all the Islands, Rocks, Shoals, and Soundings, also Particular Directions for Navigating the River with Safety: Taken by the Order of Charles Saunders, Esqr. Vice-Admiral of the Blue, and Commander in Chief of His Majesty's Ships in the Expedition against Quebec in 1759* (London: Lords Commissioners of the Admiralty, 1760).

³⁷ Holland's discussion of this chart is included in his 1792 letter to John Graves Simcoe; see Ward Chipman, "The Life and Times of Major Samuel Holland, Surveyor General, 1764-1801," *Ontario History* 21 (1924), 10-11. British cartographic historian R.A. Skelton speculates that advance copies of Saunders' chart might have been ready in time for the expedition, a suggestion that Cook biographer J.C. Beaglehole refutes on the grounds that this chart contains new survey data from parts of the river that British navigators had not seen prior to the summer of 1759. R.A. Skelton, "Captain James Cook as a Hydrographer," *Mariner's Mirror* 40 (1954), 98; J.C. Beaglehole, *The Life of Captain James Cook* (London: Adam and Charles Black, 1974), 37-39, 51-52. On material incorporated into Saunders' chart after the fall of Quebec, see Sheila Kindred, "James Cook: Cartographer in the Making 1758-1762," *Royal Nova Scotia Historical Society Journal* 12 (2009), 54-81; Hank Whipple, "Captain James Cook: Surveyor of the River and Gulf of St. Lawrence," *Inland Seas* 6:1 (2005), 37-46.

³⁸ Ward Chipman, "The Life and Times of Major Samuel Holland, Surveyor General, 1764-1801," *Ontario History* 21 (1924), 10.

the only formal cartographic material relating to the St. Lawrence navigation possessed by all the ships of the 1759 fleet. John Knox's *Journal* reprints an order issued by Saunders to the masters of transports on 15 May 1759 drawing attention to "a chart or plan, showing the route which his Excellency intends to make from Louisbourg harbour to the island of Bic."³⁹ Beyond this, the cartographic and other navigational material on board individual ships would have been determined by the initiative of their officers and sailing masters, as was the practice in both the eighteenth-century Royal Navy and merchant service.⁴⁰

Speculation about charts prepared specifically for the expedition fails, however, to recognize wide-ranging changes in the nature of the European mapmaking trade in the half-century prior to 1759. Whereas in 1711 Walker could readily access only the general, large-scale chart of the western North Atlantic printed in *The English Pilot, the Fourth Book*, by 1759 several good charts of the St. Lawrence navigation were easily available through commercial channels. In part these changes resulted from European states' recognition of the growing importance of geographical information to projects of imperial expansion most evident in the creation of state mapping agencies. France's long-established support for mapping projects was extended to hydrographic survey in 1720 with the creation of the Marine Department's *Depot des Cartes et Plans*. While a British equivalent to this agency—the Admiralty Hydrographic Office—was not established until 1795, by the 1750s Britain's commercial map trade was fast becoming the most vibrant in the world, in part as a result of commercial and military rivalries with France and of demands for geographical information related to efforts to sustain and support its

³⁹ John Knox, *An Historical Journal of the Campaigns in North America for the Years 1757, 1758, 1759, and 1760* (Toronto: Champlain Society, 1914), I: 343.

⁴⁰ D.W. Waters, "English Pilot," 352.

colonial position in the Americas. Interest in and demand for maps was notably wide-ranging in Britain, with publications like the *Gentleman's Magazine* disseminating geographical information to a large public. British mapmaking in this period tended to be less philosophical and scientific than its continental rival, and not as closely tied to state circles of patronage, facts that help to account for its vitality. Commercial imperatives also meant that British mapmakers were less likely to undertake or support original survey, an activity that was very expensive in the eighteenth century. Instead, they relied on map compilation and especially on copying, adapting, and reprinting maps and charts produced by foreign state agencies and mapmakers. This was a much cheaper procedure but also one that, at times, resulted in products that were more closely attuned to the requirements of map users.⁴¹

Britain's relative slowness to develop a hydrographic office and to systematically cultivate the capacity to undertake surveys under state auspices is sometimes seen as a failure that inhibited the nation's emergence as a maritime imperial power; this lack is often contrasted to greater activity in contemporary France and Spain.⁴² But the existence of state geographical agencies did not necessarily translate into active and extensive mapping programs: there were in fact long periods during the eighteenth century that the French *Dépot* was largely dormant, and the charts it produced were not always well

⁴¹ Mary Pedley, *The Commerce of Cartography: Making and Marketing Maps in Eighteenth-Century France and England* (Chicago: University of Chicago Press, 2005); Laurence Worms, "The Maturing of British Commercial Cartography: William Faden (1749-1836) and the Map Trade," *Cartographic Journal* 41:1 (2004), 5-11; J.B. Harley, "The Bankruptcy of Thomas Jefferys: An Episode in the Economic History of Eighteenth Century Map-Making," *Imago Mundi* 20 (1966), 27-48. On the role of the *Gentleman's Magazine* in disseminating cartographic information to a popular audience, see E.A. Reitan, "Popular Cartography and British Imperialism: 'The Gentleman's Magazine,' 1739-1763," *Journal of Newspaper and Periodical History* 2:3 (1986), 2-13; E.A. Reitan, "Expanding Horizons: Maps in the 'Gentleman's Magazine,' 1731-1754," *Imago Mundi* 37 (1985), 54-62.

⁴² R.A. Skelton, "The Hydrographic Collections of the British Museum," 330.

suited to use for the purposes of practical navigation.⁴³ On the other hand, the commercial market for charts in Britain and internationally was becoming ever more attuned to mariners' needs, extending and refining a tradition of marine cartography and aids to pilotage pioneered by Dutch sea atlases from the late-sixteenth century onward. The Dutch waggoner tradition, which itself adapted and extended the portolan tradition of the medieval period, is routinely criticized for its inaccuracy when compared with modern charts based on triangulated surveys and plotted according to a rigorous projection. But waggons and modern charts, while serving similar purposes, also conveyed different sorts of hydrographic knowledge for different sorts of mariners: the information required by a sailing ship navigating by lead, logline and sextant was very different from that required by a steamship travelling with patent logs and chronometers. A modern chart is essentially a reduced-scale mimetic representation of geographic and hydrographic features plotted on a graticule that permits mariners to identify their position with a fairly high degree of accuracy in accordance with their reckoning, astronomical observations and, today, their location as determined by satellite positioning systems. Seventeenth and eighteenth-century coastal charts were not designed to be used in this way. Crucially, mariners had no practical method of determining longitude at sea; even after the perfection of John Harrison's marine chronometer later in the century, the procedure did not become widespread or routine until well into the nineteenth. If eighteenth-century charts did include latitudes and longitudes these were usually only approximate and were intended as a general guide leading to particular landfalls and marks ashore, according to which mariners could determine their position empirically, usually in conjunction with textual sailing directions. These directions often took a narrative form, leading the

⁴³ Pritchard, "Hydrography in New France," 15-16.

mariner from mark to mark in accordance with observations—of depth of water, direction and distance from recognizable landmarks ashore, of the particular shapes of coastlines—made by others who had travelled previously in the same waters. Pre-scientific or plane charts sought to abstract embodied pilot knowledge to the furthest possible extent and to make it mobile.⁴⁴ As the waggoner tradition developed in the eighteenth century, and especially after mid-century (as described in Chapter Six) such charts became increasingly elaborate means of situating mariners in particular navigations based entirely on empirical descriptions thereof.

This distinction between state-based scientific survey and commercially based empirical survey rooted in the waggoner tradition is significant not only in that it suggests that Britain did not necessarily suffer a comparative disadvantage in consequence of its lack of an established hydrographic agency, but also in that the charts commercially available to British sailing masters during the Quebec Expedition may have been better suited to the purposes of practical navigation than were the more mathematically sophisticated French charts of Deshayes, Bellin, and Anville. Comparative study of the three main eighteenth-century charts of the river published prior to 1759 illuminates why this was so. The first of these charts, noted earlier, was Jean Deshayes' *Grande Riviere de Canada*, based on surveys undertaken in 1685/1686, first published in 1702 and reprinted

⁴⁴ As D.W. Waters notes, the interpenetration of narrative and graphic representation in Dutch hydrography is embedded in the language: Dutch sailing directions are referred to as *leeskaarten*, or “reading charts”. For the relation between the waggoner tradition of marine cartography and the exigencies of navigation under sail, see Waters, “English Pilot,” 351-352; William E. Carter and Merri S. Carter, “The Age of Sail; A Time when the Fortunes of Nations and Lives of Seamen Literally Turned with the Winds their Ships Encountered at Sea,” *Journal of Navigation* 63 (2010), 717-731; D.F.H. Grocott, “Shipwrecks in the Revolutionary and Napoleonic Eras, 1793-1815. Causal Factors and Comments,” *Journal of Navigation* 52: 2 (1999), 149-162.

in 1706 and 1715 with sailing directions based on observations taken in the 1690s by *Canadien* pilot and naval officer Pierre Le Moyne d'Iberville.⁴⁵ This served as the basis

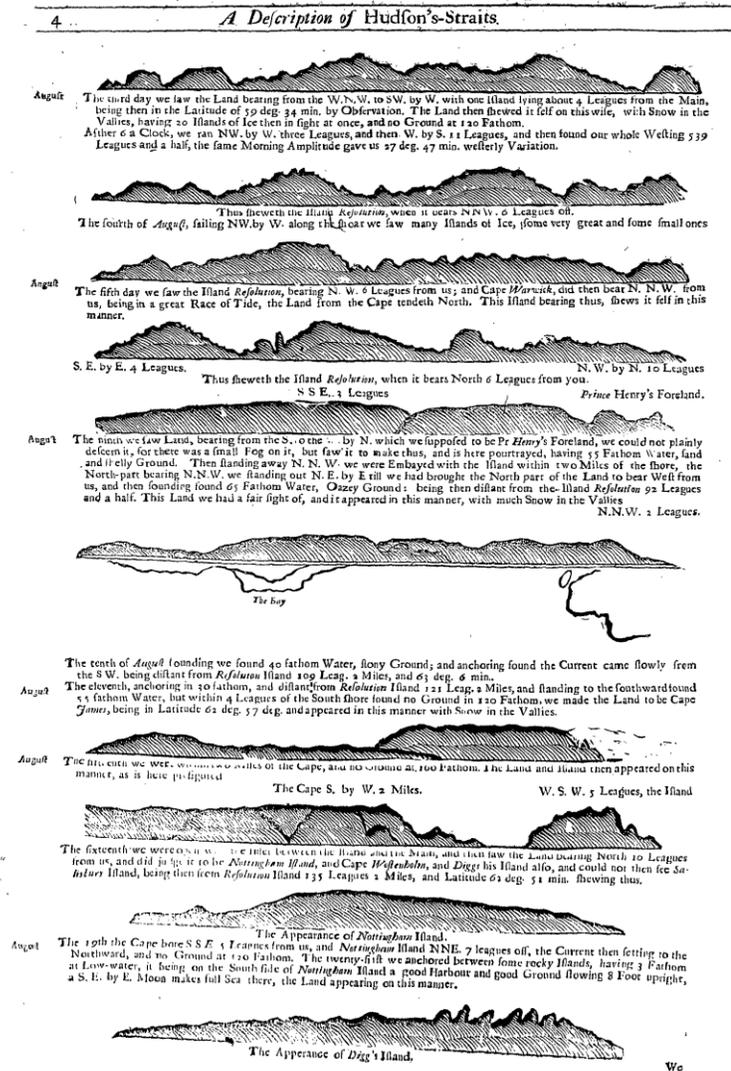


Fig. 4.4. "A Description of Hudson's Straits," from *The English Pilot, the Fourth Book* (London: Thornton and Mount, 1706). Showing the Dutch *leeskaarten* style of hydrographic publishing adapted to the British market and to North American waters.

for two other widely distributed charts: Johannes van Keulen's *Nouvelle Carte de la Riviere de Canada ou St. Laurens*, first published in the Dutch sea atlas *De Nieuwe*

⁴⁵ Pritchard, "Hydrography in New France," 15.

Groote Lichtende Zee Fakkell in 1717;⁴⁶ and Thomas Jefferys' 1757 *An Exact Chart of the River St. Lawrence from Fort Frontenac to the Island of Anticosti*.⁴⁷

Deshayes' chart looks remarkably modern: it includes soundings tracing the main channel from the gulf to Quebec; and it presents detailed insets depicting harbours of refuge and key features of especially dangerous passages at the mouth of the Saguenay and the Traverse, with positions indicated by latitude and longitude. Suggested courses inbound and outbound are represented graphically, and shoreline topography, anchorages, and deep-water soundings are indicated by conventional symbols. There are profile views of important reaches in the lower river, and graphic representations of leading marks in the Traverse, generally assumed to be the most difficult passage in the entire navigation. The scientific nature of Deshayes' survey is evident in the compass rose giving magnetic variation at Quebec, and in the graticule giving latitudes and longitudes, the latter with reference to a meridian located by observation at Quebec; directions appended to the 1706 edition explain how this meridian was determined.⁴⁸ The chart combines Deshayes' own triangulated survey with data compiled from other sources, including the observations of Louis Jolliet, and the two are clearly distinguished on the chart itself by means of differently coloured delineation of the coasts determined by each method.

Iberville's directions contrast strongly with the abstraction of the chart itself, giving

⁴⁶ *Nouvelle Carte de la Riviere de Canada ou St. Laurens* in *De Nieuwe Groote Lichtende Zee Fakkell* (Amsterdam: Johannes van Keulen, 1717-1753), 6 vols.

⁴⁷ *An Exact Chart of the River St. Lawrence from Fort Frontenac to the Island of Anticosti Shewing the Soundings, Rocks, Shoals & c. for Navigating that River to Quebec* (London: Thomas Jefferys, 1757). The analysis in this chapter treats charts primarily concerned with the St. Lawrence River; many charts of the gulf likewise appeared in this period, by Bellin, d'Anville, and others, but as these were less likely to have been consulted by British forces for the purpose of navigation they fall outside the purview of this analysis. For further detail on these charts, see Kenneth A. Kershaw, *Early Printed Maps of Canada. Volume II: 1703-1799. Maps of Canada, the Arctic, Newfoundland, the River and Gulf of St. Lawrence* (Ancaster, ON: Kershaw Publishing, 1996).

⁴⁸ Illustrations in this chapter are taken from the 1706 edition of Deshayes' chart; see Jean Deshayes, *Carte marine de l'embouchure de la riviere de S. Laurens levee de cap en cap jusqu'à Québec* (Paris: s.n., 1706).

narrative instructions for passing particular reaches including direction and distance to particular landmarks ashore; indications of areas where it is necessary to wait for the ebb tide in order to pass; indications of particularly dangerous currents and the means to overcome them; discussions of the nature of the river bottom in particular areas so that mariners can identify position by soundings in fog. The chart itself does not include directional or rhumb lines, a distinguishing characteristic of the waggoner tradition by means of which mariners could orient themselves visually to marks ashore by use of compass bearings.

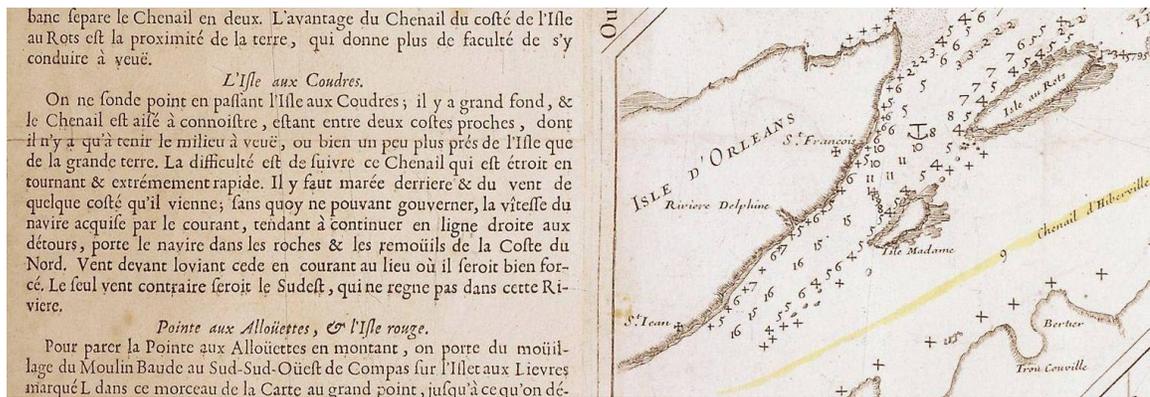


Fig. 4.5. Detail of Jean Deshayes, *Carte marine de l'embouchure de la rivière de S. Laurens* [1706]. Iberville's directions for passing Île-aux-Coudres demonstrate the extent to which local hydrographic knowledge was incorporated into Deshayes' chart.

Van Keulen's reliance on Deshayes is immediately apparent: the soundings, the outlines of the shoals, suggested courses and anchorages, and other key features are virtually identical on both charts. The differences, however, are telling. There is no indication of compass variation. There are indications of latitudes on both the main chart and the insets, but no indication of longitudes, which would be useless for the purposes of riverine navigation, in which position would be determined by landmarks ashore in clear weather and by soundings in fog. Coloured lines distinguishing areas of the chart determined by triangulation and by compilation have been eliminated. There are no

printed directions on the chart, and no mimetic profile views; these features were combined and printed on a separate sheet of the atlas. Most evidently, there are rhumb lines covering the full sheet of the chart in an intricate web intersecting conspicuous landmarks and secondary features alike; these lines are arranged in such a way that a single compass rose provides direction both for the main charted area and insets, a testament to the sophistication of the Dutch hydrographic tradition of which the *Zee Fakkel* is the fullest eighteenth-century example. The most important differences between Deshayes and Van Keulen stem from the application of the conventions of the Dutch sea atlas style to Deshayes mathematically determined material. The Dutch chart exaggerates the size and shape of conspicuous features such as ports and notable perils to present immediate visual clues to mariners seeking haven or unsure of their position. The heights of hills are augmented to give greater visual force to profile views; detached rocks in mid-channel are expanded to the size of substantial islands. In contrast to the scientific pretensions of the French chart, Van Keulen in effect admits the chart's approximate nature, its lack of precision, and adapts this to highlight those features most useful to practical navigation. These very old conventions are employed not because they offer a truer representation of the geographic and hydrographic features depicted, as in a triangulated survey, but rather because they are adapted to seamen's needs and to the limited capacity for accurate perception given prevailing navigational technologies.

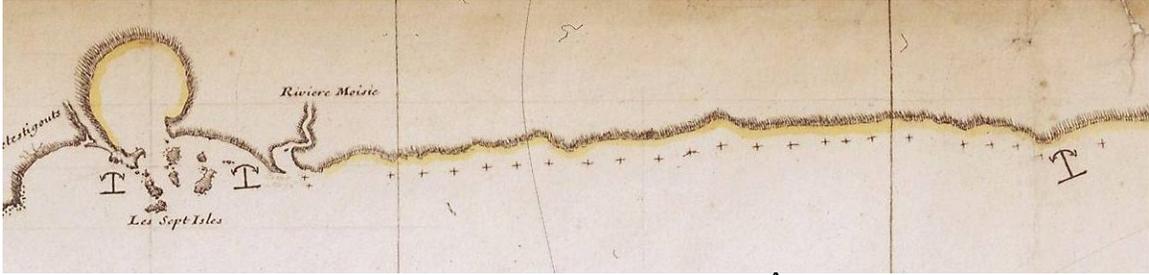


Fig. 4.6. Detail of the coastline running eastward from Sept-Îles, from Jean Deshayes, *Carte marine de l'embouchure de la rivière de S. Laurens* (1706).



Fig. 4.7. Detail of the coastline running eastward from Sept-Îles, from Johannes Van Keulen, *Nouvelle Carte de la Rivière de Canada ou St. Laurens* (1717). Note the place names engraved perpendicularly to the coast and the deliberate exaggeration of coastal contours, conventions derived from medieval portolans as mediated through the *zee fakkel* tradition.

Thomas Jefferys' 1757 *Exact Chart of the River St. Lawrence* hews even more closely to Deshayes than does Van Keulen, while integrating some features of the waggoner tradition found on the Dutch chart. Delineation of the navigable channel, profile views, insets and soundings are all very similar to Deshayes, reflecting in part the British map trade's reliance on copying extant charts and in part the fact that it, like Deshayes, is a stand-alone chart rather than an element of a larger sea atlas. A key difference from the French chart is the inclusion of rhumb lines which, as noted, are an important element of the older hydrographic tradition and serve to orient mariners directionally to features ashore. There are, however, features that mark Jefferys' chart as a distinctly British product, linked to the imperial rivalry and maritime expansionism of the mid-eighteenth century. The cartouche, for example, dedicates the chart to the Earl of

Sandwich, First Lord of Admiralty, a key agency facilitating overseas expansion in this period. Sailing directions on the chart by “a gentleman who lately made that voyage” describe the navigation from the continental interior to the gulf rather than vice versa, a seeming anomaly that nonetheless reflects the experience of virtually all Britons who had made the voyage prior to 1759, namely those travelling in cartel ships after a period of captivity in New France. The chart incorporates material from Anville’s chart of the upper river and Great Lakes, showing the Richelieu River for its full length to Lake Champlain; in doing so, it identifies all three plausible invasion routes into the Laurentian heartland. The south shore of the river is tendentiously labelled “New England” and Gaspé is labelled “Nova Scotia,” continuing a tradition of cartographic imperialism that predated the outbreak of hostilities on the North American continent.⁴⁹ Earlier British imperial endeavours in the river are memorialized in an annotation to Egg Island off the north shore indicating the spot where ships of the Walker Expedition went aground. Jefferys’ chart, like those on which many of its features are based, is an aid to navigation; it is also propaganda, deliberately prefiguring and assisting British imperial conquest of the maritime routes it depicts.

⁴⁹ Jeffers Lennox, “*L’Acadie Trouvée: Mapping, Geographic Knowledge, and Imagining Northeastern North America, 1710-1763*” (PhD thesis, Dalhousie University, 2010), chapter 5; John G. Reid, “The Conquest of ‘Nova Scotia’: Cartographic Imperialism and the Echoes of a Scottish Past,” in Ned C. Landsman ed., *Nation and Province in the First British Empire: Scotland and the Americas, 1600–1800* (London: Associated University Presses, 2001), 39-59; Mary Pedley, “Map Wars: The Role of Maps in the Nova Scotia/Acadia Boundary Disputes of 1750,” *Imago Mundi* 50(1998), 96-104.

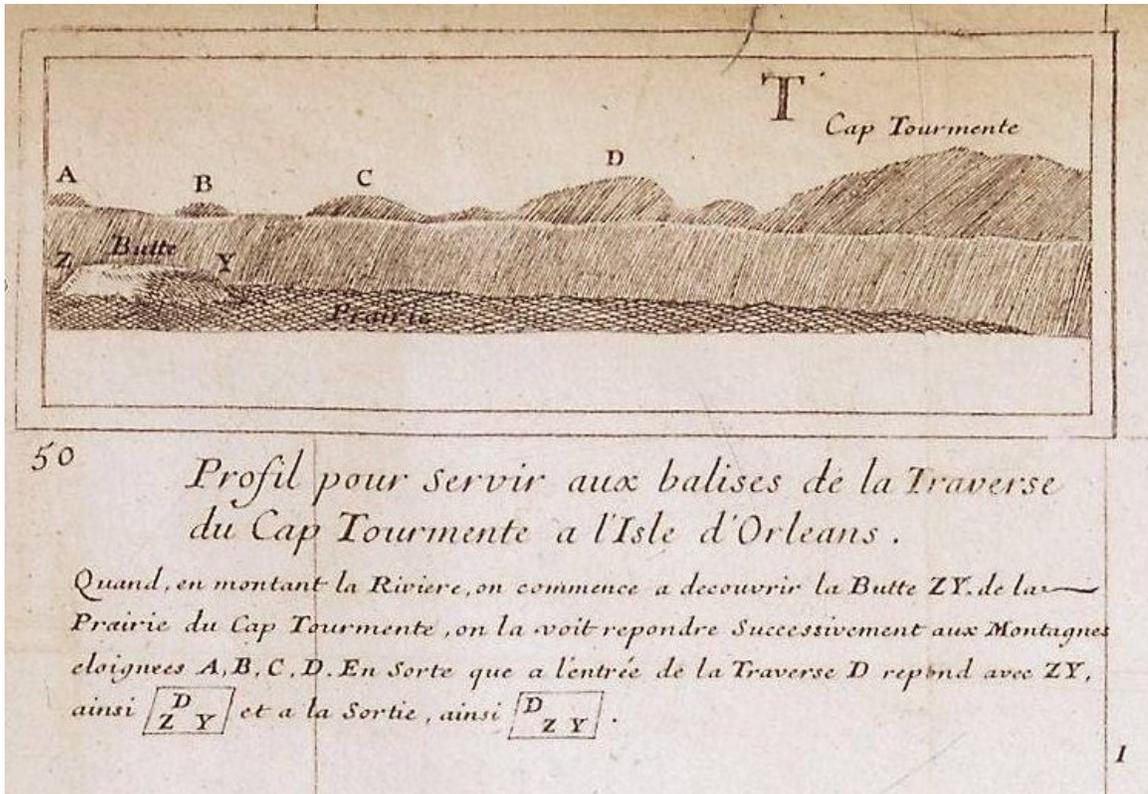


Fig. 4.8. Profile view of the north shore of the St. Lawrence at the entry to the Traverse, from Jean Deshayes, *Carte marine de l'embouchure de la rivière de S. Laurens* (1706).

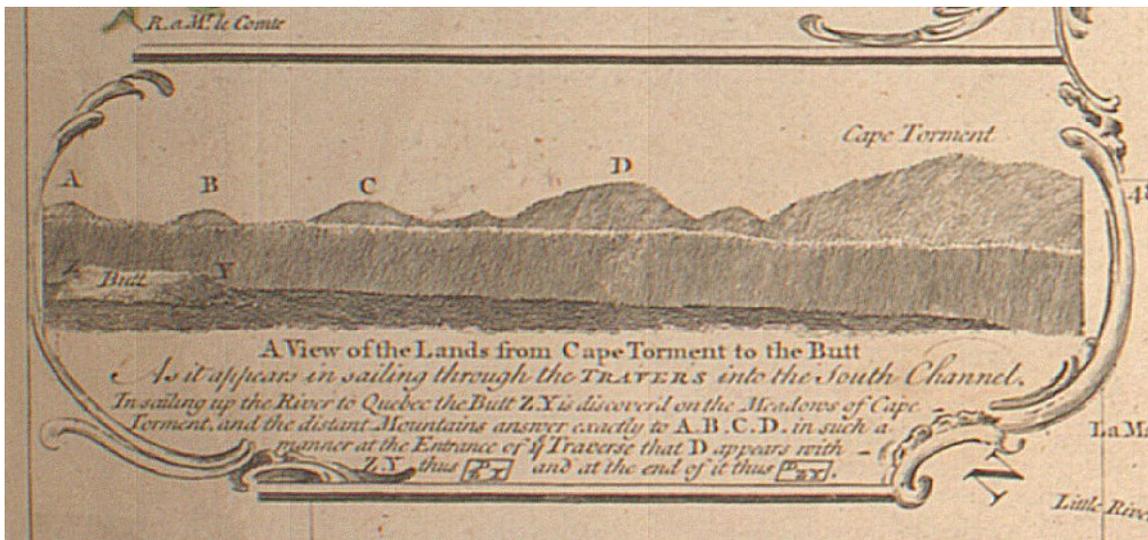


Fig. 4.9. Profile view of the north shore of the St. Lawrence at the entry to the Traverse, from Thomas Jefferys, *An Exact Chart of the River St. Lawrence* (1757). Copying charts freely across international borders was a common characteristic of the mid-eighteenth-century European map trade; Jefferys' treatment of Deshayes' chart demonstrates how close this copying could be in practice.

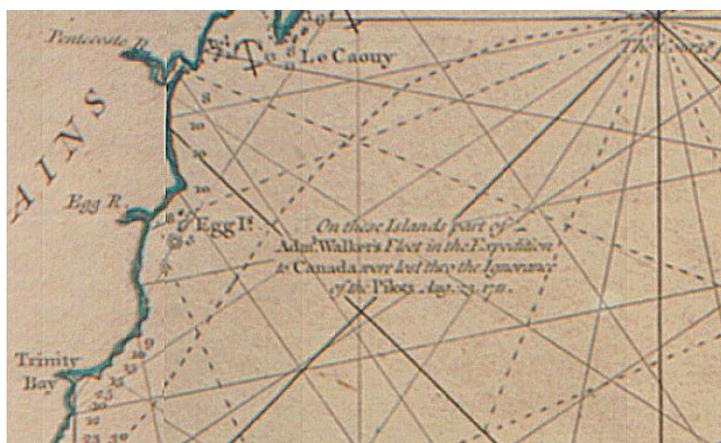


Fig. 4.10. Detail of Thomas Jefferys, *An Exact Chart of the River St. Lawrence* (1757). Jefferys' chart inscribes British naval history onto the Laurentian navigation, recording the site where Hovenden Walker's ships wrecked "through the ignorance of the pilots." This is one of several examples of the chart drawing attention to extant hydrographic knowledge's inability to vouchsafe secure passage of the river.

It is not political context only that distinguishes Jefferys' chart from those on which its representation of the St. Lawrence is based. *An Exact Chart of the River St. Lawrence* is remarkable also in that it explicitly disavows its own adequacy as a guide to the navigation that it depicts. The annotation at Egg Island, for example, notes that "On these islands part of Admiral Walker's fleet in the expedition to Canada were lost through the ignorance of the pilots Aug. 23, 1711."⁵⁰ The sailing directions repeatedly identify passages that cannot or should not be approached without the benefit of expert guidance possessing local knowledge: at Lake St. Francis in the upper river, chart users are directed to a house where pilots can be found; the rapids above Montreal are "not to be attempted by strangers"⁵¹; passage of the Traverse "must not be attempted without a fair gale, enough of daylight and a good pilot."⁵² While it might seem unusual that a chart that was the best available guide to the navigation of the St. Lawrence repeatedly draws attention to its own inadequacy, it was very much in keeping with the nature of

⁵⁰ Thomas Jefferys, *An Exact Chart of the River St. Lawrence* [1757].

⁵¹ *Ibid.*

⁵² *Ibid.*

eighteenth-century maritime epistemology. Printed charts and directions sought to replicate embodied pilot knowledge to the highest degree possible by means of symbolic and textual representations, but they were understood to be a supplement to the experience of actual, living pilots, rather than a replacement for them. Accordingly, while officers and sailing masters responsible for navigation of the 1759 Quebec Expedition had ready access to several quite good charts through commercial channels, containing reliable hydrographic information of the river far in excess of that contained in *The English Pilot, the Fourth Book*, they remained as anxious as Walker had been in 1711 to obtain reliable pilots for the river.

Organization of Embodied Pilot Knowledge

The knowledge required to pilot a ship, under sail, in confined inshore waters, is of such complexity and immediacy that it cannot be fully replaced by abstract representations even today. The most comprehensive sailing directions' attempts to replicate the embodied experience of local pilots fail to account for the virtually infinite combination of currents and winds, and their interaction with hydrographic and geographic features, that constitute the experience of a vessel in motion in the marine environment. Local conditions are constantly changing, and patterns in these changes are evident only to those with extensive experience in those particular localities. For example, tidal streams might act very differently in a particular stretch of river according to the direction of the wind or the season of the year; the nature of this action could not be determined through abstract reasoning, but only through repeated observation of that locality under a variety of conditions. James C. Scott refers to this sort of knowledge as *metis*, which he defines as "practical skills and acquired intelligence in responding to a

constantly changing natural and human environment.”⁵³ This intelligence resists reduction to full textual or symbolic representation “because the environments in which it is exercised are so complex and nonrepeatable that formal procedures of rational decision making are impossible to apply.”⁵⁴ Intelligence rooted in empirical observation of local conditions acts as a sort of “sixth sense that comes with long practice,”⁵⁵ and the cultivation of this sense remains a key element of marine pilot training even today. Once pilots have mastered the hydrographic features of their particular localities, both through chart study and observation, they begin to assimilate patterns of interaction between ships and the environment under a range of transient localized meteorological and climatic conditions.⁵⁶ Because these conditions are always in flux, they resist thorough abstraction. Gabriel Pellegrin, probably the most experienced St. Lawrence pilot in the mid-eighteenth century, offered a useful demonstration of the distinction between chart knowledge and localized experiential intelligence in his *Mémoire sur la navigation du Canada*: voyaging inbound from Quebec, he would establish his latitude on the Grand Banks through observation and reference to Bellin’s chart; thereafter, he navigated in accordance with his own knowledge and experience, sometimes bringing vessels from the open Atlantic safely to Quebec through unbroken fog, relying entirely on his knowledge

⁵³ James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven: Yale University Press, 1998), 317. Scott’s perspective offers a useful corrective to some recent theoretically informed cartographic historiography that views imperial mapping as an “archive” offering the promise of comprehensive control in colonial contexts. In Scott’s view, colonial realities always elude full representation by imperial authority. For a classic statement of the post-structuralist perspective on imperial mapping, see Bruno Latour, *Science in Action: How to Follow Scientists and Engineers through Society* (Cambridge, MA: Harvard UP, 1987).

⁵⁴ Scott, *Seeing Like State*, 317.

⁵⁵ *Ibid.*

⁵⁶ For a description of this dynamic as it informs pilot training in the present, see Margareta H. Lützhöft and James M. Nyce, “Piloting by Heart and by Chart,” *Journal of Navigation* 59 (2006), 221-237.

of the sea and river bottom—its depth and physical constitution—and other empirical clues along the entirety of this several-hundred-kilometre course.⁵⁷

This fact had important implications for overseas endeavours that required mastery of waters in which imperial forces had little or no direct experience: it meant that successful operations in these waters required the participation of mariners with local experience. And because the possessors of this experience—in this instance, pilots familiar with the St. Lawrence navigation—were as thoroughly integrated into partisan political contexts as were British military personnel who sought to exploit them, enlisting this participation was inextricably linked to questions of loyalty, to coercion, collaboration, and treason. The importance of obtaining French and *Canadien* pilots for the river engaged British authorities' attention as thoroughly as it had in 1711, but the greater degree of commitment to warfare in the North American theatre during the Seven Years' War ensured that there was more time and greater opportunity to identify such individuals in the years prior to 1759. Already in 1756, Royal Navy officers were pressing pilots in anticipation of operations in the gulf and river, a process that immediately became entangled in tricky questions of loyalty in a region that had already been the site of repeated imperial conflict. In August of 1756 Louisbourg governor Augustin de Boschenry de Drucour wrote to Nova Scotia governor Charles Lawrence seeking the freedom of a pilot named Dion, who had apparently been impressed by British forces seeking to exploit his pilotage knowledge of the gulf region. Admiral Charles Holmes replied from Halifax, asserting that, as Dion was an Acadian born at La Have on the south shore of Nova Scotia, he was a British subject and so legitimately liable to be pressed into the King's service. Drucour replied that Dion had indeed been born at La

⁵⁷ *Mémoire sur la navigation du Canada par Pellegrin*, Canada, Sessional Papers, 18 (1906), 3-6.

Have, but in 1693, prior to the British conquest of Acadia, and had moved with his family to Quebec in 1696. He was accordingly a French subject, and so his impressment was illegal.⁵⁸ Dion's ultimate fate is not recorded in this correspondence, but this sort of diplomatic negotiation and legal hair-splitting seems to have characterized efforts to enlist pilots for service in the St. Lawrence region in the early years of the war. In the early spring of 1757, Admiral Francis Holburne wrote to Admiralty Secretary John Cleveland describing his fruitless attempts to enlist a particular French pilot with both promises of reward and threats of punishment. When neither of these approaches succeeded he wrote to the Admiralty for advice, whereupon the pilot was ordered to be released and returned to Quebec.⁵⁹ At this point in the war, at least, the issue of pilots' loyalties was determined by considerations other than that of brute force.

As the date of the Quebec expedition approached, coercion became the primary means of obtaining pilots for employment with the British fleet. Appeals to colonial governors and attempts to bribe pilots into voluntary service were made, but proved largely unsuccessful.⁶⁰ Pilots were found, however, among concentrations of prisoners of war, both in Europe and America. A number of pilots were identified among the

⁵⁸ LAC, ADM 1/481, Augustin de Boschenry de Drucour to Charles Lawrence, 11 August 1756; LAC, ADM 1/481, Charles Holmes to Augustin de Boschenry de Drucour, 20 October 1756; LAC, ADM 1/481, Augustin de Boschenry de Drucour to Charles Holmes, 28 October 1756. See also "First Note by Admiral Knowles, Relating to the Expedition to North America, 1757," in Pargellis ed., *Military Affairs in North America*, 299. Holmes' letter gives a further indication of the importance of local hydrographic information in areas of active imperial rivalry; in it, he claims that the vessel carrying Drucour's letter had surreptitiously undertaken soundings in the approaches to Halifax while waiting for a response. Drucour responded, perhaps disingenuously, that such soundings were unnecessary as the French had Anville's (general and very large-scale) charts of the region.

⁵⁹ LAC, ADM 1/481, Francis Holburne to John Cleveland, 13 March 1757.

⁶⁰ Jeffery Amherst to William Pitt, 10 August 1758, in Kimball ed., *Correspondence of William Pitt*, I: 313; Charles Saunders to James DeLancey and Thomas Pownall, 10 March 1759, in *Despatches of Vice-Admiral Charles Saunders 1759-1760: The Naval Side of the Capture of Quebec* (Halifax: Maritime Museum of Canada, 1958), 7. The only evidence identified of a French pilot voluntarily offering to serve with British forces comes, perhaps not coincidentally, on the day after the battle of the Plains of Abraham, and then in response to the attack of a colonial ranger unit. See Joseph Gorham to [Charles Saunders], 14 September 1759, in Doughty and Parmalee, *Siege of Quebec*, V: 277-278.

population of Louisbourg; while one of the most urgent tasks after the town's fall was the evacuation of its military forces and civilian residents, a number of pilots were forcibly retained there for service in the Quebec campaign.⁶¹ Denis de Vitré's post-war account of his own experience, while perhaps exaggerated to elicit sympathy and compensation, gives some indication of the experience of those pressed into service while in British captivity. Vitré was formally trained as a St. Lawrence pilot and had served as an examiner of pilots for the river before the war. During the Quebec expedition he was accordingly the most valuable of all pressed pilots, serving with Admiral Durell's advance squadron and helping to sound the vital passage at the Traverse, immediately below Quebec. While en route from Bordeaux to Quebec in April 1757, Vitré was captured by British warships and detained in an English prison for over two years, before he was forcibly transferred to Charles Saunders' flagship in the fleet against Quebec in the spring of 1759. When he resisted this service, British officers flattered and tried to bribe him. When this failed, they threatened him with summary execution and kept him under armed guard during the passage of the river and the sounding of the Traverse. Diplomatic niceties had apparently become casualties of a prolonged conflict that had taken on the characteristics of total war, in North America at least.⁶²

⁶¹ LAC, ADM 1/481, Charles Durell to John Cleveland, 5 November 1758; Edward Whitmore to William Pitt, 7 July 1759, in Kimball ed., in *Correspondence of William Pitt*, II: 138-139; John Knox, *An Historical Journal of the Campaigns in North America for the Years 1757, 1758, 1759, and 1760* (Toronto: Champlain Society, 1914), I: 164.

⁶² "Commission de pilote cotier à Louis Roberge, de l'Île d'Orléans," *Bulletin des Recherches Historiques* 23 (1917), 56; Minutes of the Quebec Council [1769], LAC, MG11-CO42Q, Correspondence between Governor Carleton and the English Ministry, 1769, 147. See also J.S. Pritchard, "Denys de Vitré, Théodose-Matthieu", in *Dictionary of Canadian Biography*, http://www.biographi.ca/009004-119.01-e.php?&id_nbr=1848 (accessed 28 May 2012); William Renwick Riddell, "The Pilots of Wolfe's Expedition, 1759," *Transactions and Proceedings of the Royal Society of Canada Section II* (1927), 81-82; Phileas Gagnon, "Le Sieur de Vitré," *Bulletin des Recherches Historiques* 3 (1897), 178-186.

One other tactic for enlisting pilots for the Quebec campaign, and the most successful one in terms of sheer numbers of individuals retained, was to target and detain them. The most dramatic way of doing this—and the one that has received the most attention historiographically—was for British ships to approach a coastal settlement flying French colours, and then capture pilots as they approached to take the vessel to Quebec.⁶³ This was exceptional, however: during the gulf campaign of 1758, British forces simply identified, captured, and detained local seamen for service in Canadian operations. The destruction of French fishing settlements at Gaspé and in the lower river and the deportation of their populations provided at least seventeen pilots for the expedition, probably the majority of those pressed prior to the fleet's departure. While many of these individuals were fishermen and traders rather than professionals trained in formal hydrography, their life-long experiential knowledge of the river, and their regular voyages to markets at Quebec, would make them of considerable value to a military force seeking to maximize its ability to safely traverse unfamiliar local waters.⁶⁴

While identifying French pilots with experience in the river was a priority for naval officers and administrators preparing for operations against Quebec, British mariners and travellers with experience in the river were likewise sought out to advise and to accompany the expedition. As in the gulf and Fundy campaigns, Royal Navy personnel who had grown up in British America or who had extensive American

⁶³ This practice, if it did in fact occur, took on an almost legendary quality in later accounts of the war, featuring a French priest who dropped dead with consternation when the Britons' perfidy was revealed. See, for example, John Knox, *An Historical Journal of the Campaigns in North America for the Years 1757, 1758, 1759, and 1760* (Toronto: Champlain Society, 1914), 361-362n.

⁶⁴ LAC, ADM 1/481, Phillip Durell to John Cleveland, 5 November 1758; James Wolfe to William Pitt, 1 November 1758, in Kimball ed., *Correspondence of William Pitt*, I: 379-382; LAC, ADM 1/482, Alexander Colvill to John Cleveland, 22 December 1759; LAC, ADM 1/482, Charles Saunders to John Cleveland, 5 January 1760. The extant records suggest that at least 19 French pilots were employed in the Quebec campaign; 14 of these were from Louisbourg, the gulf, or the lower river.

experience were considered especially useful in this regard. Though they were few, mariners such as Captain John Rous undertook important reconnaissance activities, and were assigned navigational tasks that required shallow-draft vessels operating close inshore, often under fire.⁶⁵ British civilians who provided information to expedition planners or who accompanied the fleet to Quebec were almost invariably—like the author of the sailing directions in Thomas Jefferys’ 1757 chart—former captives in New France whose experience of the St. Lawrence navigation was usually limited to a single voyage outbound in a cartel ship. French victories early in the war, especially that at Fort William Henry in August 1757, ensured that there were many such travellers, most of them military personnel, and some of them trained observers who made surprisingly detailed records of their passages downriver. James Pitcher, for example, was an army officer taken prisoner at Oswego in 1756. He was fortunate to be placed aboard a cartel ship with an especially valuable sailing master from whom he learned important information regarding the course required to pass the difficult reaches of the river at the Traverse and Coudres.⁶⁶ Robert Stobo is probably the best known of these former prisoners-of-war. Placed in French custody as a hostage early in the war, he was taken to Quebec from whence he escaped repeatedly, ultimately making a daring small-boat voyage downriver and across the gulf to Louisbourg in spring, 1759, just in time to accompany the British fleet back up the river. Stobo’s experience was undoubtedly of use to British forces in their ascent of the river, though it was almost certainly exaggerated in

⁶⁵ Rous’ employment in clandestine reconnaissance included acting as an intermediary between captured French American mariners and Royal Navy personnel, perhaps in consequence of their shared understanding of navigational conditions in the northwestern Atlantic. See LAC, ADM 1/481, Francis Holburne to John Cleveland, 6 August 1757.

⁶⁶ “Observations from Quebec down the St Lawrence’s River October 1756, by James Pitcher,” in Pargellis ed., *Military Affairs in North America*, 249-251. See also LAC, ADM 1/481, Francis Holburne to John Cleveland, 20 October 1757.

his memoirs which give himself an unrealistically prominent role in the ultimate British victory.⁶⁷

The Briton whose observations of the St. Lawrence navigation were of greatest use to the fleet was captured by French forces not in North America, but in the approaches to the English Channel. He was a mariner named John Veysey, whose ship was captured by a squadron of French warships and privateers and who was transported to Quebec, entering the gulf by means of the then-little-used passage through the Strait of Belle Isle. His trip upriver was slow, lasting over a month, and so gave him the opportunity to make observations at relative leisure. Veysey both served as a pilot on Charles Saunders' flagship *Neptune* during the ascent, and compiled remarks on the navigation that, in their precise detail of dangerous passages in the river, far surpassed the degree of information available from any of the extant charts. Veysey's remarks presented very detailed sailing directions from Cape Ray, Newfoundland to the Basin of Quebec, including latitudes for key landmarks and suggestions for appropriate channels to follow in difficult stretches of the river. He gave directions and distances from the navigable channel to conspicuous marks ashore, and was careful to note the currents that were among the river's greatest perils, and to offer suggestions for best overcoming them. He identified anchorages, with indications of depths and the nature of the bottom at each so that they could be located in inclement weather. He identified where pilots were taken on board, and gave the signals for summoning them. He identified areas where ships might proceed without a pilot, and suggested the ascent could, if necessary, be made with

⁶⁷ LAC, James Murray Papers, Correspondence, 1758-1763, Andrew Rollo to Alex Murray, 10 June 1759. See also Robert C. Alberts, "Stobo, Robert," in *Dictionary of Canadian Biography*, http://www.biographi.ca/009004-119.01-e.php?&id_nbr=1629 (accessed 28 May 2012); Robert Stobo, *Memoirs of Robert Stobo, of the Virginia Regiment* (London: J. Skirven, 1800). Stobo claimed to have identified the landing place at Anse-au-Foulon at which British forces disembarked on the morning of 13 September 1759.

the assistance of vessels sent ahead to sound and identify the channel. It is not clear how widely Veysey's remarks circulated in the fleet, but naval commander Saunders certainly had access to them, and in the wake of the campaign recommended that Veysey be amply rewarded for his contribution to its success. While they were no substitute for the sort of embodied navigational intelligence resulting from a lifetime's experience on the river, as possessed by professional pilots such as Vitré, Veysey's remarks were the best written account of the navigation that British forces possessed.⁶⁸

Organization of Seamanship

The final major element of British organization of hydrographic knowledge in preparation for the Quebec campaign of 1759, alongside chart knowledge and embodied pilot knowledge, was the Royal Navy's coordination of seamanship by means of a system of navigational signals and a program of sounding that, in effect, permitted mastery of the river's hydrographic features en route. N.A.M. Rodger asserts that eighteenth-century Royal Navy officers and sailing masters were remarkably ignorant of inshore navigation and relied greatly on local pilots in such areas; the logs of ships involved in the Quebec campaign challenge this view.⁶⁹ While captured pilots like Denis de Vitré and Augustin Raby, and British seamen with experience in the the river like John Veysey did play important roles in the Quebec Expedition's 1759 ascent of the St. Lawrence—as Chapter

⁶⁸ LAC, Chancery, C 108/23, Estate of John Veysey on Navigation of St. Lawrence, 1759-1806, "Remarks and Observations on the River St. Lawrence with Directions for its Navigation"; LAC, ADM 1/482, Charles Saunders to John Cleveland, 10 January 1760; "Report by John Veysey on Quebec and the River St. Lawrence," 4 October 1758, in Albert von Ruville, *William Pitt Earl of Chatham* (London: William Heinemann, 1907), III: 378-380. Veysey was rewarded with the sum of 10 shillings per day of service and, more remarkably, with Lieutenant rank in the Royal Navy despite lacking the time served required for such an appointment.

⁶⁹ N.A.M. Rodger, *The Wooden World: An Anatomy of the Georgian Navy* (London: Fontana, 1988), 48-53. For an assessment of the state of pilotage ability in the contemporary British merchant fleet, from which the transports employed in 1759, see Ralph Davis, *The Rise of the English Shipping Industry in the Seventeenth and Eighteenth Centuries* (London: Macmillan, 1962), 122-127.

Five demonstrates—primary responsibility for safe navigation rested with Royal Navy sailing masters, and with British and British American merchant captains conducting the many dozens of transports and victuallers. All of the former and at least some of the latter were trained in riverine pilotage, either formally by Trinity House, Deptford, or informally through long experience in the estuarine waters of the Great Britain or the littoral colonies of North America and the West Indies. The product of this training and experience was a quality of perception that allowed masters and other seamen to identify hydrographic hazards that were not otherwise apparent to unpracticed eyes. Furthermore, this training and experience also informed action: seamen experienced in coastal and riverine navigation knew, for example, when an ebb tide was strong enough to require anchoring, and when it was too strong to remain at anchor; when a passing squall could be weathered, and when it required evasive action. These forms of embodied skill and knowledge specific to the coastal marine environment were well developed in British and British American seafaring cultures, and would prove essential to amphibious success in 1759.

In addition to this, the expedition's naval planners followed the suggestions of officers experienced in North American campaigning and developed a program of on-the-spot survey that generated hydrographic knowledge of the river en route. In the wake of the Walker Expedition's miscarriage in 1711, Samuel Vetch proposed just such a method of sounding and marking the river during its ascent. It is not coincidental that it was another officer with long experience in North America, Charles Lawrence, who proposed and detailed a similar scheme during the preparations for the Quebec campaign of 1759. Both had experienced the challenges and frustrations of operating in the little-known and

largely unmarked inshore waters of northeastern North America, and both saw the benefit of using the pilotage ability of British navigators to effect rapid surveys to serve specific tactical aims.⁷⁰ In 1759 these proposals were enacted, for example, through the appointment of dedicated sounding vessels that preceded the main body of the fleet in the difficult stretches of the river between Bic and Quebec, to identify safe channels for subsequent traffic to follow.⁷¹ This information was conveyed downriver by a system of signals consisting of seven different pennants and flags that, when hoisted in particular combinations, indicated information including depths of channel of up to forty fathoms.⁷² Combined with this were means of marking conspicuous hazards and delineating the navigable channel with boats anchored in the stream, flying flags of several colours to indicate to which side they should be passed.⁷³ In addition to these provisions for generating and disseminating specifically hydrographic information, Saunders also prepared signals to ensure the fleet remained together during the navigation, and that vessels straying into hazardous areas could be readily returned to the fleet.⁷⁴ Finally, means were developed to ensure prompt response to vessels that encountered trouble during the navigation, including visual and auditory signals to indicate distress, and protocols for assisting ships encountering navigational hazards.⁷⁵ These precautions

⁷⁰ Charles Lawrence to William Pitt, 5 September 1758, in Kimball ed., *Correspondence of William Pitt*, 335-336. See also Samuel Vetch to Hovenden Walker, 26 August 1711, in Graham ed., *Walker Expedition*, 361-362.

⁷¹ On the day of the main fleet's departure from Louisbourg, John Knox identifies eight such vessels and describes them as "transport cutters, i.e. shallow draft vessels capable of working close inshore. See Knox, *Historical Journal*, I: 359.

⁷² From an order issued by Charles Saunders, 15 May 1759, in Knox, *Historical Journal*, I: 342.

⁷³ *Ibid.*

⁷⁴ *Ibid.*

⁷⁵ From an order issued by James Wolfe, 9 May 1759, in Knox, *Historical Journal*, I: 335-336.

undoubtedly slowed the fleet's ascent of the river, but ensured that marine casualties en route were kept to a relative few.⁷⁶

Conclusion

In the nearly four decades since the Walker Expedition, important changes had occurred that permitted British planners to draw on a much broader range of hydrographical information in their preparations for an amphibious campaign against Quebec in 1759. While hydrographic historiography posits an outsize role for formal hydrographic surveying and for marine cartography in the campaign, the type of information that existing cartography conveyed was of limited utility for the purpose of bringing military force to bear along riverine routes deep in the continental interior. While the international, and in particular the British, marketplace for maps had grown tremendously since the first decade of the eighteenth century, making chart knowledge of the St. Lawrence widely available, this knowledge was on too large a scale and was too dated to be of much use to the expedition's planners. The information that was required—of, for example, seasonally specific patterns of currents, or shifting riverbeds—was highly localized, and could be provided only by pilots with experience in these local areas or by skilled seamen systematically examining particular reaches of the river. Accordingly, the expedition's planners deliberately sought out embodied pilotage knowledge of the river among French captives and prisoners-of-war, and among British and British-American military personnel who had themselves experienced the St. Lawrence navigation. It developed plans to effect survey during the ascent of the river, and to convey this information to the fleet in real time to ensure as safe a passage as

⁷⁶ Knox, *Historical Journal*, I: 369.

possible. And, as Chapter Five demonstrates, it integrated these efforts to master the navigation with military tactics of irregular warfare, allowing survey to be driven, in the face of armed opposition, deep into the continental interior.

Chapter Five
Invading Canada River: Amphibious Siege and
Petite Guerre Navale, Summer-Autumn 1759

The dramatic battle of 13 September 1759, the capture of Quebec, and the deaths of opposing commanders Montcalm and Wolfe has until recently eclipsed analysis of other important aspects of the Seven Years' War in northeastern North America. The early morning scramble up near-vertical slopes at Anse-au-Foulon, the incongruous spectacle of regular European armies facing off in battle array in a rugged American landscape, the intensity and seeming decisiveness of the subsequent battle, all overshadow the events in the preceding and following months and years. The symbolic weight subsequently accorded to the Plains of Abraham ensures that it remains contested ground more than two and a half centuries later, a landscape recalling an historic victory for some, and a colonized past for others.¹ The meanings subsequently ascribed to the events of 13 September 1759 tend to obscure the fact that it was one battle in a broader military campaign, and that it partook of the nature of that campaign. The skills that allowed British forces to effect a large-scale covert landing in silence at night, secure a forested beachhead, quickly move large numbers of light infantry and regular troops

¹ Study of the many meanings of the battle of 13 September 1759 was greatly encouraged by the conference "1759 Revisited: The Conquest of Canada in Historical Perspective," held at the University of London in September, 2009. Selected papers from the conference are published two volumes, including Phillip Buckner and John G. Reid eds., *Remembering 1759: The Conquest of Canada in Historical Memory* (Toronto: University of Toronto Press, 2012). Contributions of particular relevance to this study include Joan Coutu and John McAleer, "'The Immortal Wolfe'?: Monuments, Memory, and the Battle of Quebec;" Alan Gordon, "'Where Famous Heroes Fell': Tourism, History, and Liberalism in Old Quebec;" J.I. Little, "In Search of the Plains of Abraham: British, American, and Canadian Views of a Symbolic Landscape, 1793-1913;" Michel Ducharme, "Interpreting the Past, Shaping the Present, and Envisioning the Future: Remembering the Conquest in Nineteenth-Century Quebec;" Jocelyn Létourneau, "What is to be Done with 1759?." For popular response to commemoration of the battle, see Ian Brown, "In Wolfe's Clothing," *Globe and Mail* 1 August 2009, <http://www.theglobeandmail.com/news/national/in-wolfes-clothing/article1238404/> (accessed 19 August 2012).

against a target, land artillery with naval support, and establish lines of supply, had been practiced and honed in northeastern North America in the preceding decade: at Chignecto, in Mi'kmaq coastal communities, in Acadian communities in Nova Scotia and the gulf, Louisbourg, and the St. John River.

The events of 13 September accordingly cannot be fully understood outside a broader consideration of the development of British amphibious capacity during the Seven Years' War in North America. The British military victory on the Plains of Abraham was, as recent analyses demonstrate, a fortuitous one, made possible by a convergence of contingent events and conditions that could not have been predicted in advance.² The state of the tide and astronomical conditions, along with the unpreparedness of Quebec's defenders, favoured a successful landing without which the battle would never have been fought, let alone won. The ability to exploit this convergence, however, was a result both of British armed forces' sustained experience of amphibious operations, and of the adaptation of these operations to specifically North American geographic and hydrographic conditions. These adaptations were a result of the cooperation of British, British American, and Aboriginal land and sea forces from the 1740s onward, a process that resulted both in British and British American adoption of techniques of *petite guerre* (as discussed in Chapter Three) and, increasingly, the grafting of these techniques onto naval operations. Making irregular warfare mobile in response to the challenges of asserting imperial power in littoral landscapes in this way was an

² Donald E. Graves, "The Anse-au-foulon, 1759: Some New Theories and Some New Evidence," *Northern Mariner* 14: 4 (2004), 61-72. See also Donald W. Olson, William D. Liddle, Russell L. Doescher, Leah M. Behrends, Tammy D. Silakowski, and François-Jacques Saucier, "Perfect Tide, Ideal Moon: An Unappreciated Aspect of Wolfe's Generalship at Quebec, 1759," *William and Mary Quarterly* third series 59: 4 (2002), 957-974; Anderson, *Crucible of War*, 353-354; Stacey, *Quebec 1759*, 120-137.

essential element of Britain's ability to operate effectively in North America during the Seven Years' War.

This chapter argues that the campaigns of 1759 and 1760 in Canada, culminating in the capture of Quebec and the conquest of New France, were tactically continuous with the gulf and Fundy campaigns of 1758, and with a range of irregular amphibious actions in northeastern North America reaching back to the 1755 Siege of Fort Beausejour and, indeed, to the cooperation of British and British American forces during the 1745 siege of Louisbourg. The close integration of regular and irregular military forces and reliance on scorched-earth operations that allowed British forces to operate effectively in hostile forested environments between 1755 and 1758 were likewise widely deployed during the Quebec campaign and in operations on the Great Lakes and the Lake Champlain/Richelieu River corridor. In particular, the Royal Navy's sustained use of *petite guerre navale* practices during the passage to Quebec and throughout the subsequent campaign allowed British forces to extend—gradually and with difficulty—the effective range of their operations, from the river itself to fortified enclaves onshore, and finally to the entirety of New France. Far from being the most European of Britain's contemporary campaigns in North America, the Quebec campaign and its aftermath was persistently irregular in character. Every offensive action without exception depended on naval support; without the contribution of naval personnel possessing skills and knowledge appropriate to North American littoral societies, the victory of September 13—and the final conquest of Canada in the following year—would not have been possible.

French Defense of Quebec

In order to understand how and why irregular amphibious tactics played a prominent role in the Quebec campaign, it is first necessary to examine the campaign's geographic context and the ways in which Canada's defenders sought to exploit the landscapes in which the campaign was fought to their greatest advantage. The Quebec campaign was one of three assault vectors directed towards New France in summer and autumn of 1759. The defeat of French, *Canadien* and Aboriginal forces at Fort Niagara in July cut off communications with the continental interior, while Jeffery Amherst's advance along the Lake Champlain/Richelieu River route to Montreal methodically restricted French capacity to operate in that region.³ In response to these British advances, French defenders constricted their effective borders above Montreal and below Quebec. The task for invading British forces in 1759 and 1760 was thus to overcome the fortified positions guarding the northern and southern entrances to the Laurentian heartland. To do so, they had to master the riverine routes through densely forested terrain that were the sole practical means of approach to these places, and so over which the unprecedentedly large British military forces committed to North America in these years had to pass. In each case these approaches were characterized by hydrographic complications—large and powerful rapids above Montreal, for example, and attenuated channels and powerful currents below Quebec—that presented formidable natural barriers to movement. In addition to relying on these natural impediments, however, officials in New France confronted the challenge of deploying the military resources at

³ For a concise overview of the disposition of opposing forces in the interior in the summer and autumn of 1759, see Lenman, *Britain's Colonial Wars*, 150-151; Anderson, *Crucible of War*, 340-343; Steele, *Warpaths*, 216-221.

their disposal in ways that maximized their defensive potential. In doing so, they sought to exploit the natural advantages provided by Laurentian geography as fully as possible.

French forces in the spring of 1759 seem, initially at least, to have been remarkably unprepared to defend Quebec. In part this was a consequence of demands resulting from the need to resist advances on multiple fronts simultaneously, but it is notable that Quebec's defenses did not include, for example, gun batteries and permanent military positions at well-known—and easily commanded—choke-points in the river, as at Baie-Saint-Paul and the Île d'Orléans. This was, perhaps, the result of undue confidence in the river's efficacy as a defense against invasion, an overly sanguine legacy of the failures of the Phips and Walker Expeditions of 1690 and 1711, as memorialized in the Notre Dame des Victoires church on the Lower Town's Place Royale.⁴ Beyond mere negligence, however, it reflects the tactical importance placed on shrinking New France's borders in response to external threats. By abandoning (except for refugees and partisan fighters) most of the north shore of the St. Lawrence below the Montmorency River and all of the south shore, and in particular by relying on the topography of the region immediately around Quebec, defenders were demonstrating their intention to rely on the naturally strong position of their capital. The chief response to the anticipated arrival of a British fleet in 1759 was accordingly to extend the defenses of the town itself in ways intended to prevent invading forces from landing in areas that allowed overland advance on the town, while monitoring British movements and resisting them through a sustained campaign of *petite guerre* attacks on isolated individuals and military units. The grounds for such a defensive posture were sound, relying heavily on the prospect of geographic

⁴ This complacency regarding the river's defensive role was certainly present in Quebec in spring 1759; see, for example, Montcalm to de Molé, 24 August 1759, in Doughty and Parmalee, *Siege of Quebec*, VI:141-142, IV: 167-168; Knox, *Historical Journal*, II: 60.

and climatic attrition: if the landscape of Quebec and environs could be strengthened sufficiently to restrict invaders to the river, the shortness of the campaigning season and the inevitable arrival of winter would eventually force the British to discontinue operations and retreat back to the open Atlantic.⁵

Decisions made by New France's civil and military authorities in the spring of 1759 reflected these calculations. On May 4th, as the British fleet advanced from Halifax and Louisbourg towards Quebec in two separate waves, Governor General Philippe de Rigaud de Vaudreuil dispatched scouts to Islet du Portage in the river's mouth to shadow the ships' progress upriver. These scouts were simultaneously charged with the task of commandeering boats and evacuating the civilian population of settlements along the lower river from Kamouraska to Quebec. The country people resisted these efforts, and Vaudreuil abandoned trying to enforce them. Instead, much of the rural population drove their livestock into the forests backing their parishes and remained there to wait out the campaign, and to strike covertly against the invaders. As the adult male population of Canada was armed, this ensured that British presence anywhere in the St. Lawrence Valley would be met with partisan resistance, a fact that contributed greatly to the intensity of irregular warfare in the region throughout the summer and autumn of 1759.⁶ When Admiral Charles Durell's advance squadron appeared in the lower river in the third week of May, regular troops and militia were recalled to Quebec, further shrinking the colony's effective borders.⁷

⁵ For descriptions of Quebec defensive disposition in the summer of 1759, see Anderson, *Crucible of War*, 348-349; Stacey, *Quebec, 1759*, 27-28. The fullest contemporary account of the organization of Quebec's defenses is the anonymous "Journal du siège de Quebec" in the Northcliffe Collection. An English translation of this document is in *Northcliffe Collection*, 223-266.

⁶ Marquis de Vaudreuil to Capitaine de Lery, 4 May 1759, *Northcliffe Collection*, 182; "Journal de M. de Lery 15 Mai to 22 au 22 Juin, 1759," *Northcliffe Collection*, 195-202.

⁷ "Journal du siège de Quebec," *Northcliffe Collection*, 224.

At the same time, consolidation of the town's defense intensified. Recognizing that a British fleet would soon approach the town with large numbers of troops and siege artillery, preparations were made to conduct irregular naval warfare in the Quebec Basin and its approaches. On 25 May, as Durell's ships proceeded methodically towards the crucial river passage at Coudres, a council of war convened and determined to convert merchant ships at Quebec into fireships (*batiments Dunquerqueois*) to send against the fleet. The same meeting ordered the construction of a floating battery mounting large-calibre cannon, the sinking of two armed vessels in the mouth of the St. Charles River on the town's eastern flank, and the arming of shallow-draft gunboats with small cannons, with which to mount hit-and-run attacks on potential British targets on the river and ashore.⁸ That evening signal fires announcing Durell's presence in the river reached Point Levis; signal guns conveyed the news across the Basin of Quebec to the walled town.⁹ On 2 June, with Durell's force established just 60 miles from Quebec at Coudres, another council of war determined to sink ships in the channel to block the vital passage at the Traverse below the town. Upon inspection, the channel was found to be too wide for this to be effective. Efforts to protect Quebec's seaward approaches came too late, were conducted in an atmosphere of panic, and, as will be seen, proved largely ineffective. Decisions in matters of defense were made with little consultation of those who possessed experiential knowledge of the colony's maritime approaches. Gabriel Pellegrin, an experienced pilot serving as Quebec port captain, knew the river as well as anyone living, but was not seriously consulted in these deliberations. As a result, river

⁸ "Mémoire sur la campagne de 1759," in Doughty and Parmalee, *Siege of Quebec*, IV: 221; "Journal abrégé de la campagne de 1759 en Canada," Doughty and Parmalee, *Siege of Quebec*, V: 284.

⁹ "Rélacion du siege de Quebec," Doughty and Parmalee, *Siege of Quebec*, V: 305.

approaches below Quebec remained almost entirely undefended.¹⁰ In part, this reflected a complacent trust in the difficulty of the navigation as sufficient impediment to British naval operations. It also reflected a perhaps more justifiable trust in the town's natural strength as a fortress and in its ability to command the river in the areas immediately adjacent—the Basin of Quebec—to prevent naval forces from passing further upriver to threaten Quebec's lines of supply and communication.

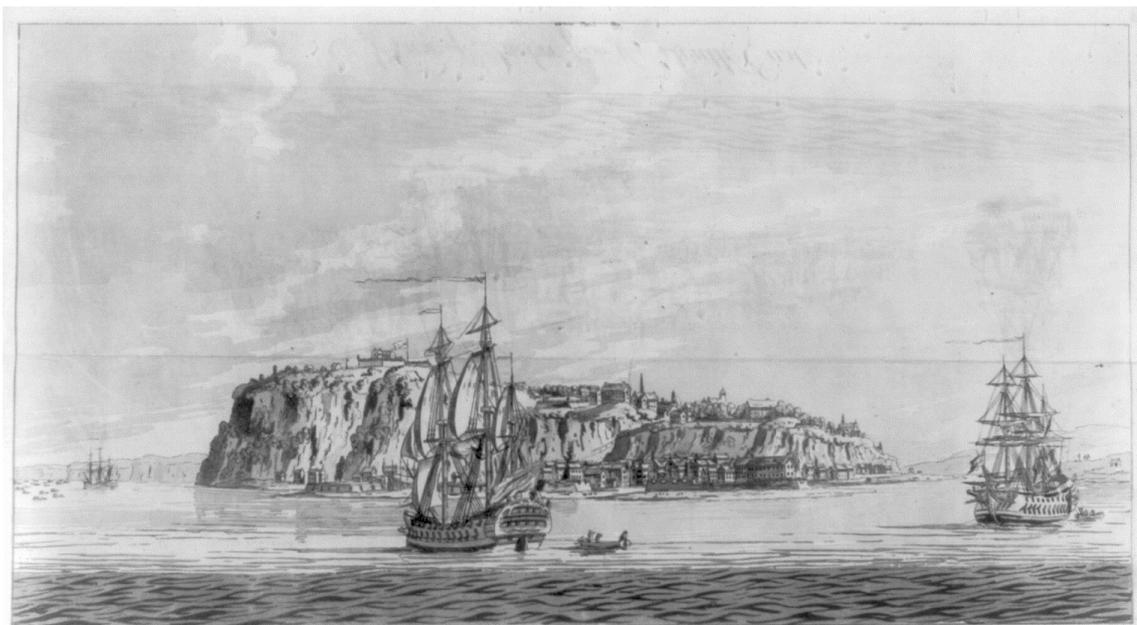
Trusting Quebec's ability to withstand besieging forces and to deny them access to the continental interior was a reasonable calculation on the part of New France's defenders. The experience of Phips' 1690 expedition is telling: having successfully managed the navigation, his forces were unable either to breach the town's defenses or bring its defenders to battle. Frustrated and with winter nearing, the attackers withdrew downriver and were battered by late-season storms.¹¹ The men of Phips' expedition found that Quebec and its environs were a theatre of war in a very special sense: situated on a promontory rising dramatically from the river, protected on the east by the easily defended St. Charles River and on the west by cliffs running sheer along the St. Lawrence, it was exceptionally difficult to attack and offered an excellent platform from which to control upstream marine traffic. From the upper town, 200 feet or more above the level of the river, defenders could look downstream past the Île d'Orléans and the mountains of the north shore, across the broad, protected anchorage of the basin to Point Levis, and upriver into the interior.

By drawing its military forces back to the region immediately surrounding Quebec, New France's defenders staked the colony's defense on two tactical

¹⁰ "Journal de Foligné," in Doughty and Parmalee, *Siege of Quebec*, IV: 167-168.

¹¹ Emerson W. Baker and John G. Reid, *The New England Knight: Sir William Phips, 1651-1695* (Toronto: University of Toronto Press, 1998), ch. 5.

requirements: first, preventing British warships from passing upstream and cutting the town off from its source of supply in the Laurentian heartland; and second, preventing British forces from landing west of the Montmorency River, crossing the St. Charles, and attacking the town on its relatively accessible eastern side. To forestall both of these possibilities, Quebec's defenders turned the Basin and adjacent reaches of the river into a forum for intensive irregular naval warfare, in hopes of restricting British forces' mobility on both water and land. But a large proportion of British and British American army and navy personnel at Quebec, including those at the highest levels, had spent the previous four years or more practicing irregular naval warfare along the coasts and rivers of northeastern North America. This experience and the tactical capacity it supported was an important element in the course of warfare at Quebec in 1759, and in its outcome.



A View of Quebec from the South East.

Fig. 5.1. J.F.W. Des Barres, *A View of Quebec from the South East* [c. 1780], from *The Atlantic Neptune*. National Maritime Museum, Greenwich, HNS 125. Des Barres' training as an engineer and experience as a hydrographic surveyor allowed him to portray the tactical challenge presented by Quebec's geography with exceptional clarity: he conveys the seemingly unassailable terrain of the promontory itself, with the bold shore

stretching for miles upstream protecting the town to the west, and the relatively low terrain along the St. Charles River to the east. As in many eighteenth-century British views of Quebec, the wind is represented blowing from the northeast, directly opposite to prevailing winds in the summer season. Unseasonable persistence of northeast winds—along with British preparations to master the St. Lawrence navigation—allowed the British fleet to ascend the river methodically in the summer of 1759.



Fig. 5.2. Detail of J.F.W. Des Barres, *A Plan of Quebec and Environs, with its Defenses and the Occasional Entrenched Camps of the French Commanded by Marquis de Montcalm; Shewing Likewise the Principal Works and Operations of the British Forces* [c. 1780], under the Command of Major General Wolfe, during the Siege of that Place in 1759, from *The Atlantic Neptune*. National Maritime Museum, Greenwich, HNS 124. This image illustrates the Beauport Shore between the Montmorency and St. Charles Rivers immediately below Quebec. Because of the relatively flat terrain here and its proximity to the town, it was the obvious choice for a British landing. The shore was, accordingly, strongly fortified and protected by the bulk of forces available to New France's defenders. Note also that while relatively flat the intertidal zone in this area extends in shoals stretching far into the river, and is backed by a low bluff for the entire distance.

Plans based on surveys by British army engineers and naval masters during and after the campaign well illustrate the specific geography of the region in which control of Quebec, and so of the Canadian interior, was contested. The Basin of Quebec is formed by the Île d'Orléans on the east, the high shore of Point Levis on the south, and by the escarpment-like southern extension of the Canadian Shield and adjacent low littoral strip that forms the north shore of the St. Lawrence. Between the Montmorency and the St.

Charles Rivers, and westward beyond the promontory of Quebec, the north shore presented a formidable natural defense against landings. French regular, *Canadien*, and Aboriginal forces accordingly occupied this region—the Beauport Shore—on 27 May, establishing camps and a strong system of fortified redoubts anchored by floating batteries and armed hulks at either end. The south side of the Basin offered deep-water anchorage for large numbers of ships, but along the north shore broad shoals cut by a maze of rivulets extended hundreds of metres offshore, paralleling and further securing fortified positions at Beauport. These shoal areas were within range of French batteries on the north shore; batteries in the town itself commanded the narrow river passage leading upstream, and large areas of the northern part of the Basin. Point Levis and the Île d'Orléans both offered sites from which artillery could be brought to bear over extensive reaches of the river; as these were not fortified before the arrival of British forces, they became the targets of intensive irregular skirmishing from late June onward. The theatre in which the key battle for possession of Canada was fought could not be controlled with regular armed forces alone: to gain beachheads around Quebec's constrained and heavily forested peripheries, patrolled by armed partisans and experienced Aboriginal woodlands fighters, British and British American forces necessarily and routinely used irregular forms of warfare, both ashore and afloat.¹²

The British Fleet and Irregular Warfare

As outlined in Chapter Four, the British amphibious force sent up the St. Lawrence in the late spring of 1759 was a large one, comprising 49 warships, 119 transports, and approximately 8,000 soldiers. It was well organized, carrying with it the

¹² Grenier, *First Way of War*, 139-140; Starkey, *European and Native American Warfare*, 102-103.

small craft, charts, and pilots required to meet the challenges of a long and intricate navigation deep into the continental interior. Naval commander Charles Saunders established a system of signals that sought to keep the fleet secure and in motion while meeting these challenges. There was another element of British military preparation in the lead-up to the Quebec Campaign, however, that was likewise essential to successful military operations in northeastern North America: the mobilization of irregular infantry and naval forces capable of undertaking the so-called “skulking” warfare of raiding and ambush appropriate to densely forested landscapes, and to the watercourses that traversed them. It is significant that the rough outline of the plan for ascending the river in 1759 was formulated by Charles Lawrence, an officer and administrator with extensive experience along the contested frontiers of Mi’kmaqi/Acadia/Nova Scotia.¹³ Lawrence arrived in Nova Scotia in 1749 and in the following decade was deeply involved in near-constant skirmishing that conditioned British military personnel and tactics to the geographic and demographic realities of northeastern North America. In 1750 he commanded an amphibious force that attacked Mi’kmaq and French forces along the tidal rivers and creeks of the Chignecto Isthmus. In 1753 he oversaw the transport of new settlers to Lunenburg, Nova Scotia, and advised on the erection of defenses there. Working closely with Massachusetts’ governor William Shirley, he helped develop plans to enforce loyalty among Acadians living in Nova Scotia. He was a central figure in the methodical and successful amphibious siege of Fort Beausejour of 1755, and in the consequent expulsions of Acadian populations, operations that were themselves amphibious in nature. Indeed, many if not most of the central figures that carried *petite*

¹³ Charles Lawrence to William Pitt, 5 September 1758, in Kimball ed., *Correspondence of William Pitt*, 335-336.

guerre and *petite guerre navale* to Quebec were deeply involved in the Acadian expulsion.¹⁴

Many of the officers and men working with Lawrence in 1750s Nova Scotia were also at the forefront of the 1759 Quebec campaign. Of Wolfe's three brigadier generals at Quebec, two—Robert Monckton and James Murray—were veterans of northeastern campaigns of riverine warfare, destruction, and expulsion. Monckton commanded the regular and British American forces sent against French forts at Chignecto in 1755, and in the aftermath oversaw the process of marshaling and deporting the region's Acadian civilian population and destroying their property. As discussed in Chapter Three, Monckton commanded the 1758 expedition in the St. John River Valley, dispatching ranger units that systematically destroyed settled areas with the intention of making them uninhabitable as winter approached. It should be unsurprising, then, that Wolfe chose him to command several landings and targeted attacks at Quebec, including the 13 September landing at Anse-au-Foulon. Murray served in the 1757 amphibious operation at Rochefort on the French coast, and fought at Louisbourg before commanding forces sent against Acadian and Aboriginal partisans on the Miramichi River during the 1758 gulf campaign. Wolfe too was at Rochefort and Louisbourg, and commanded forces in the Bay of Chaleurs and at Gaspé in the gulf campaign, where he efficiently collected and deported the fishers and families who lived there, confiscating and destroying their property. Many officers of lower-rank, including engineers Samuel Holland, J.F.W. Des Barres, and John Montresor followed similar career trajectories in the years prior to 1759, as had large

¹⁴ John Mack Faragher, *A Great and Noble Scheme: The Tragic Story of the Expulsion of the French Acadians from their American Homeland* (New York: Norton, 2005); N.E.S. Griffiths, *From Migrant to Acadian: A North American Border People* (Montreal and Kingston: McGill Queen's University Press, 2005); Geoffrey Plank, *An Unsettled Conquest: The British Campaign against the Peoples of Acadia* (Philadelphia: University of Pennsylvania Press, 2001).

numbers of the soldiers present at Quebec. The personnel who implemented total war in Mi'kmaq/Acadia/Nova Scotia carried this experience and these techniques to Canada in 1759 and 1760, where they likewise formed an integral part of British military operations.

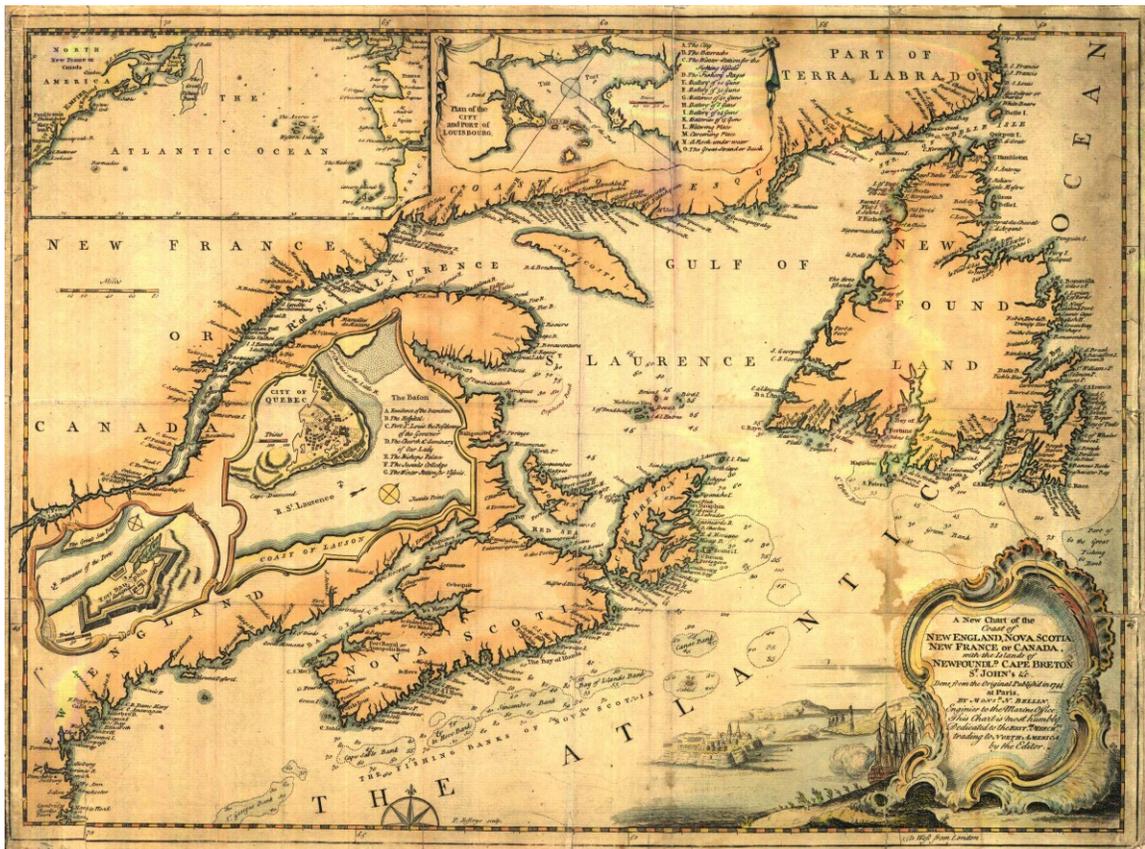


Fig. 5.3. Thomas Jefferys, *A New Chart of the Coast of New England, Nova Scotia, New France or Canada, with the Islands of Newfoundld., Cape Breton, St. John's &c.* [1746], from *The Gentleman's Magazine*. Memorial University, Centre for Newfoundland Studies, G 3400 1746 J4 MAP. Jefferys' 1746 map (adapted from a 1744 original by Jacques Nicolas Bellin) offers an epitome of the mid-eighteenth century British imperial conception of the northeastern North American region—stretching from Boston to St. John's to the Strait of Belle Isle—and of its relation to the broader North Atlantic world. As the insets illustrating French fortifications at Quebec and on Cape Breton Island suggest, it was a conception that resulted from a largely militarized understanding of American geography. The cartouche illustrating the 1745 siege of Louisbourg suggests that this understanding was informed by an emerging appreciation for littoral and glaciated conditions in northeastern North America, conditions that also favoured the development of *petite guerre* and *petite guerre navale*.

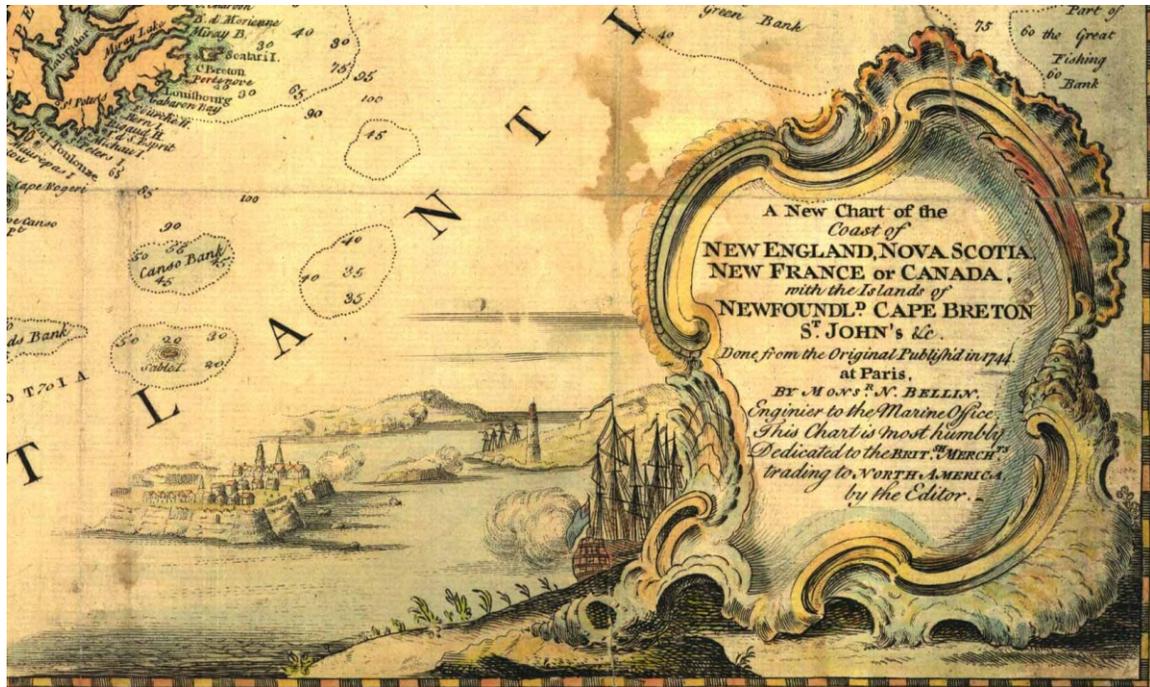


Fig. 5.4. Detail of Thomas Jefferys, *A New Chart of the Coast of New England...* [1746].

Nova Scotia in the 1750s was also where British regular forces first gained significant experience working with irregular land and sea forces in a North American context. In part this built on earlier instances of British and British American military cooperation, particularly the 1745 siege of Louisbourg during which Royal Navy units worked closely with colonial sea militias, rangers, and volunteer infantry.¹⁵ John Rous is a key individual in this regard. Rous was a successful New England-based privateer in the War of Austrian Succession who headed Massachusetts colonial marine forces at Louisbourg in 1745, and thereafter served in both colonial sea militias and the Royal Navy. In 1746 Rous was sent re-impose order in restive Acadian communities in the Bay of Fundy. He provided naval support for Lawrence's partisan warfare in the Chignecto region in 1749 and 1750. He commanded the naval component of the 1755 expedition against Fort Beausejour, and then as member of the Nova Scotia governing council

¹⁵ George Rawlyk, *Yankees at Louisbourg* (Orono, ME: University of Maine Press, 1967); J.S. McLennan, *Louisbourg from its Foundations to its Fall 1713-1758* (London: Macmillan, 1918).

participated in the decision to expel the Acadians. In 1757 he undertook close reconnaissance of Louisbourg in preparation for siege operations. In 1759 Rous was assigned to Admiral Phillip Durell's advance squadron sent to secure key points in the St. Lawrence navigation, and was given important roles in subsequent operations in the Quebec region. Rous's fellow sea-militia officer Silvanus Cobb followed a similar career trajectory, serving at Louisbourg in 1745 before being assigned targeted anti-partisan scorched-earth tasks (such as those carried out on the Petitcodiac River after the fall of Beausejour) in the Bay of Fundy in the 1750s.¹⁶

Northeastern North America was likewise a crucible for the interaction of British regular military personnel and colonial ranger units, a combination that was deployed extensively in Canada in 1759 and 1760. All of the ranger units present at Quebec had earlier experience of joint operations with British regulars, most of them in the Nova Scotia/Gulf of St. Lawrence region. Joseph Gorham, member of a well-known family of Massachusetts' irregular military officers, skirmished with Acadian and Aboriginal partisans at Annapolis Royal in 1744 and provided military support for the expansion of British settlements in Nova Scotia in the 1750s. In 1759 he led ranger units that helped execute the devastation of the countryside in the St. Lawrence Valley.¹⁷ George Scott, a British regular officer who specialized in leading colonial rangers, played an important part in the reduction of Beausejour in 1755 before destroying adjacent Acadian communities in support of the expulsion; as noted in Chapter Three, he was dispatched by Monckton in 1758 to repeat this work on the Petitcodiac. At Quebec, Scott was the

¹⁶ W.A.B. Douglas, "Rous, John," in *Dictionary of Canadian Biography*, http://www.biographi.ca/009004-119.01-e.php?id_nbr=1637 (accessed 19 August 2012).

¹⁷ David A. Charters and Stuart R.J. Sutherland, "Gorham, Joseph," in *Dictionary of Canadian Biography*, http://www.biographi.ca/009004-119.01-e.php?&id_nbr=1918 (accessed 19 August 2012).

officer most responsible for the implementation of Wolfe's policy of rendering the Canadian countryside uninhabitable.¹⁸ Other ranger units under colonial officers including Benoni Danks, Moses Hazen, and Robert Rogers had similar experiences of combined operations with regular army and navy personnel and with privateers and sea militias in the northeastern region; the fruit of this cooperation would be very evident in the campaign against Quebec.¹⁹

Between 1749 and 1759 British and British American forces, particularly those operating in the disputed region of Mi'kmaqi/Acadia/Nova Scotia, undertook a pattern of descents against French, Acadian, and Aboriginal communities, gaining extensive experience destroying the physical infrastructure of these communities and coercing their populations with martial force. This pattern was evident in the partisan skirmishing of the late 1740s and early 1750s, the operations against Chignecto in 1755 and the consequent Acadian expulsion, and in the gulf and Fundy campaigns of autumn 1758, the main goal of which was to assert effective sovereignty on the ground in these regions through partisan warfare, destruction of the physical necessities of life, and forced deportation. British forces sent against Quebec deliberately integrated the capacity to execute scorched earth and expulsion operations into their planning, and deployed this capacity almost from the day they entered the St. Lawrence in the late spring of 1759. There was nothing anomalous about British forces' destruction of Quebec and the Canadian countryside: it was a vital element of Britain's ability to impose effective sovereignty in

¹⁸ C.P. Stacey, "Scott, George," in *Dictionary of Canadian Biography*, http://www.biographi.ca/009004-119.01-e.php?id_nbr=1653 (accessed 19 August 2012).

¹⁹ For a discussion of irregular war as practiced in Nova Scotia between 1744 and 1759, see Grenier, *First Way of War*, 66-86. See also Plank, *Unsettled Conquest*.

the politically unsettled and geographically intractable regions of northeastern North America.

The British Passage to Quebec, 1759

Against the natural perils of the St. Lawrence navigation and the efforts of Quebec's defenders to maximize the defensive advantages of the Laurentian landscape, then, Britain's Quebec Expedition of 1759 deployed an unprecedented organization of formal survey and pilotage knowledge, large numbers of regular army and naval personnel capable of concentrating martial force against enemy positions, and irregular units able to direct this force in the forest and riverine landscapes of northeastern North America. British operations in Canada in 1759 and 1760 were as bound to the river and the sea and as barred from the land as were Monckton's forces on the St. John River in the preceding year. Beyond the river itself and fortified enclaves at Île-aux-Coudres, Île d'Orléans, Montmorency, and Point Levis, the effective range of British military capacity quickly dissipated. In some ways the situation at Quebec was worse than that in the Bay of Fundy or Gulf of St. Lawrence. In the St. Lawrence Valley, settlement occupied a narrow corridor between the Canadian Shield, the Appalachian Highlands, and the river. The corridor was (by eighteenth-century North American standards) densely inhabited by a hostile population.²⁰ And whereas in the gulf and Fundy British forces were disproportionately large for the tasks assigned to them, the Quebec Expedition carried

²⁰ For the military status of the *Canadien* population, see Louise Dechêne, *Le peuple, l'état et la guerre au Canada sous le régime français* (Montreal: Boréal, 2008); René Chartrand, *The French Soldier in Colonial America* (Alexandria Bay, NY and Bloomfield, ON: Museum Restoration Service, 1984); "Gilles Proulx, Soldat à Québec, 1748-1759," *Revue d'histoire de l'Amérique française* 32: 4 (1979), 535-563; Lee Kennett, *The French Armies and the Seven Years War* (Durham, NC: Duke University Press, 1967).

with it only 8,000 soldiers, far fewer than the 15,000 or so entrenched fighters arrayed along the north shore of the river and concealed in the woods elsewhere.²¹

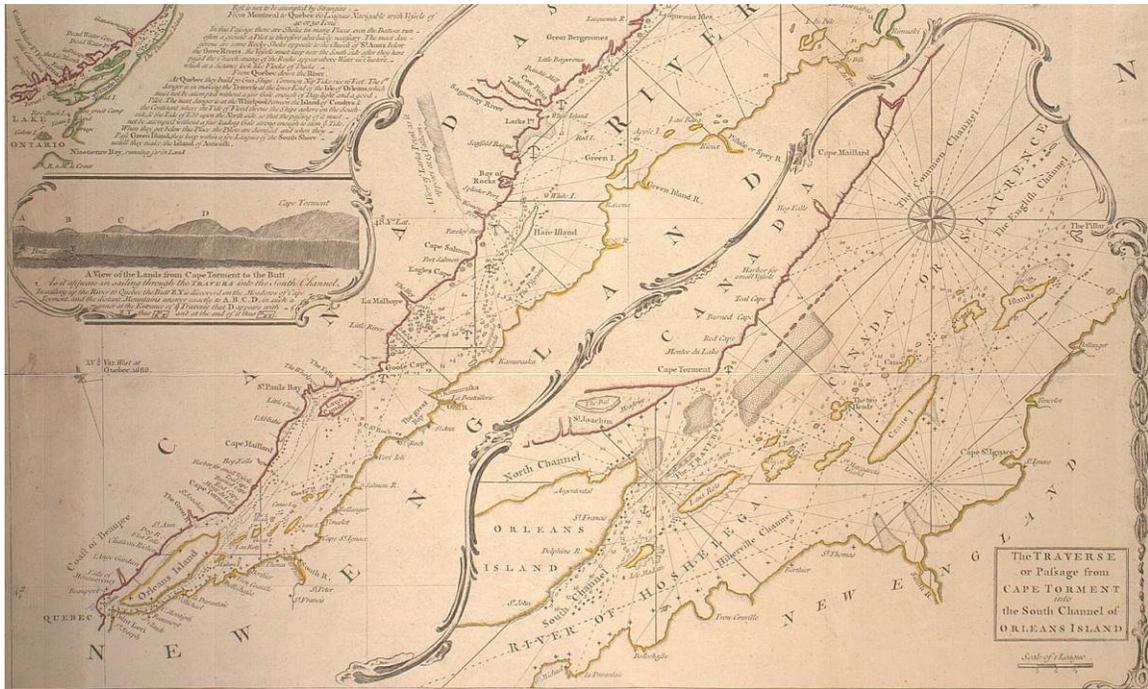


Fig. 5.5. Detail of Thomas Jefferys, *An Exact Chart of the River St. Lawrence* [1757]. Showing the “greatest nicety of the navigation,” in Charles Lawrence’s estimation. The chief perils were concentrated in three locations: in the vicinity of Green Island and Hare Island off the mouth of the Saguenay River; in the channel between Coudres Island and the north shore; and the Traverse between the north and south shores at the east end of Orleans Island.

The navigation of the St. Lawrence and its Atlantic approaches, from Britain, New England, and the West Indies to the staging ports of Halifax and Louisbourg and on to Quebec, was the first challenge to the effective exercise of British armed force in 1759. While British forces had extensive experience in the northwestern Atlantic, navigating the river was a novel experience for all involved—captured pilots, former captives, and prisoners of war excepted. In 1711, Walker discontinued the St. Lawrence navigation before the fleet entered the river, abandoning the expedition 30 kilometres north of

²¹ For a discussion of the size and disposition of French and Aboriginal forces defending Quebec in the summer of 1759, see C.P. Stacey, *Quebec, 1759: The Siege and the Battle* (Toronto: Macmillan, 1959), 43-44. See also “Journal du siège de Québec,” 225-226.

Pointe-des-Monts. Between Pointe-des-Monts on the north shore and Cap Chat on the south shore the river proper begins, narrowing markedly. It narrows again at Bic, at Green Island, at Coudres, at the Traverse, and at Quebec itself. From Bic to Coudres the narrowing river is scoured by ebb tides—measured at nine knots in places—that increase in velocity as one proceeds upstream. Bic is a well-sheltered deep-water road but strong ebbs from the river's outflow begin to be felt here, regularly causing vessels to drag their anchors. The reach between Green Island and Hare Island was the most hazardous in the river in the era of sailing ships. Here the flood of the Saguenay River mixes with the seaward flow of the St. Lawrence, generating currents as strong as eight knots on the ebb. Currents this strong could not be stemmed under sail, and in places they drove vessels onto long lines of reef in areas with little good ground for anchoring. It was necessary whenever possible to anchor and wait out the ebbs in most places between Bic and Quebec, but here failure to do so promptly could have rapid and catastrophic consequences.

Above Hare Island, the passage between Île-aux-Coudres and the north shore narrows to little more than a mile. In the navigable channel, constricted currents gyre and draw into the settled valley of Baie-Saint-Paul where soldiers and Aboriginal fighters waited covertly to attack interlopers. There is a large, sheltered anchorage here, and in 1759 much of the island was both cultivated and inhabited. For these reasons and because it was the narrowest chokepoint on the river below Quebec, situated roughly half way between the large anchorage of Bic and the Basin of Quebec, Île-aux-Coudres played a vital role in the management of British naval traffic during the Quebec campaign. Its importance and proximity to partisan fighters on the north shore also ensured that it

would be the site of intense irregular skirmishing. From Coudres the navigation follows deep water close in to the north shore until it reaches the conspicuous promontory of Cap Tourmente, at which it divides into the multiple, shifting channels of the Traverse, crossing the river to skirt the south side of Île d'Orléans. The ever-changing riverbed, contrary currents and prevailing winds, and long line of downstream reefs and islands running from Île Madame to Île-aux-Grues made the Traverse the most feared passage in the river; one that was, however—as events would demonstrate—amenable to concentrated survey. In the channel south of Île d'Orléans off the west end of Île Madame there is a large anchorage where much of the British fleet would remain throughout the 1759 campaigning season. From here, the channel runs without further complication into Quebec's broad basin, before narrowing again off the town and under the eminence of Cape Diamond. Above Quebec the north shore continues to rise boldly for 20 miles to Pointe-aux-Trembles, where a small depression breaches the bluff, and beyond to Portneuf, 40 miles from the town. Between Quebec and Montreal the channel narrows and spreads in places into broad shallows, but it was passable with careful pilotage by all but very large ocean-going sailing ships. These were the navigational difficulties—the material constraints—that, along with the defensive measures belatedly implemented by Quebec's defenders, challenged Britain's ability to extend maritime empire into the continental interior. Overcoming them required not just navigational knowledge, but the capacity to project force along riverine channels in a forested boreal landscape.²²

²² Proulx, *Between France and New France*, 47-51. For a comprehensive account of the St. Lawrence navigation under sail, see directions H.W. Bayfield, *Sailing Directions for the Gulf and River Saint Lawrence* (London: Admiralty Hydrographic Department, 1837).

One other important factor—the seasons of the northern North American climate—shaped British planning for the Quebec Campaign. An important element of British naval success at Quebec in 1759 was that forces were able to get into the St. Lawrence remarkably early in the navigation season. Failure to do so had been a perennial complaint of colonial governors during wartime. Frequently vessels would depart Britain for North America so late in the summer that, after making Atlantic passages of two months or more, there was very little time for campaigning before the short northern navigation season ended.²³ In 1759, officials with experience in North America sought to ensure that these realities informed British planning. In consequence, Royal Navy ships both overwintered in Halifax in 1758/1759, and left British waters remarkably early in spring 1759, arriving before navigation in the gulf had opened for the year. Phillip Durell commanded the advance force of eleven warships that had remained in Halifax in 1758. This was a substantial force mounting over five hundred cannon, with thousands of seamen and hundreds of regular army and irregular forces.²⁴ From late March onward schooners full of volunteer seamen arrived from Boston, adding their experiential knowledge of seafaring in the northwestern Atlantic to the expedition.²⁵ By

²³ See, for example, LAC, ADM 1/482, Alexander Colvill to Phillips Stephens, 14 October 1763; Gerald S. Graham, “The Naval Defence of British North America, 1739-1763,” *Transactions of the Royal Historical Society* fourth series 30 (1948), 95-110.

²⁴ The ships that formed Durell’s advance guard departing for Quebec in early May 1759, and the cannon they mounted, were as follows: *Princess Amelia* (14), *Devonshire* (74), *Vanguard* (70), *Captain* (64), *Prince of Orange* (60), *Pembroke* (60), *Centurion* (60), *Sutherland* (50), *Richmond* (32), *Squirrel* (20), *Porcupine* (16), *Boscawen* (16). Three transports also accompanied the squadron, carrying artillery and other stores; see LAC, ADM 50, Commodore and Rear Admiral Durell (1758-1759), 5 May 1759. This was in itself a large squadron of very powerful ships for American waters; on the eve of Durell’s departure it was deemed necessary to augment it further with shallow draft vessels capable of operating more widely in riverine waters; see Charles Saunders to William Pitt, 6 June 1759, in Kimball ed., *Correspondence of William Pitt*, II: 115-116.

²⁵ British American seamen were responding to proclamations seeking recruits issued in the various eastern seaboard communities; among the respondents was Ashley Bowen of Marblehead, Massachusetts, who in turn recruited fellow British Americans before serving in *Pembroke* of Durell’s squadron and assisting with the sounding of the St. Lawrence navigation. It is not surprising that many of these men were assigned to

mid-April more warships and transports arrived from Britain itself, bringing Durell the first confirmation that Charles Saunders was en route with even more formidable forces, and that the Quebec Expedition would proceed as anticipated.²⁶ This was a remarkably early arrival for northerly transatlantic passages, and a clear indication of the thoughtful organization of military operations directed at North America in the year 1759.²⁷

Durell's ships were ready to leave Halifax and secure the southern entrances to gulf—the Cabot Strait and the Gut of Canso—by the first week of April. British plans to begin the campaign as early in the season as possible had in fact been executed so successfully that the squadron was ready to proceed into the St. Lawrence well before ice conditions in the approaches to the gulf allowed. As early as 7 April small craft dispatched on scouts reported thick ice still reaching far out into the Atlantic. Similar reports multiplied throughout the month, as transports from Boston put into Halifax after failing to rendezvous at Louisbourg, which remained inaccessible until early May.²⁸ On 27 April two ships, including HMS *Sutherland* under John Rous, were posted in the approaches to Canso to interdict enemy shipping trying to get into the gulf. On 5 May the main body of Durell's squadron left Halifax and began skirting the ice pack as it slowly dispersed and receded in the gulf and its Atlantic approaches. The squadron's immediate goal was to establish itself at Bic, where the navigation becomes riverine one hundred and fifty miles below Quebec, and to blockade the river in order to prevent troops and

the first vessels going up the river, as their experience working in North American waters contributed significantly to the success of the expedition's sound-as-you-go campaign. See Ashley Bowen, *The Autobiography of Ashley Bowen (1728-1813)* Edited by Daniel Vickers (Peterborough, ON: Broadview, 2002), 66-67; Daniel Vickers, "An Honest Tar: Ashley Bowen of Marblehead," *New England Quarterly* 69: 4 (1996), 531-553.

²⁶ LAC, ADM 50, Commodore and Rear Admiral Durell (1758-1759), 13 April 1759.

²⁷ Ian K. Steele, *The English Atlantic, 1675-1740: An Exploration of Communication and Community* (New York: Oxford University Press, 1986), 78-93.

²⁸ LAC, ADM 50, Commodore and Rear Admiral Durell (1758-1759), 4 May 1759 to 25 May 1759.

supplies from reinforcing French forces.²⁹ Delayed by ice, the squadron was unable to achieve this, and a French force of frigates and transports reached Quebec via the Strait of Belle Isle—a little used route in this period, and so left unpatrolled by the British—on 10 May, eleven days before the British advance squadron arrived at Bic.³⁰ Nevertheless Durell's ships, seamen, and soldiers did critically important work in the weeks before the main British fleet under Charles Saunders arrived at Bic on 18 June, as captured pilots and Royal Navy sailing masters surveyed key chokepoints in the river in preparation for the main fleet's passage, and as regular and irregular forces secured defensive positions on land adjacent to these passages.

Durell's advance squadron was well provided with both pilots and land forces, both of which proved essential to securing the St. Lawrence navigation. French pilots initially available were those captured at Gaspé during the gulf campaign of the preceding autumn, who were distributed among the squadron prior to its departure from Halifax in early May.³¹ These were supplemented by additional French and *Canadien* seamen from prizes taken during the voyage up the St. Lawrence: at least three such prizes were taken in the gulf before the squadron reached Bic, and by early July seven such prizes were enumerated.³² These carried dozens of seamen with experience in the river, and Durell sought to entice as many as possible into serving British forces. At least

²⁹ William Pitt to Phillip Durell, 29 December 1758, in Kimball ed., *Correspondence of William Pitt*, I: 444-445; James Wolfe to Jeffery Amherst, 1 May 1759, in Doughty and Parmalee, *Siege of Quebec*, VI: 52-54.

³⁰ James Wolfe unfairly accused Durell of laxity in his preparations for the 1759 campaign, blaming him for the French relief squadron's success in reaching Quebec. Hagiographical historians long accepted this accusation uncritically, casting a shadow over Durell's role in the success of British arms at Quebec. See E. Arma Smillie, "The Achievement of Durell in 1759 (Facts Relating to Admiral Philip Durell and the St. Lawrence Expedition)," *Transactions of the Royal Society of Canada* third series 19 (1925), Section II: 131-51; Peter MacLeod, "Invisible Admiral: Phillip Durell at the Siege of Quebec, 1759," *Northern Mariner* 19:1 (2009), 27-42.

³¹ LAC, ADM 50, Commodore and Rear Admiral Durell (1758-1759), 3 May 1759.

³² LAC, ADM 50, Commodore and Rear Admiral Durell (1758-1759), 14 July 1759.

some of these men did serve in this capacity, contributing to the squadron's effort to sound the river and identify its uncharted perils during the ascent.³³ This sounding campaign—which both identified and recorded navigational hazards, and produced British seamen with embodied knowledge of the river—began in earnest when Durell's squadron entered the “greatest nicety of the navigation” above Bic. At Île-aux-Pommes, the first conspicuous peril in the complex and difficult reach off the mouth of the Saguenay, Durell's sailing masters started systematically recording the strength, timing, and duration of the river's powerful ebb tides. They began sounding around conspicuous hazards, identifying channels and potential anchorages. Pre-determined signals allowed ships sailing ahead to inform vessels behind of the channel they were sailing into, in real time.³⁴ They indicated landward features that could serve as marks to help ships remain in identified, navigable channels.³⁵ In the last week of May and the first weeks of June this sounding campaign was gradually extended upriver as far as the Basin of Quebec, with masters including James Cook overseeing the sounding of the Traverse by British, British American, and captured French and *Canadien* seamen. Having accomplished this, *Devonshire*, *Pembroke*, *Centurion*, and *Squirrel* anchored in the channel off Île Madame, sent out patrol boats to screen against attack, and waited for the main fleet to arrive.³⁶ In the second week of June, Durell sent a number of the seamen newly familiar with the

³³ LAC, ADM 50, Commodore and Rear Admiral Durell (1758-1759), 13 June 1759, 18 June 1759, 6 July 1759.

³⁴ From an order issued by Charles Saunders, 15 May 1759, in Knox, *Historical Journal*, I: 342.

³⁵ LAC, ADM 50, Commodore and Rear Admiral Durell (1758-1759), 24-27 May 1759.

³⁶ LAC, ADM 50, Commodore and Rear Admiral Durell (1758-1759), 8-10 June 1759; *Autobiography of Ashley Bowen*, 69-70; William Wood ed., *The Logs of the Conquest of Canada* (Toronto: Champlain Society, 1909), 264.

pilotage of the St. Lawrence to cruise downstream off Bic, await the arrival of Saunders' fleet, and help bring it safely upriver.³⁷

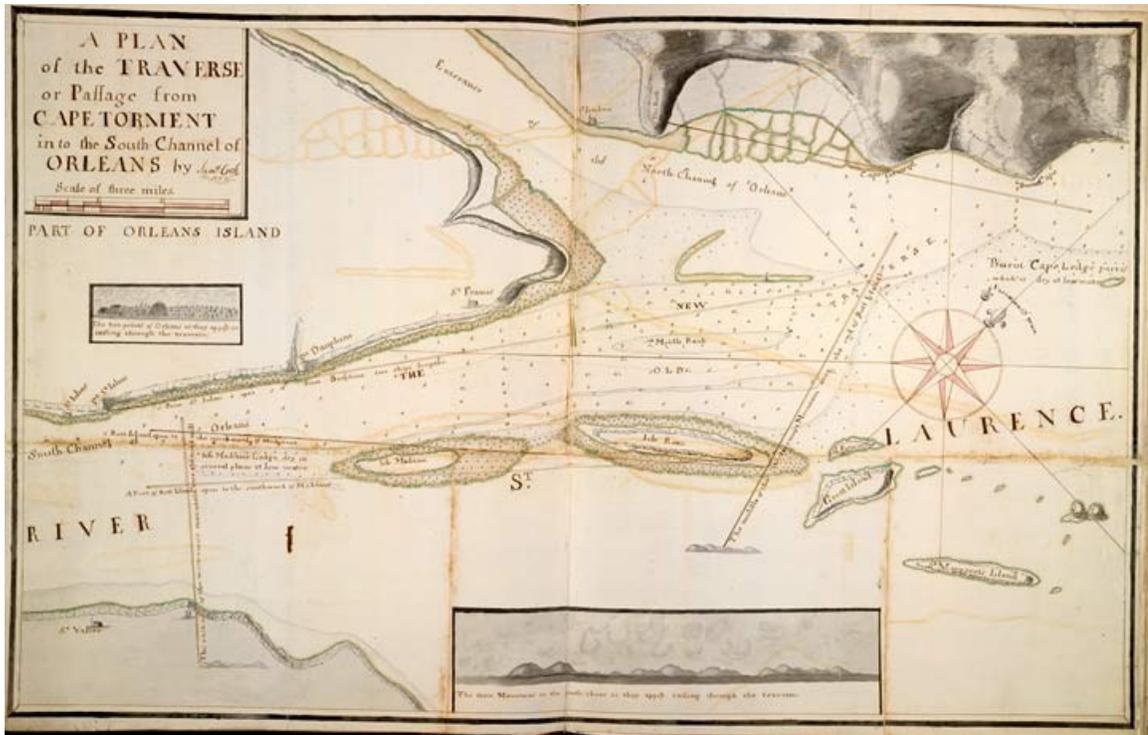


Fig. 5.6. James Cook, *A Plan of the Passage into the South Channel of Orleans* [c. 1759-1760]. British Library Add.Ms.31360 f.14. Like engineers, sailing masters analyzed physical geography to locate themselves spatially with reference to identifiable marks. Soundings and topographical relief describe the same physical phenomena, so pilotage and engineering combined easily and effectively in riverine warfare.

Durell's advance squadron carried a significant number—approximately 650—of ground troops, including light infantry and engineers. Some of his ships made up deficiencies in their crews at Halifax by enrolling soldiers under Charles Lawrence's command as "green" seamen: the squadron was as amphibious a force as it was possible to be. An important role for the army personnel was to establish enclaves at key chokepoints in the river passage and erect fortified positions there, effectively asserting control over landward areas commanding the navigation in preparation for the arrival of

³⁷ LAC, ADM 50, Commodore and Rear Admiral Durell (1758-1759), 7 June 1759, 11 June 1759.

the main body of the fleet under Admiral Saunders.³⁸ From the first days of Durell's presence in the river, irregular forces and sounding parties advanced together, simultaneously establishing local security from attack and mastering the tactical geography and hydrography of the newly occupied areas. The challenge of generating knowledge of the navigation was thus inseparable from the challenge of establishing local military dominance, often in densely forested riverine areas requiring the particular skills of rangers and other irregular forces familiar with North American conditions. The pattern was established with the squadron's arrival at Coudres on 28 May. As soon as the ships moored, troops were sent ashore from the transports to occupy abandoned settlements, destroy local small craft and establish a defensible position; immediately thereafter boats started sounding the channel between Île-aux-Coudres and the north shore.³⁹ Because British forces' ability to assert control on land in the Laurentian Valley was limited throughout the campaign to small enclaves, however, local military superiority achieved by landing parties was never complete and was frequently contested. Within days of the Coudres landing, *Canadien* and Aboriginal forces monitoring the squadron ambushed two midshipmen stationed on the island to signal shipping in the channel, carrying them captive to Quebec.⁴⁰ Throughout the summer and autumn of 1759, whenever British forces entered a new stretch of the river or prepared to land on contested shores, this pattern was repeated. Irregular forces were sent in first, seamen

³⁸ James Moncrief, *A Short Account of the Expedition against Quebec Commanded by Major-General Wolfe in the Year 1759* (Quebec: Nuns of the Franciscan Convent, 1901), 4.

³⁹ LAC, ADM 50, Commodore and Rear Admiral Durell (1758-1759), 28 May 1759. See also Knox, *Historical Journal*, I: 370; Wood, *Logs of the Conquest*, 263. As will be demonstrated, this led at times to serious conflicts. It almost certainly had a detrimental psychological impact on invading forces, as when Captain John Knox witnessed naval forces firing blindly into woods on the north shore on the mere suspicion that hostile forces were ensconced there. Knox, *Historical Journal*, II: 38.

⁴⁰ LAC, ADM 50, Commodore and Rear Admiral Durell (1758-1759), 31 May 1759; Doughty IV, 168; Wood, *Logs of the Conquest*, 275.

followed to sound unfamiliar waters under the protection of these forces, whereupon army and navy forces alike became subject to ambush by partisan fighters. The landing at Coudres also established another pattern that would be repeated during the campaign, as naval personnel began looting and vandalizing homes on the island, setting buildings aflame, and otherwise destroying the property of enemy civilians.⁴¹ While such irregularities were generally condemned if carried out by personnel acting without orders, the destruction of civilian property with the intention of rendering the St. Lawrence Valley uninhabitable became an important official element of British planning for the campaign.

By the second week of June, 1759, an advance squadron of the British amphibious force sent against Quebec had successfully navigated the gulf and river, had established an armed presence at key junctures in the navigation, had sounded and recorded hydrographic conditions in the river's most difficult reaches, and had increased the number of personnel with pilotage knowledge of the St. Lawrence available to the fleet. The basic structure that would allow Britain to assert effective dominion over the river below Quebec throughout the campaign had been put in place. The next challenge for British forces was to deploy the chart and pilot knowledge, organized seamanship, and capacity for irregular warfare accumulated in the preceding years to bring the main fleet and army through the gulf and up the river to Quebec. Logbooks from the warships involved in this navigation, along with journals kept by army officers and other military personnel allow reconstruction of the expeditionary force's passage, illustrating how

⁴¹ See, for example, LAC, ADM 50, Commodore and Rear Admiral Durell (1758-1759), 1 June 1759, 3 July 1759, 20 August 1759.

natural and martial hazards were encountered and overcome en route.⁴² The main body of the fleet left British ports beginning in the third week of February, remarkably early for warships bound for North America. As early as 19 March Durell at Halifax learned of the arrival in New York of the first elements of the main naval force.⁴³ The first ship to arrive in Halifax itself was the snow *Ruby* on 8 April; HMS *Richmond* arrived five days later after an exceptionally fast passage of 27 days, including six days spent delayed by ice off the Nova Scotia coast.⁴⁴ On 30 April, as Durell's squadron first tried to get underway for the gulf, Saunders and most of the remaining ships arrived in Halifax, having failed to make the rendezvous point of Louisbourg due to persistent ice in the approaches.⁴⁵

For the next month warships, transports, and victuallers of the main fleet converged on Louisbourg from Halifax, Boston, the West Indies, and Great Britain, following a receding ice pack rendered more perilous by persistent spring fogs. The young Scottish soldier and engineer James Moncrief observed these hazards, noting that it was "often so foggy that many vessels must have run ashore upon the coast, if the noise of the surf had not apprised them of the danger."⁴⁶ As late as the end of May, there was still snow on the ground and Louisbourg Harbour was so full of ice that ships' boats had

⁴² Relevant sections of the logs kept by captains and sailing masters of the ships involved in the Quebec Campaign are collected in Wood, *Logs of the Conquest*. Of the many accounts of the Quebec campaign examined for this thesis, the fullest are those of Brigadier-General George Townshend, Lieutenant-Colonel Guy Carleton, and Lieutenant John Montresor. The last especially conveys a sense of the tactical geography of the St. Lawrence region as seen through the eyes of a trained military engineer. See George Townshend, "Journal of the Voyage to America and Campaign against Quebec 1759," in Doughty A. in collaboration with G.W. Parmalee, *The Siege of Quebec and the Battle of the Plains of Abraham* (Quebec: Dussault and Proulx, 1901), V: 226-272; J.M. LeMoine ed., *A Journal of the Expedition up the River St. Lawrence* (Quebec: s.n., 1875); John Montresor, "Journal of the Siege of Quebec," in G.D. Scull ed., *The Montresor Journals* (New York: New York Historical Society, 1882), 196-236.

⁴³ LAC, ADM 50, Commodore and Rear Admiral Durell (1758-1759), 19 March 1759.

⁴⁴ LAC, ADM 50, Commodore and Rear Admiral Durell (1758-1759), 8 April 1759, 13 April 1759.

⁴⁵ LAC, ADM 50, Commodore and Rear Admiral Durell (1758-1759), 30 April 1759.

⁴⁶ Moncrief, *Short Account of the Expedition against Quebec*, 6.

difficulty maintaining communication with personnel stationed ashore.⁴⁷ On 4 June Admiral Saunders' flagship *Neptune* led the first elements of the main fleet out of Louisbourg Harbour; it took two full days for the dozens of warships and transports to get out. During this time *Neptune* relied on pre-arranged signals to direct traffic and to form this large number of ships into a coherent body, hoisting flags, firing guns, beating drums, and tinkling bells to direct ships to keep station, to tack, and to effect other evolutions.⁴⁸ Three days later, with the fleet sailing in good order and in clear weather, observers could sight Cape Ray, Newfoundland and Cape North, Cape Breton simultaneously. The fleet had passed into the gulf and tacked into northwest winds towards Gaspé and the river's mouth.⁴⁹ On 9 June, as the sailing masters, seamen, and captive pilots of Durell's squadron began to sound the Traverse in preparation for entering the Basin of Quebec, the main fleet passed Bird Island in mid-gulf; to engineer John Montresor's military gaze it "resembled much the two faces of a regular bastion."⁵⁰ Later that day more rangers, recently deployed in the Bay of Fundy, joined the fleet.⁵¹

Throughout the gulf passage Saunders in *Neptune* signalled orders to keep the fleet in good order, to dispatch small warships to round up stragglers, to send vessels ahead to comb harbours and bays for enemy forces, then send them back to check the same harbours and bays again once the main body of the fleet had passed.⁵² On 11 June

⁴⁷ Malcolm Fraser, *Extract from a Manuscript Journal, Relating to the Operations before Quebec in 1759* (Quebec: Literary and Historical Society of Quebec, 1868), 1.

⁴⁸ Wood, *Logs of the Conquest*, 248-249.

⁴⁹ Wood, *Logs of the Conquest*, 251; Fraser, *Extract from a Manuscript Journal*, 2; Montresor, "Journal of the Siege of Quebec," 197. The engineer Montresor used the sea passage to practice his skill at topographical drawing in preparation for the coming campaign, taking a view of Cape Ray as his ship passed into the gulf.

⁵⁰ LAC, ADM 50, Commodore and Rear Admiral Durell (1758-1759), 9 June 1759; Wood, *Logs of the Conquest*, 209, 263; Montresor, "Journal of the Siege of Quebec," 197.

⁵¹ Moncrief, *Short Account of the Expedition against Quebec*, 7.

⁵² Wood, *Logs of the Conquest*, 251-254; Montresor, "Journal of the Siege of Quebec," 198.

off Cape Rosier north of the entrance to Gaspé, where the gulf narrows and turns southwestward towards Pointe-des-Monts, the fleet first encountered strong contrary winds and currents that were among the most formidable hydrographic and meteorological impediments to upstream navigation in the St. Lawrence. These took several ships aback and drove them towards the uninhabited, havenless coast of Anticosti Island, before shifting winds allowed them to press through the Honguedo Strait towards the upper river. Montresor, evidently following the navigation with a copy of Jefferys' 1757 chart, spotted the high mountains of Notre Dame on the south shore before strong winds from the northwest forced the fleet to stand off to the northward, shaping a course parallel to that followed, disastrously, by Walker a half-century earlier.⁵³ Brigadier-General George Townshend attributed this decision to the advice of Augustin Raby, the principal French pilot advising Saunders in *Neptune*, whose particular knowledge was of the passage along the north shore. Denis de Vitré, the French pilot whose expertise focused on the south shore, had been sent ahead to assist Durell's squadron with the sounding of the Traverse. Ominous parallels to the Walker Expedition grew as fog enveloped the fleet off the north shore, confronting Saunders' and the fleet's sailing masters with a perilous and familiar puzzle: once again a British navigators in the St. Lawrence were out of soundings in an unfamiliar navigation, off an unknown and hostile coast, with no visual information with which to orient themselves.⁵⁴

In this instance, however, meteorological conditions proved a material aid to maritime imperial activity, rather than a material constraint. While the fleet carried on in fog off the north shore, southwest winds dropped and came around to the northeast,

⁵³ Montresor, "Journal of the Siege of Quebec," 198; Townshend, "Journal of the Voyage to America," 233.

⁵⁴ Townshend, "Journal of the Voyage to America," 234.

blowing almost directly upriver towards Quebec. During the two weeks that Saunders' fleet carefully sounded its way upriver towards the Traverse winds shifted frequently, but continued to blow from the northeast for long stretches, allowing for a remarkably safe and efficient passage upriver. Unusually favourable winds eliminated one of the key environmental impediments to navigation in the river, but it did not eliminate all such impediments. As the fleet approached Bic and the most hydrographically complex reaches of the river, strong ebb tides carrying the outflow of the St. Lawrence watershed seaward began to be felt. On 16 June Robert Christian, sailing master of HMS *Dublin*, noted 126 ships of the fleet in sight. Passing Cap Chat and into the river proper, he recorded a "vast strong current to the eastward that the ship will not keep to..."⁵⁵ Henceforth, all the way to Quebec, the fleet would be forced to advance on the flood tides and anchor on the ebbs.

The same day Saunders initiated the pre-planned sounding campaign, sending shallow-draft vessels ahead on either tack to identify the channel as far as Bic. Arriving at Bic on the 18th, he ordered the masters of all the fleet's dedicated sounding vessels aboard *Neptune*, and advised them that henceforth the fleet would proceed upstream in three divisions—in accordance with advice Durell gave, based on his experience of the ascent—with the largest ships bringing up the rear, thereby limiting the numbers of ships in a given hazardous reach at any one time.⁵⁶ The decision to divide the fleet into three sections assisted materially with traffic control in the river. As many dozens of ships approached narrow channels off the mouth of the Saguenay, between Coudres and the north shore, and at the Traverse, the sheer volume of shipping ensured that marine

⁵⁵ Wood, *Logs of the Conquest*, 214.

⁵⁶ LAC, ADM 50, Commodore and Rear Admiral Durell (1758-1759), 7 June 1759.

incidents would occur. But this arrangement also hedged against catastrophic events that might threaten the entire fleet either through enemy action—in the form of fire rafts and fire ships, which British naval personnel expected—or, more probably, by weather, most likely in the form of intense, localized meteorological events like the violent thunder-squalls that periodically coursed down the St. Lawrence Valley in the summer season. It was a precaution the necessity of which became immediately apparent, as strong ebbs at Bic caused several of the fleet's ships to drag their anchors and drift towards the south shore, running afoul of one another and losing rigging before boats were sent to bring them to anchor again.⁵⁷

As the main fleet at Bic prepared to enter the river's most difficult sections, Durell's advance squadron experienced an intensification of irregular riverine warfare. Having completed the sounding of the Traverse and anchored off Île Madame, British forces observed a French sloop come around the east point of the Île d'Orléans from the north channel, anchor, and begin landing artillery. British ships launched armed and manned boats and sent them to capture the sloop, to find that they had been drawn into an ambush. As the seamen approached, a much larger number of French boats and Aboriginal fighters in canoes attacked, capturing a cutter and its eight-man crew belonging to HMS *Squirrel*. The French sloop continued landing material, established a battery, and started to shell the anchored warships. A day-long artillery duel ensued, ending only when British ships manoeuvred into position to rake the battery with enfilading fire. French shelling damaged the rigging of several ships, but more importantly it alerted invading forces both to the presence and to the tactics of Quebec's

⁵⁷ Wood, *Logs of the Conquest*, 254-255; Townshend, "Journal of the Voyage to America," 235; LAC, ADM 50, Commodore and Rear Admiral Durell (1758-1759), 7 June 1759.

defenders. One officer present wrote to Durell at Coudres requesting another ship be sent to anchor off Cap Tourmente and command the channel between the Île d'Orléans and the north shore; he counted three hundred small craft drawn up into creeks on either side, and had seen large numbers of soldiers on the island itself.⁵⁸ While Durell's squadron was skirmishing at the Traverse, the main fleet in the lower river had its first *petite guerre* experience of the campaign, as reconnaissance parties ashore at Rimouski were fired on from adjacent woods. It was now clear that the British advance on Quebec would be fiercely contested with forms of irregular warfare that had characterized the war in North America in preceding years.

Historians of the Quebec Campaign have marvelled at the supposed flawlessness of the fleet's ascent of the St. Lawrence, asserting that it was accomplished without significant incident.⁵⁹ In fact, British forces experienced marine casualties at all of the river's most difficult passages, on several occasions narrowly escaping disasters that might have brought the campaign to a sudden end. The hazards of the navigation were apparent as soon as the fleet entered the river, and became increasingly so as the fleet moved up from Bic, starting on 20 June. As they did, Townshend recorded in his journal that "this part of the river is reckoned by some of our best pilots one of the most dangerous, not only from the low rocky islands, from the ridges of rocks that run out from them, but from the dangerous currents which in case of a calm carry you upon the Isle Rouge, its battures, or the northern coast, which is nothing but high rocks without

⁵⁸ LAC, ADM 50, Commodore and Rear Admiral Durell (1758-1759), 21 June; Wood, *Logs of the Conquest*, 209-210, 264.

⁵⁹ Perhaps the most blatant example of this is provided by Julian Corbett, whose study focused intensively on the amphibious nature of the campaign but who nevertheless seems strangely unaware of the physical geography of northeastern North America and of its effects of the campaign. See Julian S. Corbett, *England in the Seven Years' War: A Study in Combined Strategy* (London: Longmans, Green, 1907), 416-417.

any anchorage.”⁶⁰ As the first division entered this difficult passage off the mouth of the Saguenay, the wind shifted to the south as the tide started to ebb, causing much of the fleet to drift uncontrollably downstream. The ground here would not hold anchors, and boats were launched to haul the drifting ships to safety. Many vessels skirted the dangerous reefs off White Island and Île Rouge, barely avoiding shipwreck. One transport did go ashore, whereupon it gave the predetermined distress signal, summoning boats to its aid.⁶¹

At Coudres, hydrographical and irregular military hazards combined to complicate the linking up of Saunders’ fleet and Durell’s advance squadron. For nearly two weeks Saunders had been sending warships and schooner loads of rangers forward to Coudres to prepare for the main fleet’s arrival there.⁶² When the main fleet arrived on 23 June, boats engaged in sounding were fired on by Aboriginal fighters.⁶³ On the 24th several vessels passing the channel between Île-aux-Coudres and the north shore were caught by currents and drawn into Baie-Saint-Paul, where they were subjected to heavy fire from concealed positions onshore. Responding to distress signals, warships launched boats and towed the stricken vessels to safety.⁶⁴ As the tide ebbed on the same day an entire division of the main fleet—dozens of transports and their naval escorts, including much of the expedition’s artillery—dragged their anchors and ran uncontrolled downstream, passing through the following division at anchor before finally getting into calmer water and waiting for the flood to return to Coudres.⁶⁵ In a mere four days large

⁶⁰ Townshend, “Journal of the Voyage to America,” 237.

⁶¹ Knox, *Historical Journal*, I: 365-367; Montresor, “Journal of the Siege of Quebec,” 201-202; Townshend, “Journal of the Voyage to America,” 237.

⁶² LAC, ADM 50, Commodore and Rear Admiral Durell (1758-1759), 8 June 1759, 11 June 1759.

⁶³ Fraser, *Extract from a Manuscript Journal*, 3.

⁶⁴ Wood, *Logs of the Conquest*, 203, 273, 275, 303.

⁶⁵ Knox, *Historical Journal*, I: 370-371; Montresor, “Journal of the Siege of Quebec,” 204.

parts of the British fleet sent against Quebec had twice narrowly escaped catastrophic damage; the good fortune that had eluded both Phips and Walker seemed to favour British endeavour in 1759.

By 25 June, one hydrographic challenge remained between Saunders' fleet and Quebec: navigation of the Traverse, deemed by contemporaries the most challenging passage in the river. Its dark reputation had encouraged New France's leaders to rely on it rather than on active defense of Quebec's downriver approaches. British naval planners largely concurred in this assessment, and devoted considerable time and resources to mastering its navigation prior to the main fleet's arrival. The charts gathered and compiled for the campaign provided more information on the navigation of the Traverse than on any other passage in the river; in addition to soundings and delineations of the channel—necessarily out of date given the nature of the bottom and the strength of the currents—charts gave written directions for its passage, keyed to landmarks ashore represented both in the main chart image and in inset profile views of the leading marks for heading upriver into the Basin. Durell's squadron employed naval sailing masters and seamen, working alongside collaborating French pilots, to thoroughly sound and gain current knowledge of the channel prior to the arrival of the main fleet.

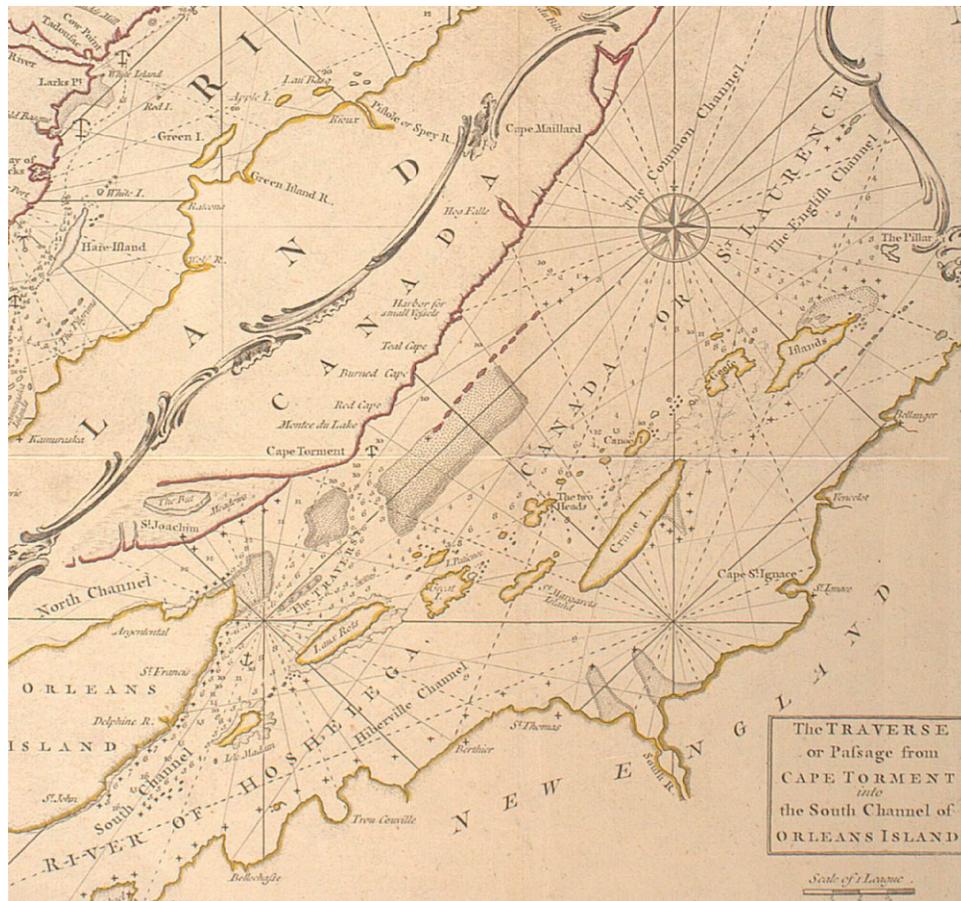


Fig. 5.7. Detail of Thomas Jefferys, *An Exact Chart of the River St. Lawrence* [1757]. The Traverse, where the navigable channel crosses from the north to south shore of the St. Lawrence in the approaches to the Basin of Quebec, was deemed the most difficult passage in the river under sail. Accordingly, it was represented in great detail on all eighteenth-century charts.

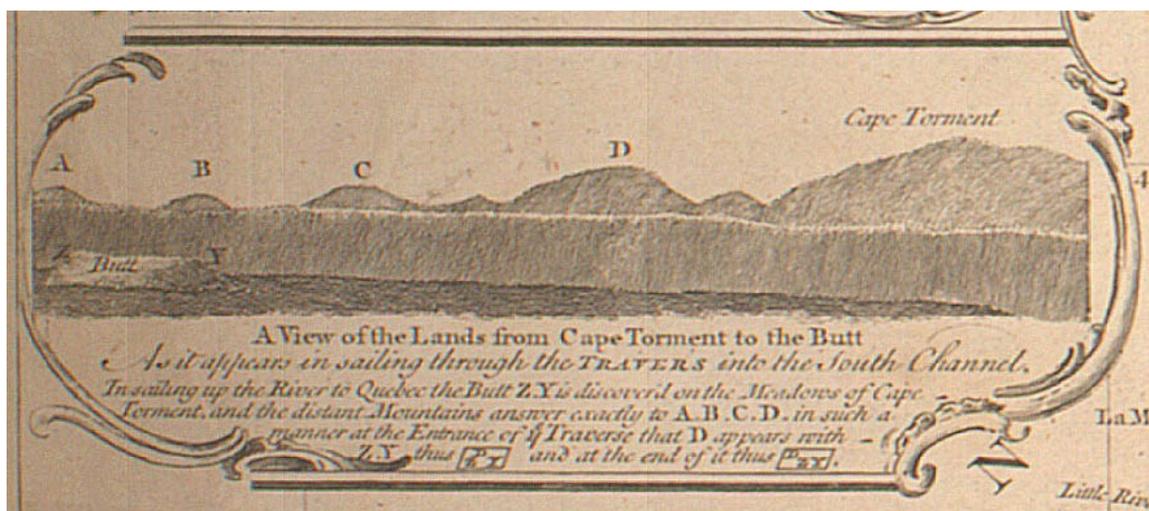


Fig. 5.8. Detail of Thomas Jefferys, *An Exact Chart of the River St. Lawrence* [1757], showing leading marks at the entrance to the Traverse.

On 25 June, as the fleet finally approached this hydrographic gauntlet, Durell marked the main hazards in the channel with boats, in which seamen armed against possible ambush held flags indicating whether safe passage was to port or to starboard.⁶⁶ On the 25th and 26th more than two hundred vessels were shepherded through the Traverse, guided by French pilots, British seamen who had learned its intricacies in the preceding weeks, and sailing masters on warships and transports who had long experience in difficult riverine navigation in their home waters. The transport carrying Captain John Knox was conned through the passage by a Thames pilot named Killick, who provided an impromptu lesson in the empirical pilotage skills upon which the British fleet relied to reach Quebec: “I went forward with this experienced mariner, who pointed out the channel to me as we passed, shewing me, by the ripple and colour of the water, where there was any danger; and distinguishing the places where there were ledges of rocks (to me invisible) from the banks of sand, mud, or gravel.”⁶⁷ On the 26th and 27th, the main fleet made the passage in the face of prevailing southwesterly winds, with the ships to making several tacks in mid-channel.⁶⁸ The quality of British hydrographic organization and seamanship shocked authorities in Quebec, alerting them, belatedly, to the fact that the river and *Canadien* knowledge of its navigation were not sufficient to protect the colony from British amphibious power.⁶⁹

⁶⁶ *Autobiography of Ashley Bowen*, 69; Moncrief, *Short Account of the Expedition against Quebec*, 8-9, Montresor, “Journal of the Siege of Quebec,” 206; Wood, *Logs of the Conquest*, 264

⁶⁷ Knox, *Historical Journal*, I: 373-374. The figure of Killick was made famous by Parkman and other early historians of the Quebec Campaign, who depicted him as an embodiment of the bluff virtues of British maritime society, in contrast to the “gasconading” of his passionate, vain French counterpart. See Francis Parkman, *Montcalm and Wolfe. France and England in North America, Volume II* (New York: Library of America, 1983), 1338-1339. For the theme of British maritime exceptionalism see Cynthia Fansler Behrman, *Victorian Myths of the Sea* (Athens, OH: Ohio University Press, 1977), esp. ch. 5, “The English Seaman.”

⁶⁸ Moncrief, *Short Account of the Expedition against Quebec*, 8-9, Montresor, “Journal of the Siege of Quebec,” 206.

⁶⁹ “Journal du siege de Québec,” 231-232.

By June 27th the main body of the British fleet and its large martial cargo of sailors, soldiers, and rangers, its enormous armament of large-calibre cannons and mortars, and all the material required for a months-long siege had passed the St. Lawrence navigation and was ready to be deployed against Quebec and its surrounding countryside, its defenders and its civilian population. This did not mean, however, that British forces were no longer vulnerable to hydrographic and meteorological perils. On the same day that the fleet came to anchor in the channel south of the Île d'Orléans, British forces narrowly escaped catastrophic damage for the third time during the navigation. On the afternoon of the 27th and again on the 28th violent thunder squalls swept down the river, raising a high, dangerous swell in the constricted waters of the channel and causing most vessels in the fleet to again drag their anchors and run down the river. Warships with large crews were able to quickly send down topmasts, reducing their windage and retaining navigational control. Many ships nevertheless became entangled, and parts of their rigging had to be cut away. Seven transports grounded on the island, along with a large number of boats, including flat-bottomed landing craft essential to anticipated operations in Quebec and its surrounding waters. All but two of the transports were got off but the small craft were not, shattered by the force of the storm or burned by *Canadien* militia and Aboriginal fighters on the island.⁷⁰ This two-day storm was a powerful introduction to the extremes of North American meteorology that would check both sides' marital efforts at various points in the summer's campaign. It also introduced the newly arrived soldiers and seamen to the style of warfare that would characterize the campaign to 13 September and beyond. On the 27th soldiers salvaging

⁷⁰ Knox, *Historical Journal*, I: 379; Moncrief, *Short Account of the Expedition against Quebec*, 10, Montresor, "Journal of the Siege of Quebec," 206-207; Wood, *Logs of the Conquest*, 210, 216, 228, 234-235, 265, 282.

materials damaged in the storm found the body of a dead ranger, scalped and impaled on a stake.⁷¹ It was a gruesome introduction for many to the hard facts of warfare in the forested, riverine landscapes of northeastern North America.

Petite Guerre Navale and the Siege of Quebec

In the two months following the arrival of the British fleet in the Basin of Quebec the entire area from Baie-Saint-Paul in the east to Pointe-aux-Trembles in the west, along both shores of the St. Lawrence, became one large theatre for *petite guerre* and *petite guerre navale*. These were carried out against the backdrop of a near-continual and growing bombardment that rendered much of the town of Quebec a burnt-out ruin, and the systematic destruction of the cultivated countryside's capacity to support life. Soldiers, seamen, and irregular forces joined in a sustained campaign of destruction, the ferocity of which was matched by French, *Canadien*, and Aboriginal forces seeking to terrorize the invaders with ambushes and "skulking" warfare. By the standards of contemporary European laws of war these were illegitimate acts, which were viewed with distaste by some regular military personnel on either side of Quebec's defenses.⁷² Recent analysis has sought to understand how, despite the distaste for irregular warfare expressed by officers including James Wolfe himself, the Quebec campaign declined from formal European-style operations governed by internationally recognized laws of war, to a bitter partisan campaign that destroyed the town of Quebec and the Canadian countryside, and that employed atrocities including the deliberate murder of civilians.

⁷¹ Carleton, *Journal of the Expedition*, 4.

⁷² Matthew C. Ward, "Crossing the Line? The British Army and the Application of European 'Rules of War' in North America in the Quebec Campaign," in Phillip Buckner and John G. Reid eds., *Revisiting 1759: The Conquest of Canada in Historical Perspective* (Toronto: University of Toronto Press, 2012), 44-68. On this point, see also Eliga H. Gould, "Zones of Law, Zones of Violence: The Legal Geography of the British Atlantic, circa 1772," *William and Mary Quarterly* third series 60: 3 (2003), 483-484.

Generally, this analysis attributes events such as the burning of south shore parishes in early August to Wolfe's frustration with his failure to bring defending forces to a decisive battle, and to his revulsion with the ambushes, sniping, scalplings, and other partisan tactics practiced by *Canadien* militias and their Aboriginal allies. Irregular warfare was practiced by both sides, however, almost continually from the day that Durell's advance squadron first sent troops ashore. Viewed in the context of British conduct of the war in the northeastern region from 1755 onward, the widespread practices of ambush and scalping, of refusing quarter, of scorched-earth tactics and ill-treatment of civilian populations, appear not as an anomaly but as a continuation of familiar and widely practiced forms of irregular warfare that had become increasingly common as the war proceeded.⁷³

⁷³ John Grenier, *The First Way of War: American War Making on the Frontier, 1607-1814* (Cambridge: Cambridge University Press, 2005), 115-145; Armstrong Starkey, *European and Native American Warfare 1675-1815* (Norman, OK: University of Oklahoma Press, 1998), 92-103; Ian K. Steele, *Warpaths: Invasions of North America* (New York: Oxford University Press, 1994), 175-247; Daniel Beattie, "The Adaptation of the British Army to Wilderness Warfare, 1755-1763," in Maarten Utee, ed., *Adapting to Conditions: War and Society in the Eighteenth Century* (Tuscaloosa, AL: University of Alabama Press, 1986), 56-83; Peter E. Russell, "Redcoats in the Wilderness: British Officers and Irregular Warfare in Europe and America, 1740 to 1760," *William and Mary Quarterly* third series 35:4 (1978), 629-652; K. L. Parker, "Anglo-American Wilderness Campaigning 1754-1764: Logistical and Tactical Developments," (PhD diss., Columbia University, 1970).

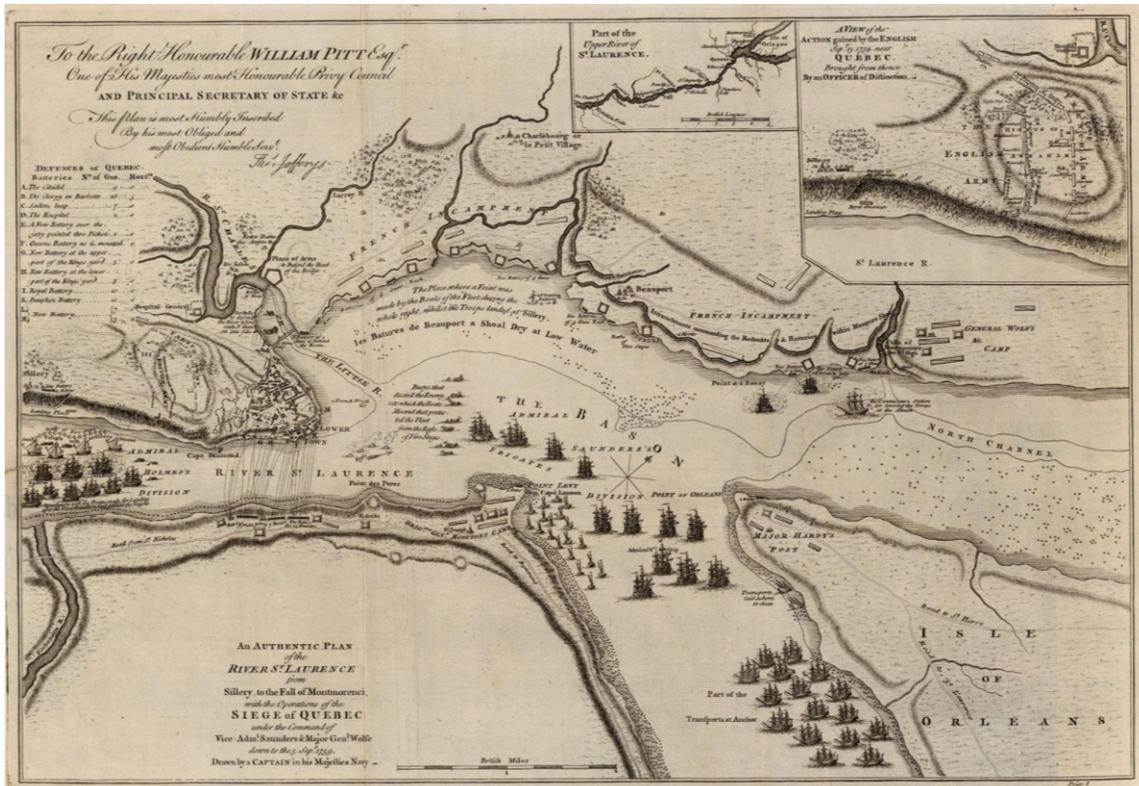


Fig. 5.9. Richard Gridley, *An Authentic Plan of the River St. Lawrence from Sillery to the Fall of Montmorency, with the Operations of the Siege of Quebec under the Command of Vice-Adml. Saunders & Major Genl. Wolfe down to the 5. Sepr. 1759*. Drawn by a Captain in his Majesties Navy, from *The Natural and Civil History of the French Dominions in North and South America* (London: Thomas Jefferys, 1760). David Rumsey Historical Map Collection, 4796.006. The hydrography and topography of the Quebec Basin radically constrained British amphibious operations there, restricting besieging forces to the river and to the three camps (Île d'Orléans, Point Levis, and Montmorency) illustrated in this post-campaign battle map.

An alternative explanation for the brutality of irregular warfare in the St. Lawrence Valley in the summer and early autumn of 1759 can be derived from the tactical geography of the Quebec Campaign and of northeastern North America generally. Even after defenders' decision to abandon much of the countryside and contract their borders, effective British control along the St. Lawrence was restricted almost entirely to the river itself and was frequently contested even there. As in the St. John River and gulf campaigns, British forces remained confined to navigable waters and fortified positions at strategic points on those waters. Getting ashore was always a

potentially hazardous operation. During the campaign the only easy landings were uncontested ones. Once ashore, even in the vicinity of the main British camps at the Île d'Orléans, Point Levis, and Montmorency, British troops were never secure and faced near-constant ambushes and hit-and-run attacks.

The ferocity of irregular warfare during the Quebec campaign was in one sense continuous with the British military's experience of the preceding five years in northeastern North America: irregular warfare was the primary means through which maritime power was extended to comprehend terrestrial space, the means of asserting military control over contested riverine territories. It was further exacerbated, however, by the political or constitutional status of New France. Because all able-bodied adult males were by definition members of the colonial militia, because the population was militarized, the entire colony—not just the strategic target of Quebec itself—was a battlefield, and remained so in most areas until the formal surrender of French forces. As a result, while the dramatic events of 13 September represented a decisive victory achieved mostly through conventional European military tactics deployed by regular forces, this battle was the culmination of months of intense and bloody irregular warfare. And because British forces involved in this campaign were largely confined to the river and to riverside enclaves, it was irregular warfare in which army and naval forces cooperated in close and sustained ways, and in which the roles of army and naval forces were frequently indistinguishable.

Quebec's defenders had no incentive to engage British forces in open battle. As long as the town remained connected to sources of supply upstream on the south shore, the certain arrival of storms and ice would eventually compel British forces (aware of the

fate of Phips' expedition) to withdraw back down the river. British attackers accordingly had to land, to force the issue. The defensive advantages offered by Quebec's physical geography meant that the town could not easily be subjected to formal siege operations, as had been the case at Louisbourg. While Quebec was methodically wrecked by two months of cannon and mortar bombardment, this was not intended to precede storming of the town. The barrage combined vandalism and terrorism: it was intended to destroy the town's capacity to sustain life and military effort. As long as the defending army was encamped outside the town along the Beauport Shore and British forces remained confined to the river and circumscribed riparian enclaves, bombardment could have no decisive effect. British forces had either to land between the St. Charles and Montmorency Rivers and attack the main French army directly, or pass upriver under the guns of Quebec's batteries and hope to find a suitable landing place from which to commence formal siege operations on the town from the west. In either case, British forces had no choice but to keep moving throughout the campaign, constantly reconnoitring the river's banks for landing places, moving troops from enclave to enclave, carrying guns to open batteries and then supplying them, attacking local opposing forces, making feints, and supporting landings. All aspects of British operations at Quebec relied on movement about the river, none more obviously than the events of 13 September.

In the days following the main fleet's passage of the Traverse, British forces moved quickly to establish themselves around the periphery of the Basin of Quebec and to open offensive operations against the town and its defenders. As thunder squalls wreaked havoc with shipping in the channel, Monckton landed on the Île d'Orléans with

a force of rangers, light infantry, and engineers to assess defensible positions for a fortified camp. A party of rangers was surrounded by Aboriginal fighters, narrowly managing to escape.⁷⁴ Three days later, irregulars killed five of the island's defenders, scalping two, and taking three more prisoners.⁷⁵ As *petite guerre* began immediately upon the British fleet's arrival at Quebec, so too did *petite guerre navale*. Seeking to destroy British capacity to conduct operations against Quebec in a single coup, French forces towed seven large fireships into the Basin on the night of 28 June, setting them alight and loosing them in the current drawing towards the fleet's anchorage in the south channel. British seamen boarded these and towed them safely out of range, abetted by the panic of the French sailors who abandoned the rafts before they were properly directed downstream, leaving their officers to be immolated in the process.⁷⁶

The failure of the fireship attack on 28 June opened the Quebec Basin to British forces, allowing them to establish fortified camps on the Île d'Orléans, at Point Levis, and eventually the west bank of the Montmorency River. On the 29th, Monckton and a force of rangers and light infantry landed at Point Levis opposite the town to reconnoitre sites for artillery batteries (at Admiral Saunders' suggestion), initiating days' long skirmishing in the area characterized by ambush and counter-ambush, with men killed and scalped on either side.⁷⁷ French defenders brought up gunboats and cannonaded troops on the shore under Point Levis, killing several before a British frigate arrived and

⁷⁴ *A Journal of the Expedition up the River St. Lawrence; Containing a True and Particular Account of the Transactions of the Fleet and Army, from the Time of their Embarkation at Louisbourg 'til After the Surrender of Quebec* (Quebec: Literary and Historical Society of Quebec, 1868), 3-4.

⁷⁵ Carleton, *Journal of the Expedition*, 5; Fraser, *Extract from a Manuscript Journal*, 3-4.

⁷⁶ Carleton, *Journal of the Expedition*, 4; Knox, *Historical Journal*, I: 381, 392, 445; Moncrief, *Short Account of the Expedition against Quebec*, 10; Doughty V, 286.

⁷⁷ Carleton, *Journal of the Expedition*, 5; Fraser, *Extract from a Manuscript Journal*, 3-4; Moncrief, *Short Account of the Expedition against Quebec*, 11

forced the boats to retreat.⁷⁸ This near-incessant fighting on land and on the river did not prevent the establishment of artillery batteries at Pointe-aux-Peres, directly opposite the town. These first opened on 13 June, and set sections of Quebec aflame for the first of several times on June 22nd.⁷⁹ When, on 9 July, British forces crossed from the Île d'Orléans to establish a fortified camp on the east bank of the Montmorency River, directly opposite the main defending army, the pattern for the summer's operations was set: besieging forces were preponderant on the river, but remained subject to attack by fireships, floating batteries, and small, fast gunboats; on land, British ability to act effectively was mostly limited to their fortified camps, outside of which they were engaged in near-constant partisan skirmishing.

This skirmishing took place on land and on the water alike, and involved naval, regular and irregular army, and Aboriginal forces. It was not, as has been suggested, a product of British frustration with the difficulty of effecting a landing and engaging in conventional battle; it was inseparable from the besiegers' broader aims during the campaign.⁸⁰ British commanders used irregular troops in counter-insurgency patrols, to protect fortified camps, to reconnoitre areas prior to landings, and to screen sounding boats working close inshore. Quebec defenders used them to constrain the besiegers' mobility, to inflict a steady stream of casualties, and to sow terror among British troops. Naval forces maintained constant small-boat patrols on the river to protect the fleet from attack, and repeatedly engaged enemy forces sent by water to effect riverine ambushes or to attack isolated positions on the river's banks. The area off the Beauport Shore in

⁷⁸ Carleton, *Journal of the Expedition*, 5; Fraser, *Extract from a Manuscript Journal*, 4; Montresor, "Journal of the Siege of Quebec," 207-208.

⁷⁹ Carleton, *Journal of the Expedition*, 7-9.

⁸⁰ Stacey, *Quebec, 1759*, 88.

particular was the scene of repeated running encounters between floating batteries, armed small craft, and British frigates. French forces routinely attacked sounding parties working on the river, and repeatedly sent fire rafts against the British fleet at anchor, without appreciable effect.⁸¹ On land, isolated attacks on British fascine and foraging parties in the woods continued throughout the campaign, punctuated at times by more costly encounters, as when Aboriginal forces attacked members of Danks' and Gorham's rangers and other light infantry companies between 8 and 10 July, killing several dozen men and wounding many more in a sustained irregular warfare offensive.⁸² In July a work party was similarly attacked, with 40 men killed or wounded.⁸³ British forces, while necessarily more restricted in their movements, proved to be equally effective practitioners of *petite guerre* as when, during skirmishing along the banks of the Montmorency, more than sixty Aboriginal fighters were killed.⁸⁴ Nor were these attacks limited to military targets. As early as the second week of July rangers were observed killing enemy civilians, including children.⁸⁵ Disorganized marauding was regularly practiced by British seamen in particular, sometimes at the cost of their own lives.⁸⁶

It is in this context that the three most important actions of the summer of 1759—the failed 31 July landing on the Beauport Shore west of the Montmorency River, the systematic burning of the Canadian countryside, and the 13 September landing at Anseau-Foulon—need to be understood. The tactical stalemate represented by constant low-

⁸¹ This riverine skirmishing was a constant feature of the campaign: wherever British forces went they went by water, and were frequently attacked as they did so. For representative examples of the practice of *petite guerre navale* during the campaign, see Carleton, *Journal of the Expedition*, 6; Fraser, *Extract from a Manuscript Journal*, 9; Moncrief, *Short Account of the Expedition against Quebec*, 18-19; Montresor, "Journal of the Siege of Quebec," 209, 212-213, 222-223.

⁸² Fraser, *Extract from a Manuscript Journal*, 7; *Journal of the Expedition up the River St. Lawrence*, 4.

⁸³ Carleton, *Journal of the Expedition*, 12.

⁸⁴ Fraser, *Extract from a Manuscript Journal*, 9.

⁸⁵ Fraser, *Extract from a Manuscript Journal*, 6-7.

⁸⁶ Carleton, *Journal of the Expedition*, 11, 14.

level irregular warfare favoured the defenders, who needed only to wait out the siege and the return of cold weather to ensure British forces' inevitable retreat. Bombardment of the town from batteries at Pointe-aux-Peres—which by early August mounted 40 large-calibre cannons and mortars—amounted to little more than scorched-earth tactics transposed to an urban context, and was unlikely to alter the tactical balance as long as defenders' troops and supplies remained dispersed outside Quebec. The clearest way to break the stalemate was to attack the main defending forces directly, by means of a landing and assault on the Beauport Shore.

Montmorency, Scorched Earth, Operations Above Quebec

The main British effort to overcome Quebec's military and geographical defenses prior to 13 September came on July 31st, with a landing and subsequent battle on the tidal flats west of the Montmorency River. The attempt to effect a landing here in hopes of opening the way to Quebec was linked in an unusual degree to the physical geography of the Beauport Shore and to the hydrography of adjacent reaches of the St. Lawrence River. As noted, the entire shore between the Montmorency and St. Charles Rivers was fronted with broad shoals that dried at low tide, and backed by a fortified bluff running parallel to the beach. British forces were camped on the west bank of the Montmorency, on the Île d'Orléans opposite Beauport, and at Point Levis. Forces attacking from the first camp had to ford the river across exposed flats at low tide; those attacking from the other two had to thread their way in landing craft through small, twisting channels running through these flats. In the lead-up to the Beauport attack naval personnel under the supervision of James Cook sounded the approaches under fire from the shore, seeking to delineate these small channels. On the basis of these soundings, Wolfe decided to ground

two armed vessels, or cats, as close inshore as possible at high tide. These vessels carried assault troops, artillery and stores with which to support the attack, and were themselves equipped with cannon to bombard French fortified positions ashore.

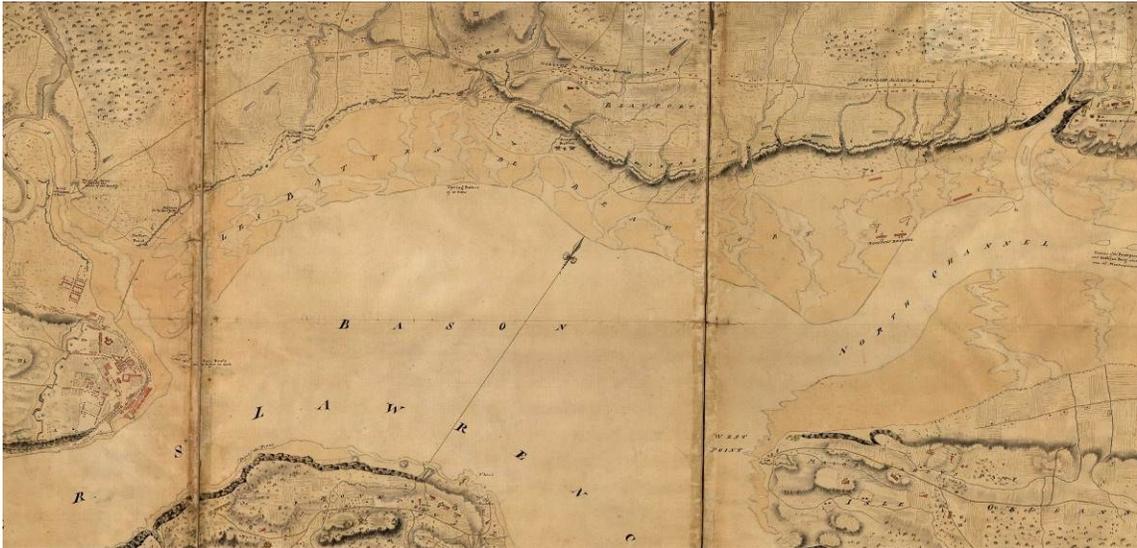


Fig. 5.10. Detail of “Plan of Quebec, the Capital of Canada in North America, with the Bason and Part of the Adjacent Contry Shewing the Principal Encampments and Works of the British Army Commanded by Maior General Wolfe and those of the French Army Commanded by Lieut. General, the Marquis of Mont Calm during the Siege of that Place in 1759,” [c. 1759]. Library of Congress, Geography and Map Division, G3454.Q4S26 1759 .P5 Vault. Tidal flats off the Beauport Shore acted, in effect, as broad outworks to the French defenses there. On 31 July an attempted British assault on these positions was thwarted in large part by the hydrographic conditions that prevailed in this part of the river.

The sixty-gun ship *Centurion* was brought up into the channel between the Île d’Orléans and the north shore to bombard the western end of the French lines. When the cats were grounded on the day of the attack, the shoals were found to extend further into the river than soundings indicated; the troops they carried were unable to disembark so far offshore. As the tide dropped and the cats came to rest on the bottom, their guns skewed upwards and were unable to bear on French positions. Batteries on shore pounded the vessels and the troops they housed. Meanwhile, landing craft making for the beach were unable to locate channels to carry them into water shallow enough to allow them to

disembark. These troops were forced to remain in their boats under fire for three hours, while Wolfe and naval personnel sought another passage. This second attempt eventually succeeded in getting troops ashore, but these men found it impossible to advance in the face of musket fire directed down on them by troops dug in on the bluffs above the beach.



Fig. 5.11. Hervey Smyth, *A View of the Fall of Montmorenci and the Attack made by General Wolfe, on the French Intrenchments near Beauport, with the Grenadiers of the Army* (London: Thomas Jefferys, 1760). John Carter Brown Library En760 S668s / 2. Smyth's illustration shows the extreme littoral character of the 31 July attack: most of the force did not make it ashore, and those that did were caught on the beach by heavy fire directed from the bluffs above. The inability to get ashore was a direct consequence of attacking forces' failure to master hydrographic knowledge of the adjacent stretches of river.

As a result of time consumed in sounding, the rising tide threatened to cut off the line of retreat for troops who had forded the river. Wolfe accordingly discontinued the attack, evacuated the cats and set them afire, and led an orderly retreat back across the

Montmorency. Approximately 400 men and 30 officers were killed in the failed assault, and the attempt to bring defending forces to a decisive battle failed completely.⁸⁷

The failed attack on the Beauport Shore was littoral warfare at its narrowest and most constrained. As in all amphibious landings, the primary objective was to establish a beachhead from which to push forces inshore; in this instance, the majority of British forces did not get beyond the offshore flats that were “land” only when the tide was low. The failure was a hydrographic one. In the wake of the battle, Wolfe attributed its miscarriage in part to the inadequacy of the sounding efforts, noting that “Mr. Cook said he believed the cats could be carried within 40 or 50 yards of the redoubts.”⁸⁸ The naval sailing masters who successfully overcame the river’s navigation were unable to effectively survey estuarine areas that could be protected by enemy fire, and that were beyond the range of naval guns, as those at Beauport were. This fact suggests that French decisions not to defend key passages in the river—especially at Coudres and the Traverse—were, potentially at least, very significant lapses. For British forces it meant that the most likely means of taking Quebec—from the east, across the St. Charles River—was effectively closed off. In the estimation of James Moncrief, there “was little or no chance of landing upon a coast naturally strong and fortified, and defended by superior numbers, so that the capture of the city had now become doubtful.”⁸⁹ Quebec’s natural defenses, its geography and hydrography, had by mid-summer proved too strong to overcome by means of survey and direct assault.

⁸⁷ For contemporary accounts of the 31 July battle on the tidal flats and beaches of the Beauport Shore, see Carleton, *Journal of the Expedition*, 10-11; Fraser, *Extract from a Manuscript Journal*, 10; Knox, *Historical Journal*, I: 452-457; Moncrief, *Short Account of the Expedition against Quebec*, 19-24; Montresor, “Journal of the Siege of Quebec,” 225-227.

⁸⁸ Knox, *Historical Journal*, I: 456, n. 1.

⁸⁹ Moncrief, *Short Account of the Expedition against Quebec*, 24-25.

It is in this context that Wolfe's decision to intensify irregular warfare in the countryside and to undertake widespread scorched-earth operations needs to be understood. The failure at Beauport strongly suggested that the fate of the Quebec Campaign would be decided by attrition, rather than by assault. The colony's defenders were better situated to prevail under these circumstances, having only to wait for the season to advance before besieging forces withdrew. The systematic effort to deprive Quebec and the Canadian countryside of the means of survival was a reasonable, if cruel, means of maximizing British forces' chances in this war of climatic attrition. The situation was exactly parallel to that experienced in the St. John River Valley in autumn, 1758: depriving the population of the means of survival in the face of approaching winter would, it was hoped, generate sufficient pressure on French and Aboriginal forces that they would be forced either to surrender or to seek a definitive battle to end the depredations. And, as on the St. John, the primary instrument through which this effort was implemented was irregular warfare, on a scale and of a ferocity not previously seen during the conflict in North America.

The broad outlines of this campaign have been widely chronicled; what is important to note here is the extent to which the campaign was an amphibious one.⁹⁰ Soon after the failure at Beauport, Wolfe issued an ultimatum to the *Canadien* population, asserting that if they continued hostilities against British forces beyond 10 August their property would be destroyed and they themselves would be subject to

⁹⁰ The fullest eye-witness account of these operations in English is David Perry, *Recollections of an Old Soldier: The Life of Captain David Perry, A Soldier of the French and Revolutionary Wars, Containing Many Extraordinary Occurrences Relating to His Own Private History, And an Account of Some Interesting Events in the History of the Times in Which He Lived, No-Where Else Recorded* (Windsor, VT: Republican and Yeoman Printing Office, 1822). For a full, recent popular account, see Dan Snow, *Death or Victory: The Battle of Quebec and the Birth of an Empire* (Toronto: Allen Lane Canada, 2009), 253-262.

attack.⁹¹ Among the first settlements attacked was Baie-Saint-Paul, where the decision to destroy the town was justified on the basis of ongoing attacks on British shipping and sounding operations in adjacent waters.⁹² Joseph Gorham's ranger company undertook this operation, attacking the settlement on the north shore opposite Coudres, skirmishing with the residents and burning all the structures there. They continued up the north shore and destroyed Malbaie, before they were ferried across the river by naval forces to destroy the parishes of Sainte Anne and Saint Roch on the south shore, burning houses, destroying crops, and carrying livestock off to Île-aux-Coudres.⁹³ At the same time, Highlanders systematically destroyed communities between the west bank of the Montmorency and Coudres, cutting down orchards in an attempt to make the region uninhabitable for years to come.⁹⁴ During this operation, British regular forces surrounded a party of *Canadiens* and killed and scalped thirty one of them; irregular warfare of extreme brutality had evidently spread widely through the British army at Quebec.⁹⁵ As the destruction of the countryside accelerated, the large warships in the fleet were each required to contribute an officer, a number of petty officers, and thirty five seamen to the effort.⁹⁶ When the destruction was extended to comprise the entire south shore below Quebec, the navy sent three ships to carry and support Scott's and

⁹¹ Moncrief, *Short Account of the Expedition against Quebec*, 23-24. On the eve of the ultimatum's expiration, John Montresor commented sardonically: "Tomorrow the general will give directions accordingly, which desolation will afford us no small diversion to our soldiery who are all in charming health." Montresor, "Journal of the Siege of Quebec," 218.

⁹² *Journal of the Expedition up the River St. Lawrence*, 8; Carleton, *Journal of the Expedition*, 13; Montresor, "Journal of the Siege of Quebec," 229.

⁹³ Carleton, *Journal of the Expedition*, 14.

⁹⁴ Fraser, *Extract from a Manuscript Journal*, 13-14.

⁹⁵ *Journal of the Expedition up the River St. Lawrence*, 8-9; Montresor, "Journal of the Siege of Quebec," 230-231. Montresor flatly notes that these scalped men "made but a bad defense."

⁹⁶ LAC, ADM 50, Commodore and Rear Admiral Durell (1758-1759), 26 August 1759.

Gorham's rangers.⁹⁷ Charles Saunders used this opportunity to send John Veysey along to survey this stretch of the river, a survey that was later incorporated into Cook's manuscript charts of the river, and ultimately into the chart published under Saunders' name by the Admiralty in 1760.⁹⁸ In the Quebec Campaign, the processes of irregular warfare against civilian targets and the processes of formal hydrographical survey were, at times, indistinguishable.

The systematic destruction of New France's built environment and agricultural capacity in a coordinated scorched-earth program from mid-August onward marked a significant intensification of the irregular warfare practiced by all sides during the Quebec Campaign. Its efficacy, however, is difficult to evaluate, other than to note that it precipitated neither surrender nor a general engagement between the assembled armies.⁹⁹ Alongside the failure of the attack on the Beauport Shore, this left British forces with few options to force a decisive outcome before winter closed the St. Lawrence to navigation. The most promising of these was the prospect of undertaking operations above Quebec, either to cut defenders off from their sources of supply or to identify a more promising site for a landing than was available below the town. Efforts to send ships upstream past Quebec's batteries began as early as mid-July, spearheaded by John Rous, whose experience of close marine reconnaissance had been honed through extensive experience

⁹⁷ LAC, ADM 50, Commodore and Rear Admiral Durell (1758-1759), 3 September 1759, 7 September 1759.

⁹⁸ James Cook, "A Plan of the River St. Laurence from Green Island to Cape Carrouge [c. 1759-1761]," Library and Archives Canada 1967-1971; *A New Chart of the River St. Laurence from the Island of Anticosti to the Falls of Richelieu: With all the Islands, Rocks, Shoals, and Soundings, also Particular Directions for Navigating the River with Safety; Taken by the Order of Charles Saunders, Esqr. Vice-Admiral of the Blue, and Commander in Chief of His Majesty's Ships in the Expedition against Quebec in 1759* (London: Lords Commissioners of the Admiralty, 1760).

⁹⁹ Despite its lack of short-term success, scorched earth operations continued even after the fall of Quebec, and were extended from the St. Lawrence Valley to the lower north shore as far as Mingan and, in the following year, to Acadian settlements on the Restigouche River. See Charles Saunders to William Pitt, 24 November 1759, in Kimball ed., *Correspondence of William Pitt*, II: 214-215; Alexander Colvill to William Pitt, 12 September 1760, *ibid.*

of *petite guerre navale* in Mi'kmaqi/Acadia/Nova Scotia.¹⁰⁰ On 18 July Rous led a squadron including the warships *Sutherland* and *Squirrel*, two transports, and two armed sloops, in a successful passage upstream under the guns of the town.¹⁰¹ For the next two months Rous supported descents and larger landings on targets above the town, gathering knowledge of the upper river that would prove essential to large-scale operations later in the campaign. In the short term, however, Rous' squadron found its position a difficult one: subject to constant artillery attack, the vessels were forced to shift their berths with every tide, whereupon French forces ashore would move their field guns and resume their bombardment.¹⁰²

The most immediate consequence of British naval forces' successful passage upriver was to extend above Quebec the pattern of amphibious descents that characterized British operations throughout the campaign. As early as 21 July a party under Guy Carleton landed at Pointe-aux-Trembles (where a short break in the north shore bluffs permitted landing), killing and scalping two Aboriginal defenders, and capturing one who agreed to pilot the force to the frigates and storeships that had made it upriver in May, just prior to Durell's arrival in the river.¹⁰³ Throughout August, British forces repeatedly sought to increase their strength in the upper river, and to make descents that would fray lines of supply supporting the town and the army encamped on the Beauport Shore. On 6 August, twenty flat-bottomed boats passed above Quebec and

¹⁰⁰ See, for example, the account of Rous' reconnaissance of Louisbourg undertaken in conjunction with rangers dispatched by Charles Lawrence in 1757. LAC, ADM 1/481, Charles Hardy to John Cleveland, 21 July 1757.

¹⁰¹ Knox, *Historical Journal*, I: 429-430.

¹⁰² James Gibson to Charles Lawrence, 1 August 1759, in Doughty and Parmalee, *Siege of Quebec*, V: 61-69.

¹⁰³ Carleton, *Journal of the Expedition*, 8. British forces were unable to reach these vessels, disarmed and moored in the Richelieu River below Montreal, in 1759. French naval forces in the river had the advantage of being able to unload ballast ashore, allowing them to send their ships further upriver than their more deeply laden British counterparts; Knox, *Historical Journal*, II: 46.

were thereafter employed by forces under James Murray in landings at Pointe-aux-Trembles, Deschambault, and other areas where the relief of the Canadian Shield dipped to allow attackers to bring amphibious force to bear.¹⁰⁴ In all of these actions, however, the hydrography of the river was a primary factor limiting the tactical capacities of attacking forces. Pilots directing the naval vessels carrying light infantry forces upstream determined how far an advance could safely proceed, before shallow water set limits to further progress.¹⁰⁵ This was especially evident in the attempted landings at Pointe-aux-Trembles on 8 August, which were thwarted by similar hydrographical impediments to those experienced on the Beauport Shore nine days earlier. The immediate goal of these landings was to destroy floating batteries moored close inshore, covering the geographically most vulnerable point in the French defenses above Quebec. Two attempts were made. In the first, the landing craft grounded well offshore and the troops they carried were unable to disembark in water too deep to wade in; they were forced to remain in the boats under fire until an alternative channel to the shore could be identified. In the meantime, defenders ashore were able to reinforce their positions with regular soldiers and cavalry. By the time a second attempt was made, fire from the riverbanks was so dense that seamen found it impossible to manage the boats, and the attempted landing was discontinued.¹⁰⁶

British experience in the Quebec Campaign was characterized by a pattern of large and small descents. Every extension of military force beyond the river into French territory—from the first troops put ashore on the islands of the lower St. Lawrence in May, to those landed on the Beauport Shore in late July—entailed a perilous passage

¹⁰⁴ Knox, *Historical Journal*, II: 12-14.

¹⁰⁵ LAC, James Murray Papers MG11-CO42Q, James Murray to Charles Holmes, 11 August 1759.

¹⁰⁶ Moncrief, *Short Account of the Expedition against Quebec*, 25-27.

from water to land. The physical geography of the St. Lawrence Valley in the Quebec region, characterized by a narrow littoral strip between the southern edge of the Canadian Shield and wide shoals extending well into the river, made virtually all landings difficult and contested. Successful amphibious operations required accurate knowledge of landing sites' hydrographical approaches, knowledge that could only be attained by personnel acting within range of defensive positions onshore. Landing attempts were, as a result, frequently undertaken with partial and inadequate hydrographic information. A repeated consequence of this was that landing parties struck offshore, requiring additional on-the-spot sounding, a process that gave defenders ample opportunity to reinforce positions to resist landing attempts once these were resumed. Successful landings were usually those that were either uncontested, or that were able to capitalize on surprise to get troops ashore before defenders were alerted to their presence.

The latter conditions were exploited most effectively during the Anse-au-Foulon landing on 13 September. The audacity of the decision to land at this site, just above the town and, unlike Pointe-aux-Trembles, at the foot of high bluffs protected by regular troops and artillery, has been frequently noted. Repeated reconnaissance in the days before the Battle of the Plains of Abraham identified a small but accessible break in Quebec's formidable natural defenses. But the ability to exploit this break existed as a result of British naval forces' near-constant experience with amphibious landings in the preceding two months, and indeed in the preceding two decades. Whatever the outcome of the battle itself, the landing was a virtuoso demonstration of mid-eighteenth century British amphibious capacity adapted to American conditions. It is not coincidental that John Rous was again central to British amphibious operations: it was from his ship, HMS

Sutherland, that landing craft departed on the morning of the 13th. Rous had by far the most extensive experience of North American riverine amphibious warfare of any Royal Navy officer present during the Quebec Campaign. Under his supervision, a first wave of 1700 troops—including light infantry meant to secure a beachhead—dropped down with the ebbing tide under the cover of darkness, drifting with the river current silently for the roughly eight miles between Cap Rouge and Anse-au-Foulon, before coming ashore within a few hundred yards of the chosen landing site. Warships and transports followed them down the river, anchoring off the beach to land subsequent waves of troops, artillery, and supplies as quickly as possible.¹⁰⁷ The decision to attempt a landing in this unpromising location and the successful execution of the subsequent battle is rightly attributed to Wolfe, his officers, and the soldiers of the British army. Neither the landing nor the battle would have taken place, however, without the embodied skills of the seamen who carried the soldiers ashore on the morning of 13 September. It was precisely these skills—the adaptation of seamanship ability to the littoral and riverine landscapes of the northeast—that had been practiced and, to a degree, perfected in the preceding long series of amphibious actions that characterized the Seven Years’ War in northern North America.

¹⁰⁷ For contemporary accounts of these operations by personnel involved in executing them, see Charles Saunders to William Pitt [n.d., received 16 October 1759], in Kimball ed., *Correspondence of William Pitt*, II: 171; Moncrief, *Short Account of the Expedition against Quebec*, 31-38. See also Donald W. Olson, William D. Liddle, Russell L. Doescher, Leah M. Behrends, Tammy D. Silakowski, and François-Jacques Saucier, “Perfect Tide, Ideal Moon: An Unappreciated Aspect of Wolfe’s Generalship at Quebec, 1759,” *William and Mary Quarterly* third series 59: 4 (2002), 957-974.



Fig. 5.12. Hervey Smyth, *A View of the Landing Place Above the Town of Quebec, Describing the Assault of the Enemy's post, on the Banks of the River St. Lawrence, with a Distant View of the Action between the British & French Armys, on the Hauteurs d'Abraham, Sept. 13th 1759* (London: Thomas Jefferys, 1760). Boston Public Library, Norman B. Leventhal Map Center, Richard H. Brown Revolutionary War Map Collection. Smyth's view exaggerates the break in the bold shoreline at Anse-au-Foulon for didactic effect; he is nonetheless able to convey the effective organization and high degree of seamanship that allowed the British army to get ashore on the morning of 13 September 1759.

Conclusion

The successful cooperation of army and navy personnel and their use of on-the-spot survey and of irregular forms of warfare were vital elements of Britain's successful campaign against Quebec in the summer and autumn of 1759. The combination of these elements was in large measure a response to the difficulty of conducting operations in a setting in which physical geography—particularly the abrupt intersection of the St. Lawrence River and the Canadian Shield—made it very difficult to conduct successful

landings. Colonial authorities in New France relied on these geographical facts to form the basis of their defensive posture. They effectively conceded control of the river to the invading forces, concentrating instead on maximizing the defensive potential of likely landing sites in the Quebec region and initiating a campaign of *petite guerre navale* designed to harass besieging forces and to prevent them from conducting successful landings on the north shore of the St. Lawrence. This approach was remarkably effective, as seen most spectacularly during the failed assault on the Beauport Shore on 31 July. As a result of their inability to overcome Quebec's geographic defenses, British forces resorted to a scorched-earth campaign that systematically destroyed the Canadian countryside's ability to support life, in the hopes of pressuring French forces into a decisive battle. As it became clear in September 1759 that they could not prevail in a campaign of environmental attrition, British forces turned once again to the prospect of landing its army and taking Quebec by main force. The opportunity to do so on 13 September was the result of audacity and good fortune, both of which were fully exploited as a result of the practiced amphibious capacity developed in northeastern North America in the years preceding the Quebec Campaign. The adaptation of army and navy tactics to North American conditions in the form of irregular woodland fighting tactics and amphibious small-craft operations prevailed in Mi'kmaqi/Acadia/Nova Scotia between 1739 and 1755. They prevailed in the gulf and Fundy campaigns undertaken in the wake of Louisbourg's fall, in 1758. They prevailed, if just barely, at Quebec in 1759. They remained central to British efforts through to the end of the Seven Years' War in North America, as Jeffery Amherst's army fought its way along New France's southern

riverine approaches in small, heavily armed gunboats, before taking Montreal in September 1760, and finally securing the entirety of the St. Lawrence watershed.¹⁰⁸

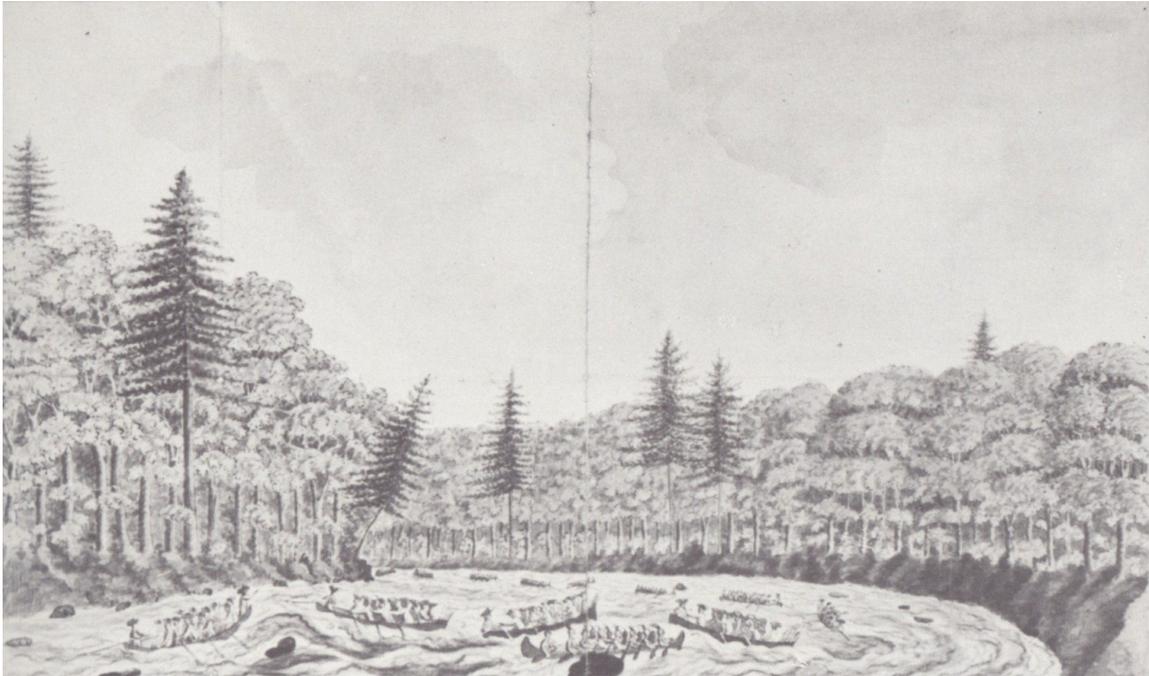


Fig. 5.13. Thomas Davies, “A View of Passage of the Army Under the Command of his Excellency Major General Amherst Down the Rapids of the St Lawrence River for the Reduction of Canada in the Year 1760.” Library and Archives Canada 1948-13-1. Davies’ depiction of the use of small craft in Jeffery Amherst’s summer 1760 advance on Montreal suggests the extent to which British forces had adapted their tactics to overcome the geographical difficulties of operating in the forested, riverine landscapes of northeastern North America. The perceived importance of this development is reflected in the fact that Sir Joshua Reynolds, who possessed Davies’ sketch, adapted it for use in his post-war portrait of Amherst, thereby subsuming the hydrographic challenges of American warfare to a triumphalist vision of British military success in the Seven Years’ War.

¹⁰⁸ For an account of the role of irregular naval tactics in the Amherst’s campaigns of 1759-1760, see Ian Glenn Macdonald, “Whaleboats, Row-Galleys and Floating Batteries: British Gunboats in the 1760 Canada Campaign” (MA thesis, Queens University, 1999).



Fig. 5.14. James Watson after Sir Joshua Reynolds, *Sir Jeffery Amherst, K.B.* (London: Joseph Boydell, 1766). United Kingdom National Portrait Gallery NPG D7002.

Chapter Six
Surveying Maritime Empire: Directed Survey, Vernacular Knowledge,
and the Northeastern Environment after 1763

In late May 1764 Samuel Holland, army engineer and a veteran of Louisbourg, the St. John River and Quebec campaigns, sailed from England as the Board of Trade and Plantations' Surveyor General for the Northern District of North America. He was to oversee a geographical inventory of new and established British colonies in northeastern North America: setting boundaries to courts' jurisdictions; laying out lands for large estates, for sale, or for grant; and surveying the coasts with Royal Navy support. He made the Atlantic passage in the schooner *Canceaux* commanded by Henry Mowat, beginning an amphibious collaboration that would continue through most of the following decade. Holland carried with him a battery of sophisticated observational instruments bought in London, then emerging as the cartographical centre of Europe and the Atlantic world, fuelled by demand for maps stoked by the Seven Years' War. These included a large reflecting telescope, an astronomical clock, astronomical quadrants, and other precision observational instruments with which Holland would fix the positions of British North American features astronomically, assigning them places in the absolute spatial framework of parallels and meridians advanced by European geographical thought. In doing so, he fixed the region's geographic relation to London, to Boston, to known positions across the world, and to observable astronomical phenomena. As the ship worked westward along the latitude of the Cabot Strait, however, Holland's instruments were unable to identify the vessel's position relative to any known points, astronomical or local. On 11 July, after two weeks in soundings with cloud and fresh gales, the crew

heard a gunshot through the fog, fired by a fisherman who warned them they were standing into the coast of Scatarie Island, northeast of Louisbourg on Cape Breton Island.¹ *Canceaux*'s master had lost his reckoning, determining erroneously that they were further to the eastward than they in fact were. They altered course in time to avoid disaster, but it was this circumstance—the inability to accurately determine position while at sea or on shores without known landmarks—that made transatlantic landfalls in the northwestern North American region notoriously hazardous throughout the age of sail. Holland's own duties, which included a survey of Cape Breton's coastlines, sought—among other goals—to prevent this exact scenario.²

A Royal Navy vessel bearing the most advanced survey technologies of the age was thus disoriented and nearly wrecked on an unknown shore, while a local fisherman with at most a compass, sounding lead, and his experiential knowledge of the coast knew exactly where both he and they were. This contrast between the uselessness of high technology and the efficacy of vernacular pilot knowledge in navigating coastal and inshore waters remained evident during the remainder of Holland's journey up the St. Lawrence to Quebec. Once in the river, his vessel met with the prevailing westerly winds that, funneled by the river's banks, frequently made the inbound journey all but impossible for sailing ships. At Gaspé he transferred to an open rowing boat piloted by a *Canadien* guide and, pulling against the wind, walking along the beach where necessary, and travelling by canoe, arrived at Quebec two weeks later. *Canceaux* and his

¹ Thirteen years later J.F.W. Des Barres, in the General Remarks accompanying *The Atlantic Neptune*, described the difficulty this coast presented to mariners seeking a landmark at the end of west-bound transatlantic passages: "The eastern extremity of Cape Breton Island... appears on the sea shore, and some way back into the country, barren and rocky; and the tops of the hills being so much alike, have nothing remarkable." J.F.W. Des Barres, *General Remarks* [1777] from *The Atlantic Neptune*, National Maritime Museum, Greenwich, HNS 6.

²For Holland's conception of the objects of his survey, see LAC, CO 323, Board of Trade, Holland [to John Pownall], 16 December 1763.

instruments arrived ten days after that. During the upriver passage Holland pressed the pilots he travelled with for information on depths of streams, harbours, and anchorages, their suitability to fisheries, localized patterns of winds and currents, and other potentially useful knowledge, which he recorded and later integrated into his surveys.³

The ironic dissonance between the scientific surveyor's ignorance and helplessness and the fisherman's locational certainty and adaptation to place is telling. Holland was en route to begin the work of surveying northeastern North America's geography, including the very coast off which he was lost, in greater detail and with greater accuracy than ever before. The work that he was engaged in was part of a systematic and, to the extent possible by a state with limited administrative capacities, directed project seeking to inventory those material and cultural aspects of the region best calculated to further Britain's commercial and imperial interests. The descriptions of American geography that he, J.F.W. Des Barres, James Cook, Michael Lane, and other "surveyors of empire" made available were predicated on the use of survey as a tool to further and protect British commerce and to aid the exercise of state power. As such, their surveys also contributed to the project of universal geographical and astronomical reconnaissance undertaken by natural philosophers, mathematicians, and surveyors, often with the patronage of European states, in this period. Swaths of coastline and river valleys were subjected to accurate measurement linked to astronomical observations of latitude and longitude, fixing the region more definitely in the graticule of European geographic science, the abstract structure of latitude and longitude, that was the fullest and most concise expression of contemporary empire's diffuse efforts to order and exploit local material realities and resources on a global scale. In an importance sense,

³ LAC, CO 323, Board of Trade, Holland to Pownall, 20 August 1764.

then, Holland and his surveyor compatriots came to know where northeastern North America was better than did anyone else on earth. The products of their surveys—charts and maps, remarks and directions—would allow subsequent travelers in the region to locate themselves more accurately in both universal and local contexts.⁴

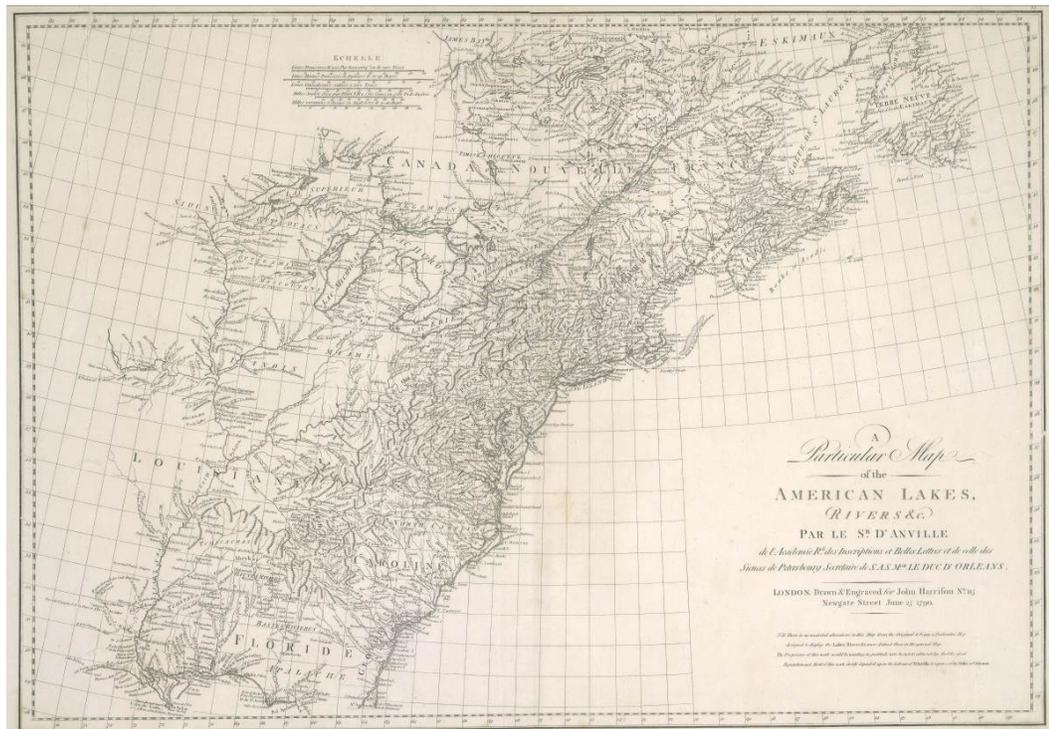


Fig. 6.1. “A Particular Map of the American Lakes, Rivers &c.,” from *D’Anville’s Atlas, Containing a Map of the World, The World in Twelve Maps, and Twelve Maps of the Most Interesting Parts of the World upon a Large Scale* (London: John Harrison, 1792). Memorial University of Newfoundland, Centre for Newfoundland Studies G 3300 1790 A5 MAP. In the post-Seven Years’ War cartographic mastery of Northeastern North America’s littoral and riverine spaces, and the essentially hydrographic conception of physical landscape it conveyed, passed from French to British hands, as is evident in this adaptation of Anville’s 1756 map. See fig. 4.2.

⁴ For a comprehensive treatment of post-Seven Years’ War surveys in eastern North America, see Stephen J. Hornsby, *Surveyors of Empire: Samuel Holland, J.F.W. Des Barres, and the Making of The Atlantic Neptune* (Montreal and Kingston: McGill-Queen’s University Press, 2011). For Cook and Lane’s surveys in the gulf region, see Andrew David, “James Cook’s 1763-4 Survey of Newfoundland’s Northern Peninsula Resassessed,” *Northern Mariner* 19: 4 (2009), 393-403; Sheila Johnson Kindred, “James Cook: Cartographer in the Making 1758-1762,” *Journal of the Royal Nova Scotia Historical Society* 12 (2009), 54-81; J.C. Beaglehole, *The Life of Captain James Cook* (London: Adam & Charles Black, 1974), 33-97; William H. Whiteley, “James Cook and British Policy in the Newfoundland Fisheries, 1763-7,” *Canadian Historical Review* 54: 3 (1973), 245-272; R.A. Skelton and R.V. Tooley, *The Marine Surveys of James Cook in North America 1758-1768, Particularly the Survey of Newfoundland. A Bibliography of Printed Charts and Sailing Directions*. London: Map Collectors Circle, 1967; R.A. Skelton, “Captain James Cook as a Hydrographer,” *Mariner’s Mirror* 40: 2 (1954), 92-119.

The fisherman who alerted Holland and the *Canceaux* to their position off the Cape Breton coast likewise did work that entailed deep knowledge of the geography of coastal northeastern North America, but it was geographical knowledge of a very different kind. The economic marginality of many fishers ensured that they were on the water whenever practicable. In order to survive and maintain credit, they had to locate and exploit local resources regularly and in all weathers during the fishing season. To do so, many intensively exploited the resources of a limited stretch of inshore waters and adjacent coastline, becoming intimately familiar with submarine geography and the landward features associated with it.⁵ In order to continue working in fog, for example, inshore mariners of this type learned not just the shapes of headlands and coastal profiles, the depth of water and nature of the bottom, but also the sounds of seas breaking on particular rocks and reefs, the distinctive roar of known tide races, the behaviour of echoes in particular locations, and the distinctive smells of certain areas of land or sea. From long experience they learned the peculiarities of weather in that limited stretch knowing, for example, the weather portended by various changes in the state of the wind or the sea, and how specific meteorological conditions interacted with local landforms and hydrography to generate particular marine phenomena that affected the navigability of local waters. This extremely localized hydrographic knowledge was embodied, both in the sense that it was derived from sensory information rather than measurement, and that it was the property of people who were often not themselves literate.⁶ It was, to adapt

⁵ For an account of fisheries in the region in the post-Seven Years' War period, see Rosemary Ommer, *From Outpost to Outport: A Structural Analysis of the Jersey-Gaspé Cod Fishery, 1767-1886* (Montreal and Kingston: McGill-Queen's University Press, 1991).

⁶ Jean-François Brière shows that vernacular navigators in the northeast were notably safe compared, for example, to those in the coastwise trade: "The Safety of Navigation in the 18th Century French Cod Fisheries," *Acadiensis* 16: 2 (1987), 85-94. For description of vernacular navigation practices, see Horace Beck, *Folklore and the Sea* (Middletown, CN: Wesleyan University Press, 1973), 105-132.

Peter Pope's formulation, a vernacular process; that is, it was an unplanned response to specific local requirements for spatial information, unrelated to any broader or centrally directed program of geographical reconnaissance.⁷ The fisher's hydrographic information was remarkably intimate, but it was not extensive; it was deep, not broad. It was an embodied response to a multiplicity of interactions among specific, known local features that were themselves constantly changing. To this extent it resisted full representation in the textual and graphic forms employed by hydrographic survey and marine cartography.

Directed Survey and Vernacular Pilot Knowledge

This chapter examines interrelations between directed survey and vernacular pilot knowledge in northeastern North America in the quarter century after the end of the Seven Years' War. It examines the physical landscape of the coastal zone in the littoral enclaves that characterized Britain's established and newly conquered colonial possessions in New England, Nova Scotia, Newfoundland, Labrador and the St. Lawrence watershed. It situates practices of the hydrographic gaze in broader cultural contexts of adaptations to specific regional geographies, showing how very different British, British American, *Canadien* and Aboriginal spatial knowledges became commensurable in certain times and places for certain purposes. It shows how geographical, climatic and meteorological conditions in the northeast limited the facility with which military, administrative, and commercial persons, communications, and goods could access the region from the broader maritime world. It explores the

⁷ For a discussion of the distinction between "vernacular" and "directed" activities, see Peter Pope, *Fish Into Wine: The Newfoundland Plantation in the Seventeenth Century* (Chapel Hill: University of North Carolina Press, 2004), 29-31.

techniques that pilots and guides on the one hand, and maps, charts, and textual directions on the other, employed to improve capacity to overcome these limits. In areas outside the Laurentian heartland, there were relatively few people and a great deal of geography, and so embodied local knowledge was scarce and sometimes non-existent. This fuelled a period of intensive survey and chartmaking that both accurately delineated the hydrography and coastal topography of much of the region, and accelerated a process of marine cartographic innovation that aimed to represent the greatly expanded volume of hydrographic information emerging from the region in charts of increasing complexity and thoroughness.

Chapter Seven then examines how survey and pilot knowledge related to imperial governance in the region, and to its extension and maintenance along the hydrographic corridors of northeastern North America and the Laurentian continental interior. These relations were predicated on the need to create colonial space in the littoral zone, to overcome difficulties of coastal and riverine geography in order to make new colonial possessions secure and productive elements of Britain's growing maritime empire.⁸ By assimilating the geography and natural history of the region to the universalizing systems of contemporary European mathematical cosmography and inventory science, these surveys contributed to the ongoing elaboration of universalizing archives of physical reality that offered powerful new tools for the work of colonial administration. This chapter argues, however, that pilots' opacity to imperial eyes, and survey's limited ability to fully abstract local hydrographic information, ensured that the region's littoral

⁸ For a discussion of British imperial governance's imperative to make overseas colonial possessions "secure and productive", see Jerry Bannister, "The Oriental Atlantic: Governance and Regulatory Frameworks in the British Atlantic World," in H.V. Bowen, Elizabeth Mancke, and John G. Reid eds., *Britain's Oceanic Empire: Atlantic and Indian Ocean Worlds, c. 1550-1850* (Cambridge: Cambridge University Press, 2012), 151-176. See also Stephen J. Hornsby, "Geographies of the British Atlantic World," in the same volume.

geography resisted full incorporation into the archive of European geographical knowledge. Military personnel, officials, and commercial travelers all remained dependent on living guides and the skills of local boatmen to move and correspond across the region and the broader maritime world. In peacetime, this presented a possible impediment to personal safety and efficient administration. In wartime, it threatened to undermine the attenuated corridors of transport and communications that were the sinews of empire in contemporary northern North America. The American Revolutionary War, which brought the inventory of the region's coastal and riverine geography to an end, began as a local challenge to control of these corridors, and ended in their collapse.

Littoral Settlement in the Northeastern Region

Difficult coastal geography presented a potentially serious impediment to British maritime empire's extension in the northeastern region. Hydrographic surveys of the region were predicated on the need to facilitate imperial and commercial activity—warfare, administration, and trade—in littoral societies dependent on maritime transport.⁹ The particular difficulties of geography and climate in northeastern North America made the need for accurate survey both urgent and very difficult to fulfil. Outside of a few densely settled river valleys with easy access to the ocean, the northeast was thickly forested and thinly inhabited. Almost all movement was alongshore or overland by water. Bare granite coasts from Cape Ann, Massachusetts north to Labrador were exposed to the open North Atlantic and were extremely difficult to approach in many areas. Even in

⁹ For discussion of the concept of littoral society and of specific historical littoral societies, see Christer Westerdahl, "The Binary Relationship of Sea and Land," in Ben Ford ed., *The Archaeology of Maritime Landscapes* (New York: Springer, 2011), 291-310; Jeffrey Bolster, "Putting the Ocean in Atlantic History: Maritime Communities and Marine Ecology in the Northwest Atlantic, 1500-1800," *American Historical Review* 113: 1 (2008), 19-47; Michael N. Pearson, "Littoral Society: The Concept and the Problems," *Journal of World History* 17:4 (2006), 353-373. See also Stephen J. Hornsby's discussion of Atlantic staple regions in *British Atlantic, American Frontier*, 26-72.

areas with less obviously difficult approaches and terrain, littoral conditions meant a thorough interpenetration of land and water, to the extent that it was sometimes difficult to determine where one element began and the other ended.

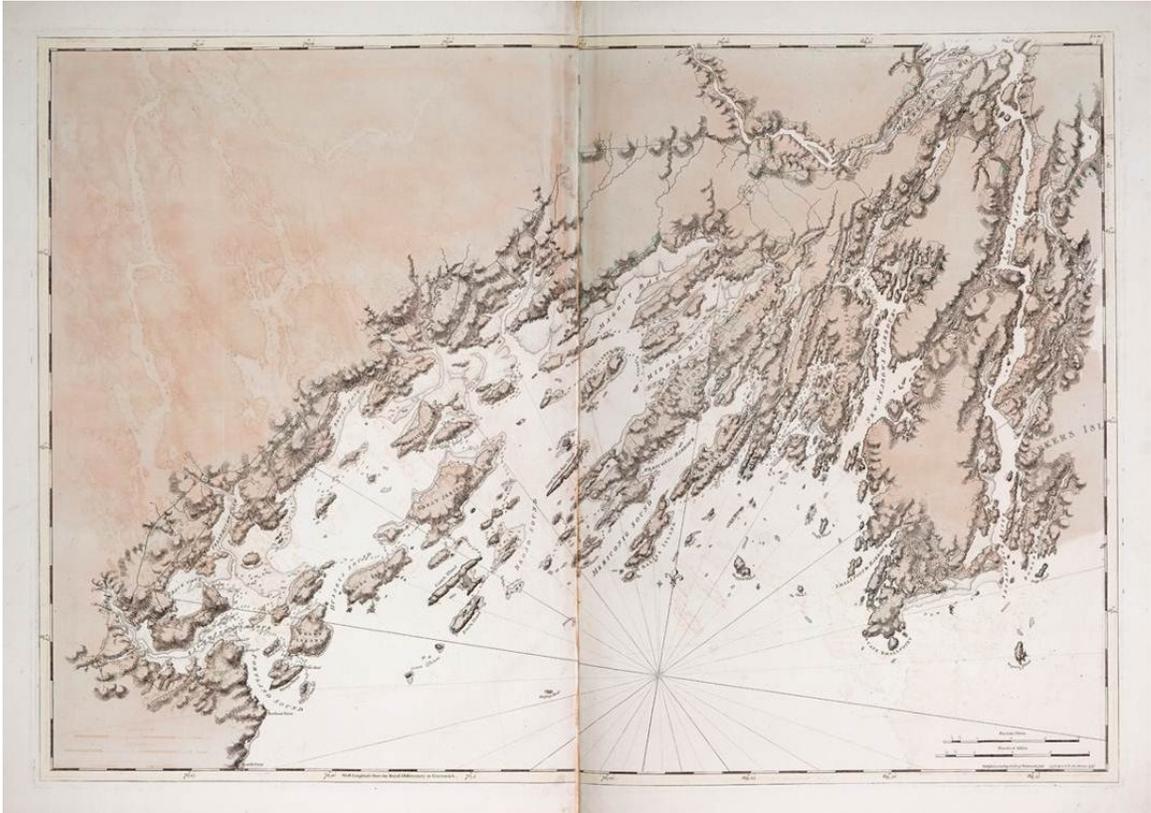


Fig. 6.2. J.F.W. Des Barres, *Portland to Seguin Island* [1776], from *The Atlantic Neptune*. National Maritime Museum, Greenwich, HNS 105. In recently glaciated areas of northeastern North America coastlines are often extremely broken, making it difficult to distinguish land from water in many places; this made possession of accurate local hydrographical knowledge an especially vital element of British commercial, military, and administrative activities in the post-Seven Years' War period.

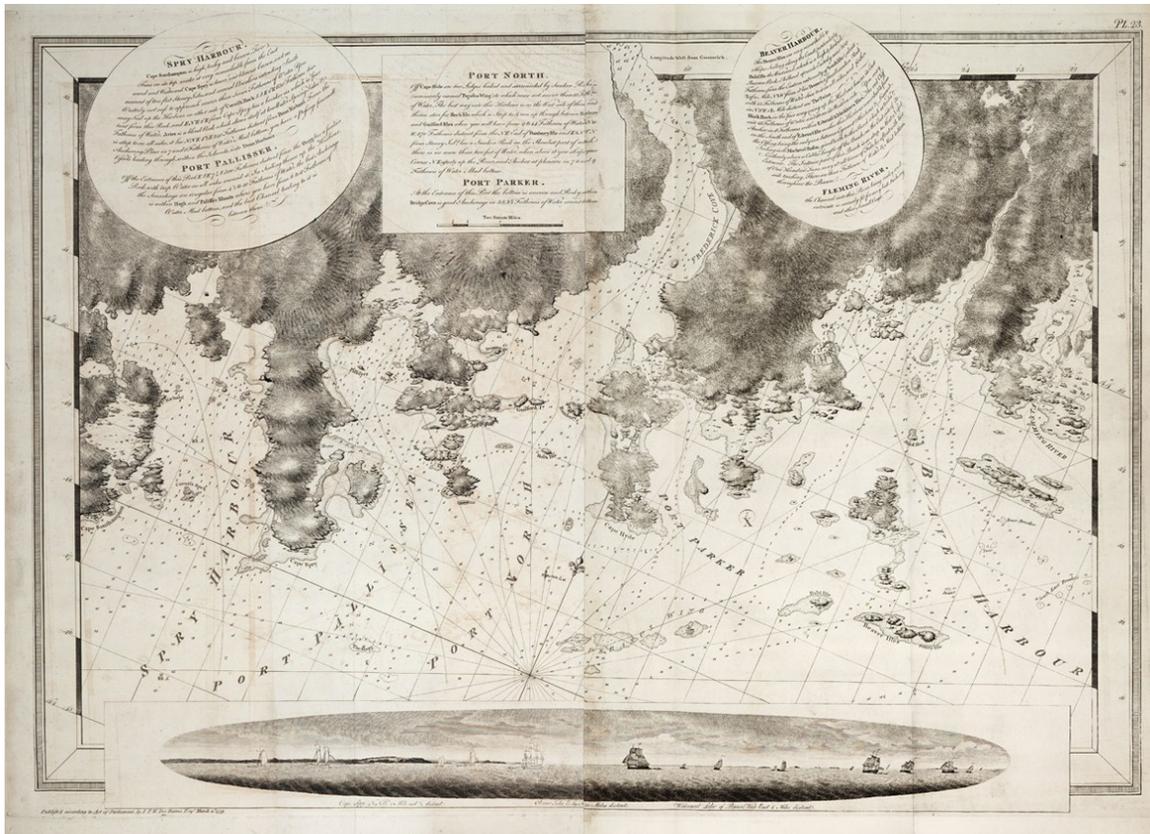


Fig. 6.3. J.F.W. Des Barres, *Spry Harbour to Flemming River* [1776], from *The Atlantic Neptune*. National Maritime Museum, Greenwich, HNS 52. The broken coasts of the northwestern Atlantic presented a remarkable challenge to contemporary methods of hydrographic survey and representation, and accelerated innovations in both. Many of the charts in *The Atlantic Neptune* met this geographic challenge by representing maritime physical landscapes in innovative and sophisticated ways, bringing the sea atlas tradition to a level of unprecedented refinement.

Thomas Davies' post-war views of the northeast, informed aesthetically by his training and experience in tactical analysis of inshore and riverine space, vividly convey North American settlements' dependence on the marine areas that supported them and connected them to the broader Atlantic world. His view of Flushing on Long Island, New York, for example, depicts settlement clustered along an ox-bow inlet formed by a large bank of salt-marsh grasses that is palpably as much liquid as solid; in the foreground a sloop's mast rises from a cluster of buildings as though it too is fixed to the land.



Fig. 6.4. Thomas Davies, “View Near Flushing, on Long Island in the Province of New York North America [1765].” Winterthur Museum G53.189.3. Davies’ trained topographical gaze vividly conveys the interpenetration of marine and terrestrial landscape elements that characterized eastern North America north of the Hudson River.

Davies’ post-war views of Quebec depict a maritime society, albeit one located deep in the continental interior. An image taken from the St. Charles River foregrounds the canoes and beached small craft that were the transportation workhouses of the colony before and after the conquest, while off the town itself ride the ocean-going merchant and naval vessels upon which the colony’s security and productivity depended.



Fig. 6.5. Thomas Davies, “A View of Quebec Taken Near Beauport Ferry in 1787.” National Gallery of Canada 6277. Davies’ post-conquest view of the Beauport Shore, illustrating the littoral nature of the Laurentian heartland in peacetime as in war. Note the line of huts along the strand to the right, where French fortifications had been located in 1759; Quebec’s post-war development was intensely maritime in nature.

His view upriver towards Cape Tourmente from Chateau Richer, site of amphibious attacks by irregular forces in 1759, shows littoral settlement at its narrowest and most maritime. Here the mountains of the Laurentian Shield drop almost directly down to the tidal flats of the river, leaving a strip of only a few hundred metres fit for habitation. While the landward side of the settlement remains punctuated by stumps and boulders, cultivated fields parallel the riverbank separated from the flats by a thin line of pickets. The boundaries of individual plots are mirrored almost exactly by weirs enclosing tracts of river immediately alongshore. Several figures take advantage of low tide to walk the strand. Certain elements mark this as a clearly *Canadien* scene: whitewashed stone houses, a dogcart, the men’s red caps and sashes. Yet the landscape itself—its

claustrophobic site between forested interior and waterway, the adjacency of agriculture and mariculture—marks it part of the broader pattern of European settlement in eastern North America, of the littoral sweep of settled enclaves stretching from the Gulf of Mexico to Hudson Bay.



Fig. 6.6. Thomas Davies, “A View of Chateau Riché Cape Torment and Lower End of the Isle of Orléans Near Quebec [1787].” National Gallery of Canada 6275. The north channel of the St. Lawrence looking towards Cap Tourmente showed northeastern North American littoral settlement at its narrowest and most attenuated. Note especially the weirs extending into the river, mirroring fence lines ashore; here, agriculture and mariculture were visually indistinguishable.



Fig. 6.7. Detail of J.F.W. Des Barres, *A Sketch of Mechios Mills* [1777], from *The Atlantic Neptune*. National Maritime Museum, Greenwich, HNS 12B. Along the Maine coast and elsewhere in the northeast landward and maritime cultural landscapes overlapped, in places quite literally.

Northeastern American Landscapes and British Aesthetics

While the region's littoral landscapes were radically unlike those in most areas of Britain itself, contemporary Britons nevertheless possessed powerful cultural tools that permitted the assimilation of northeastern North America to metropolitan economic, political, scientific, and aesthetic norms. Aesthetically, the earliest British pictorial and literary representations of these territories sought to comprehend North American

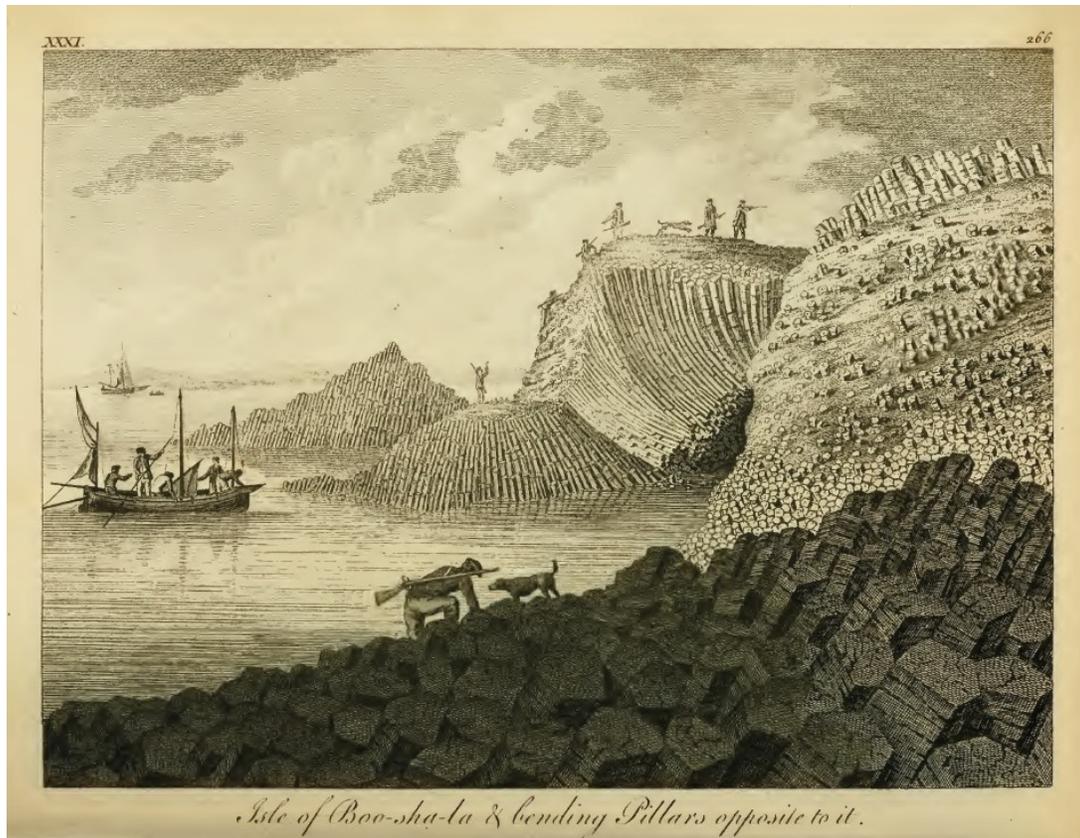


Fig. 6.8. *Isle of Boo-sha-la and Bending Pillars Opposite To It* from Thomas Pennant, *A Tour in Scotland and Voyage to the Hebrides*, MDCCLXXII (London: Benjamin White, 1776), 303. Through the influence of travellers and writers including Thomas Pennant and Joseph Banks, northern maritime landscapes (especially those of contemporary Scotland) were increasingly seen to epitomize the aesthetic category of the sublime. This category was a powerful tool with which to assimilate newly conquered North American landscapes to prevailing British conceptual frameworks.

landscapes in the context of European conceptions of the picturesque and the sublime.¹⁰

As sublime scenery came to be increasingly identified with isolated maritime landscapes in this period—in the work of Thomas Pennant and Joseph Banks in the Hebrides, for

¹⁰ Jeffery L. McNairn, “Everything was New, yet Familiar”: British Travellers, Halifax and the Ambiguities of Empire,” *Acadiensis* 36: 2 (2007), 28-54; John E. Crowley, “‘Taken on the Spot’: The Visual Appropriation of New France for the Global British Empire,” *Canadian Historical Review* 86: 1 (2005), 1-28; Colin Coates, “‘Like the Thames towards Putney,’ The Appropriation of Landscape in Lower Canada,” *Canadian Historical Review* 74 (1994), 317-43; Ian S. MacLaren, “The Limits of the Picturesque in British North America,” *Journal of Garden History* 5: 1 (1985), 97-111; *idem*, “Samuel Hearne & the Landscapes of Discovery,” *Canadian Literature* 103 (1984), 27-40; *idem*, “The Influence of Eighteenth-Century British Landscape Aesthetics on Narrative and Pictorial Responses to the British North American North and West, 1769-1872 (PhD thesis, University of Western Ontario, 1983); Douglas Cole and Maria Tippett, “‘Pleasing Diversity and Sublime Desolation’: The Eighteenth-Century British Perception of the Northwest Coast,” *Pacific Northwest Quarterly* 65: 1 (January 1974), 1-7.

example, a region that bore clear resemblances to the coasts of Nova Scotia and the gulf—it is not surprising that contemporary representations of the northeastern region tended to emphasize its sublimity, its wildness and danger, over its picturesque likeness to long-cultivated European regions.¹¹



Fig. 6.9. J.F.W. Des Barres, *A View of the Entrance of Port Hood* [1781], from *The Atlantic Neptune*. National Maritime Museum, Greenwich, HNS 70.1. While serving primarily as utilitarian documents to facilitate navigation, Des Barres' views and profiles from *The Atlantic Neptune* framed North American coastal landscapes within prevailing modes of British visual representation.

Contemporary travellers' impressions of Canada, for example, focused on an itinerary of bold headlands descending into roiling seas, of wild rivers and waterfalls. Waterfalls in

¹¹ Howard Isham, *Image of the Sea: Oceanic Consciousness in the Romantic Century* (New York: Peter Lang, 2004), 55-59; Alain Corbin, *The Lure of the Sea: The Discovery of the Seaside in the Western World 1750-1840* (Berkeley: University of California Press, 1994), 121-162; Averil M. Lysaght, "Joseph Banks at Skara Brae and Stennis, Orkney, 1772," *Notes and Records of the Royal Society of London* 28: 2 (1974), 221-234; Roy A. Rauschenberg, "The Journals of Joseph Banks's Voyage up Great Britain's West Coast to Iceland and to the Orkney Isles July to October, 1772," *Proceedings Of The American Philosophical Society* 117: 3 (1973), 186-226.

particular were assumed to concentrate the sublime effects of moving water and so were favourite subjects in journals accounts and visual representations of North American landscapes. Both Thomas Davies and fellow army officer and draftsman James Peachey painted Montmorency Falls near Quebec multiple times; a late view by Davies depicts a folly Governor Frederick Haldimand had built over the awe-inducing precipice itself, giving an impression of primitive wildness augmented by the inclusion in the foreground of an Aboriginal man in elaborate dress.



Fig. 6.10. Thomas Davies, “A View of Montmorency Falls Near Quebec Taken in 1790 [1791].” National Gallery of Canada 6285. The many spectacular waterfalls of the St. Lawrence system were, for post-Seven Years’ War Britons, the essence of the region’s hydrographical sublimity. Note the folly poised over the precipice, constructed by Governor Frederick Haldimand to showcase the awesome effect of the falls to greatest advantage.



Fig. 6.11. James Peachey, “A View of the Falls of Montmorenci, with His Excellency General Haldimand’s Country House Near It, Taken on the Ice 1st May 1781.” Library and Archives Canada 1989-220-2. Governor Haldimand’s estate at Montmorency, near Quebec, forcefully demonstrates the British colonial impulse to create picturesque landscapes centred on the prodigies of North American littoral geography.

Frances Brooke, who came to Quebec as the wife of a military chaplain in 1763, similarly viewed the region through the lens of this hydrographic-sublime aesthetic in her 1769 epistolary novel, *The History of Emily Montague*:

The country is very fine one: you see here not only the beautiful which it has in common with Europe, but the great sublime to an amazing degree; every object here is magnificent.... On approaching the coast of America, I felt a kind of religious veneration, on seeing rocks which almost touch’d the clouds, cover’d with tall groves of pines that seemed coeval with the world itself: to which veneration the solemn silence not a little contributed; from Cape Rosieres, up the river St. Lawrence, during a course of more than two hundred miles, there is not the least appearance of a human footstep; no objects meet the eye but mountains, woods, and numerous rivers, which seem to roll their waters in vain.¹²

¹² Frances Brooke, *The History of Emily Montague* (Ottawa: Tecumseh Press, 2002), 3.

Thomas Cary's 1789 *Abram's Plains: A Poem* goes a step further by linking the region's maritime sublimity to the work of exploiting the region economically, rendering routine activities heroic in the process. Evoking the biblical Leviathan, Cary imagines a whale hunt in the gulf in which British fishers confront the mortal danger of untamed nature, conquer it, and make it serve the interests of imperial commerce:

Here too the whale rolls his unwieldy form,/Laughs at the blust'ring winds and mocks the storm;/Gamesome, the billows far behind him throws,/And from his nostrils, a salt tempest blows:/Till, close beset, swift flies the barbed dart,/Down prone the monster dives to shun the smart;/The fishers, active, yield the smoking line,/ The boats, like light'ning, cut the liquid brine;/Oft-times borne down beneath the briny wave,/Both boats and men share one wide watry grave:/His onward way, his doubles they pursue,/'Till, spent his strength, he panting floats in view;/Midst seas of blood wrathful his nostrils smoke,/An isle, his bare broad back lies to the stroke./Now strong harpooners dart the iron death,/The monster forced to yield his forfeit breath:/E'en while the waves he lashes into storm,/A monstrous mass floats motionless his form.¹³

In the decades following the Seven Years' War the metropolitan conception of a typical regional landscape was sublime and littoral, best appreciated afloat or alongshore, while the typical work of maritime empire was to wrest profit from the perils of the coastal zone.

Northeastern Climate, Shipwreck, and Abjection Narratives

Another way in which the predominantly maritime nature of Britain's American conquests was comprehended in Britain itself was through shipwreck and abjection narratives. The period between the mid-eighteenth and mid-nineteenth centuries (covering the years of Britain's most extensive overseas activities prior to the development of oceanic steam navigation) coincided with the rise of travel accounts and

¹³ Thomas Cary, *Abram's Plain: A Poem* (Quebec: s.n., 1789), 8-9.

shipwreck narratives as pervasive genres appealing to literate people of all classes.¹⁴ As the volume of shipping rose in this period, so too did the incidence of marine disasters. This was to an extent inevitable, given the contemporary state of seafaring technology: sailing ships could withstand meteorological conditions and sea states of considerable but limited intensity before they were overmatched by the elements. So, in the absence of significant improvements in ship design or navigational methods, when more ships put to sea more ships were wrecked. The two most common causes of shipwreck during the age of sail were weather and navigational error, most often resulting from loss of knowledge of position near an unfamiliar or misrecognized coast. In practice, weather and error frequently combined to cause wrecks, as when persistent storm-driven winds carried ships onto unknown lee shores.¹⁵ This could be catastrophic in and of itself, as Cloudesley Shovell's 1707 experience on the Scilly Islands demonstrates. But when these events occurred in thinly populated parts of the world, such as northeastern North America, the dangers of shipwreck itself were compounded by the ordeal of exposure to the elements and starvation in an environment to which Europeans (especially those without overseas experience) were not adapted. Whereas surviving shipwreck on foreign

¹⁴ Carl Thompson, *The Suffering Traveller and the Romantic Imagination* (Oxford: Clarendon Press, 2007); Jamal Eddine Benhayoun, *Narration, Navigation, and Colonialism: A Critical Account of Seventeenth- and Eighteenth-Century English Narratives of Adventure and Captivity* (Brussels: Peter Lang, 2006); Linda Colley, *Captives: Britain, Empire, and the World, 1600-1850* (New York: Anchor, 2004); Josiah Blackmore, *Manifest Perdition: Shipwreck Narrative and the Disruption of Empire* (Minneapolis: University of Minnesota Press, 2002); Robert Foulke, *The Sea Voyage Narrative* (New York: Routledge, 2002); Hans Blumenberg, *Shipwreck with Spectator: Paradigm of a Metaphor for Existence* (Cambridge, MA: MIT Press, 1997); T. S. R. Boase, "Shipwrecks in English Romantic Painting," *Journal of the Warburg and Courtauld Institutes* 22: 3/4 (1959), 332-346.

¹⁵ William E. Carter and Merri S. Carter, "The Age of Sail; A Time when the Fortunes of Nations and Lives of Seamen Literally Turned with the Winds their Ships Encountered at Sea," *Journal of Navigation* 63 (2010), 717-731; Rainer Baehre, *Outrageous Seas: Shipwreck and Survival in the Waters off Newfoundland, 1583-1893* (Montreal and Kingston: McGill-Queen's University Press, 1999); D.F.H. Grocott, "Shipwrecks in the Revolutionary and Napoleonic Eras, 1793-1815. Causal Factors and Comments," *Journal of Navigation* 52: 2 (1999), 149-162; N.A.M. Rodger, "Weather, Geography and Naval Power in the Age of Sail," *Journal of Strategic Studies* 22: 2-3 (1999), 178-200

shores in the eastern Atlantic or Mediterranean frequently resulted in captivity, in waters outside Eurasia it was more likely to result the elemental ordeal of being castaway. In the late-eighteenth century the coasts of the maritime world remained mostly deserted, and human experience there frequently ended in abjection and death.¹⁶

The best-known British castaway of the early eighteenth century was Daniel Defoe's *Robinson Crusoe*, whose fictional ingenuity and indomitability allowed him to reconstitute a semblance of European material culture and social order on an uncultivated island off the coast of South America. By mid-century, however, as Britain's experience of global maritime endeavour grew, cultural understandings of the experience of shipwreck and its consequences became darker and less optimistic. As Britain's economic engagement with overseas activities became more important to national wealth and self-conception, so too did anxieties stemming from the possible miscarriage of maritime trade and empire. The best-known narrative of shipwreck and abjection in the second half of the eighteenth century was that of HMS *Wager* off the coast of present-day Chile, in May of 1741. John Byron, whose much-reprinted 1768 *Narrative of the Honourable John Byron* was the best known of several witness accounts, was a midshipman in *Wager* when the ship accompanied George Anson's expedition against Spanish targets in the Pacific. *Wager* twice misjudged position when rounding Cape Horn before wrecking on a Patagonian island; the crew got ashore, but the ship soon broke up. Stranded and faced with inevitable starvation the men split into factions and descended into violence, with mutineers refusing to recognize the authority of the ship's captain.¹⁷

¹⁶ Linda Colley, *Captives: Britain, Empire and the World, 1600-1800* (London: Jonathan Cape, 2002), 1-11.

¹⁷ John Byron, *The Narrative of the Honourable John Byron (Commodore in a Late Expedition Round the World) Containing an Account of the Great Distresses Suffered by Himself and His Companions on the*

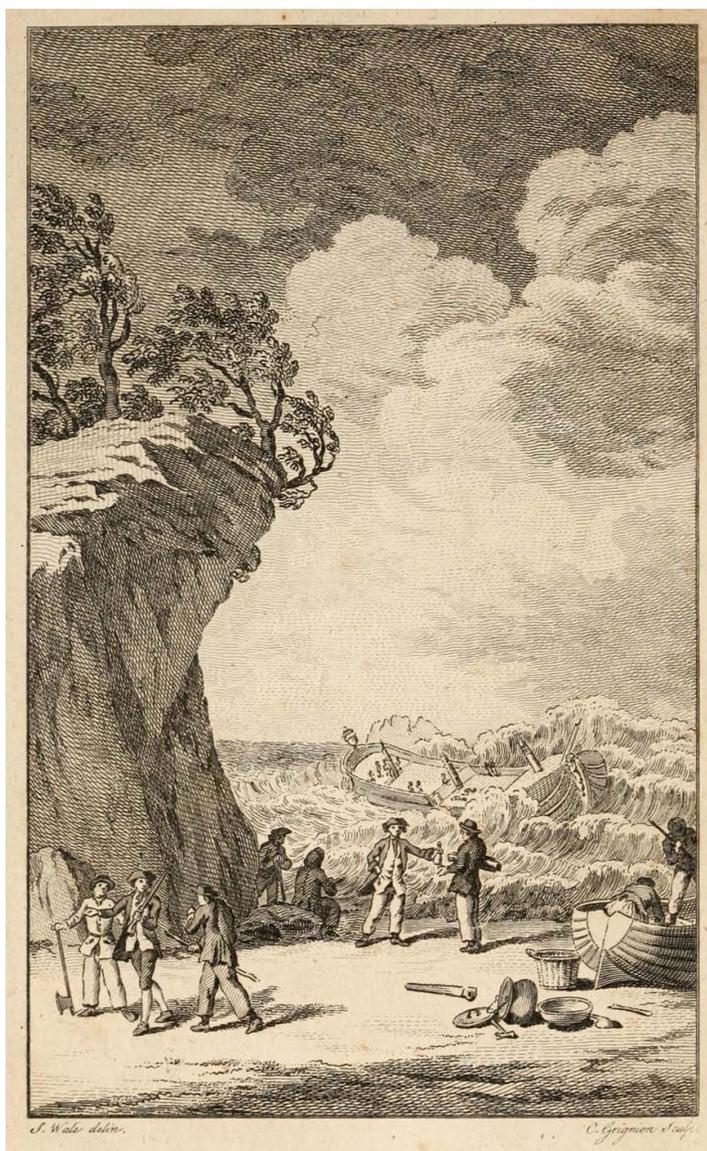


Fig. 6.12. Frontispiece to John Byron, *The Narrative of the Honourable John Byron (Commodore in a Late Expedition Round the World) Containing an Account of the Great Distresses Suffered by Himself and His Companions on the Coast of Patagonia, from the*

Coast of Patagonia, from the Year 1740, till their Arrival in England, 1746. With a Description of St. Jago de Chili, and the Manners and Customs of the Inhabitants. Also a Relation of the Loss of the Wager Man of War, one of Admiral Anson's Squadron (London: S. Baker, G. Leigh and T. Davies, 1768); John Bulkeley and John Cummins, *A Voyage to the South-Seas, in the Years 1740-1. Containing, a Faithful Narrative of the Loss of His Majesty's Ship the Wager on a Desolate Island in the Latitude 47 South, Longitude 81 : 40 West...* (London: Jacob Robinson, 1743). For a recent account of Anson's expedition and the Wager wreck and mutiny, see Glyn Williams, *The Prize of All the Oceans: The Triumph and Tragedy of Anson's Voyage Round the World* (London: Harper Collins, 1999). Anson later served as an energetic and influential First Lord of the Admiralty during and after the Seven Years' War; Byron, later Newfoundland naval governor and the grandfather of the poet George Gordon, Lord Byron, was assigned to demolish Louisbourg's fortifications in 1760, and in the same year intercepted French forces sent to relieve Quebec, in Restigouche Bay.

Year 1740, till their Arrival in England, 1746. With a Description of St. Jago de Chili, and the Manners and Customs of the Inhabitants. Also a Relation of the Loss of the Wager Man of War, one of Admiral Anson's Squadron (London: S. Baker, G. Leigh and T. Davies, 1768). The beach and littoral zone was liminal space geographically, socially, and culturally. It was where material culture collapsed and was sometimes reconstituted, where social relations and bodies disintegrated or were sustained. A naval shipwreck represented and embodied a voiding of authoritative social order that was a central concern of eighteenth-century maritime imperial governance.

The wreck of the *Wager* shows the connections between British maritime imperial assertion, navigational technology, and the limits placed on both by the inshore physical landscape with exceptional clarity. Like other examples of the genre, it described instances of extreme individual suffering, as members of the ship's complement underwent ordeals of hunger and exposure in an alien landscape with few means of material support. Perhaps more importantly, it recounted the crew's social and civil abjection, the collapse of legitimately constituted order and discipline, and in doing so raised persistent doubts about the durability of the structures of British society in unfamiliar overseas environments. When the *Wager* went ashore, the hierarchical social structure that prevailed on board was voided and the crew split into mutually antagonistic and lawless factions, openly committing acts of violence against officers who prior to their ship's destruction had embodied British state authority.¹⁸ The implication that British civilization was a fragile thing—an implication repeated in hundreds more shipwreck narratives published during the following century—provided a haunting counterpart to the rational certainties of contemporary enlightened conceptions of society. As was evident in contemporary responses to the loss of Hovenden Walker's transports in 1711, early eighteenth-century observers tended to interpret shipwrecks providentially as manifestations of a divine purpose, however obscure this purpose might be. Later in the

¹⁸ Carl Thompson, *The Suffering Traveller and the Romantic Imagination* (Oxford: Clarendon Press, 2007), 90-95.

century wrecks were understood less frequently as demonstrations of divine order and more often as worrying instances of secular disorder. As British maritime empire grew so too did the awareness that civil society was one prolonged gale or missed landfall away from dissolution, club law, and murder.

This awareness was especially poignant in contemporary northeastern North America, where boreal climate and glaciated geography not only made a certain volume of shipwrecks inevitable, but where the reach of British governance remained tenuous or non-existent in many areas. Eighteenth-century British administration was inherently fragile, and transoceanic governance even more so in a period when transportation depended closely on weather. This fragility was most evident in colonial possessions located along extended river systems or difficult-to-approach coasts subject to climatic extremes. The physical attenuation of maritime empire was frequently mirrored by its administrative attenuation. This was evident, for example, in failures of early efforts to administer Labrador from Quebec rather than Newfoundland, and in persistent fears of wrecking activity on Anticosti and in other areas.¹⁹ In North America, large areas were entirely cut off from the broader Atlantic world for many months of the year. Storms sank ships carrying vital military forces and supplies. Official communications relied on a few, difficult-to-traverse corridors—in the case of Quebec, the St. Lawrence, the Hudson-Lake Champlain route to New York, and via the St. John River to Halifax—and was routinely interrupted. It was not uncommon for colonial administrators to go a year or more without contact or instruction from their metropolitan superiors; even longer for those

¹⁹ See, for example, LAC, Correspondence with General James Murray MG11-CO42Q, James Murray to Charles Wyndham, 27 September 1763; LAC, Governor Haldimand MG11-CO42Q, Nicholas Cox to George Germain 15 April 1778.

working in riverine settlements deep inland.²⁰ The material constraints on imperial development were widely recognized, perhaps most clearly by imperial agents resident in the region who suffered from these constraints as a routine consequence of their duties.

Published accounts of shipwrecks along the region's coasts and of overland journeys through its interior published between the end of the Seven Years' War and the end of the American Revolution vividly depict environmental challenges to the continuity of commercial and administrative life. In general, these narratives follow patterns typical of the genre, but they inflect these patterns in ways that illustrate the particular relations of imperial power and local knowledge in the region. The experience of Massachusetts-born British American merchant Gamaliel Smethurst illustrates well both the general pattern and the specific local inflections.²¹ In October 1761, Smethurst travelled to the Bay of Chaleurs hoping to exploit commercial opportunities made possible by the ongoing conquest of the gulf region. He sailed with a detachment of light infantry dispatched to expel Acadian refugees missed during the 1758 Gulf of St. Lawrence campaign. When the troops' captain disregarded his Acadian pilot's directions the vessel grounded; when it refloated on the rising tide the captain panicked and left the bay, marooning Smethurst who was then ashore seeking assistance from the local population. Smethurst determined to travel southward along the coast to Baie Verte and across the Chignecto Isthmus to Fort Cumberland, one of the few sites of settled British imperial presence in contemporary western Nova Scotia. While, as a British American trader, he

²⁰ Correspondence was routinely disrupted by weather and mishaps; see, for example, LAC, James Murray Papers MG11-CO42Q, James Murray to Jeffery General Amherst, 27 January 1761; LAC, MG21, Haldimand Papers, Add. Mss. 21730, Thomas Hutchins to Frederick Haldimand, 2 August 1773.

²¹ Gamaliel Smethurst, *A Narrative of an Extraordinary Escape out of the Hands of the Indians in the Gulph of St. Lawrence* (London: The Author, 1774). See also William Francis Ganong's introduction to the reprint of Smethurst's narrative in *Collections of the New Brunswick Historical Society* 2 (1905), 361-390.

was familiar with the rigours of travel in the coastal zone, his own knowledge and resources were inadequate to allow him to attempt the passage unassisted. The shore between the Bay of Chaleurs and Chignecto was low and broken by rivers, dissolving in many places into marshes and lagoons, and backed by forests choked with underbrush and, by the early weeks of December, a foot of thickly crusted snow. The coast was uncharted and would remain so until *The Atlantic Neptune* published the results of Holland's surveys of the area, in 1781. Accordingly he was forced, in his words, to "[put] myself into the hands of the Indians."²² For six weeks he was carried alongshore and



Fig. 6.13. J.F. W. Des Barres, *Chart of the Bay of Chaleurs* [1781], from *The Atlantic Neptune*. National Maritime Museum, Greenwich, HNS 130E. The hydrographic part of the itinerary travelled by Gamaliel Smethurst's had been surveyed in 1769 and 1770; the interior was unmapped. To move through this landscape at all, Smethurst relied on his local guides' geographic knowledge and experiential relation to local conditions.

²² Gamaliel Smethurst, *Narrative of an Extraordinary Escape*, 12.

across open bays in canoes piloted by Pokemouche Mi'kmaq and Acadian guides, at times fording rivers up to their necks, at others stranded for a days at a stretch on sandbars inundated periodically by the tide. In such liminal places the distinction between land and sea, between geography and hydrography, was unclear and ever-changing: it was littoral space at its most chaotic. The knowledge and experience of local people capable of navigating the coast's storms in deeply laden bark canoes were the only things that made the region at all approachable by agents of British commerce and empire.

Smethurst's largely unquestioning deferral to the route-finding and seamanship abilities of his local guides during his ordeal left him relatively free to undertake a running reconnaissance of the commercial potential of the lands he traversed. He used his notebook to record areas of likely agricultural settlement, beaches suitable for fisheries, and concentrations of resources such as the "sea-cows" he described as being "much like Anson's sea-lions," and that he assessed as a potentially lucrative source of marketable oil.²³ His Aboriginal guides were likewise subsumed in his efforts to fit the region into discourses of British commercial and intellectual life: he categorized them not only as potentially loyal subjects and commercial partners, but assimilated them anthropologically to British history, inventorying their domestic habits and proclaiming these identical to those of "our boasted ancestors, the Britons, when Julius Caesar first landed upon our island."²⁴ He constantly sought to connect his experience of the coast with the broader contexts of the Atlantic world, as when his party encountered an abandoned wreck in which he found English newspapers, permitting him to feed his desire for communication with accounts of "some of my acquaintance married, others

²³ Gamaliel Smethurst, *Narrative of an Extraordinary Escape*, 24.

²⁴ Gamaliel Smethurst, *Narrative of an Extraordinary Escape*, 13-14.

dead—some fortunate, others bankrupt....”²⁵ Even in a condition of weakness and dependency, Smethurst linked local realities with the processes of maritime imperial integration.

Accounts of similar events in the gulf region were published throughout the late-eighteenth century and into the nineteenth. In late autumn 1761 the ship *Auguste*, carrying *Canadiens* into exile, wrecked on the west coast of Cape Breton killing all but seven of the one hundred and twenty one people aboard. Among the survivors was Luc de la Corne, a former officer in the French Troupes de la Marine. Despite his long experience of wilderness travel in harsh Canadian conditions—evident in his wintertime three-month-long journey overland to Quebec—his survival was the result of timely intervention by local Mi’kmaq.²⁶ Twenty years later British army officer Samuel Prenties, carrying dispatches from Quebec to New York during the American Revolutionary War, was wrecked in the same area and made a grueling small-boat journey along the sheer gulf coast of Cape Breton to reach military posts in the eastern part of the island. Other members of his party, unable to travel, suffered frostbite and gangrene and resorted to cannibalism. When provisions salvaged from the wreck were depleted, the boat party foraged for berries and kelp. On the verge of starvation, Prenties was found by members of the same Aboriginal community who had rescued La Corne twenty years before. They nursed him and his boat-mates, fed them smoked venison and seal oil, sent a canoe to locate the debilitated survivors, and provided them with provisions and snowshoes with which to reach their destination. In his narrative, Prenties remarked that “[it] gave me no small pleasure to find that the Indians were so careful of

²⁵ Gamaliel Smethurst, *Narrative of an Extraordinary Escape*, 19-20.

²⁶ *Journal du Voyage de M. Saint-Luc de la Corne, Ecuyer, dans le Navire l’Auguste en l’An 1761* (Montreal: Fleury Mesplet, 1778).

us.”²⁷ In fact, the Mi’kmaq of western Cape Breton were the region’s only inhabitants, their transhumant subsistence patterns allowing them to thrive where Britons found privation and death. Shipwreck and abjection narratives were, among other things, sources of local geographical knowledge. They acted as a sort of cautionary inversion of



Fig. 6.14. J.F.W. Des Barres, detail of *Chart of the Island of Cape Breton* [c. 1781], from *The Atlantic Neptune*. National Maritime Museum, Greenwich, HNS 139A. Surveyed by Holland under extremely rigorous conditions in 1766, the coast of western Cape Breton was littoral space at its most concentrated and violent. The unapproachable boldness of the sheer cliffs, narrowness and exposure of the beach, the complete openness to westerly gales, and lack of anchorages meant that it was effectively outside the ambit of British maritime empire throughout the eighteenth century. The largely void interior of the western island and oblique reference to Aboriginal presence in Des Barres chart emphasize the area’s absence from imperial cognizance.

²⁷ Samuel W. Prenties, *Narrative of a Shipwreck on the Island of Cape Breton, in a Voyage from Quebec 1780* (London: s.n., 1782), 89.

sailing directions and published travelers' itineraries. By recounting the difficulty of travel in the littoral regions of the northeast they provided readers with the fullest available accounts of the area's physical landscapes and of the impediments these presented to commerce and governance. They showed that Britons and British Americans alike were ill-adapted to overcoming these impediments, and that reliance on the guidance of Aboriginal and other local people was the surest means of survival. Vernacular local knowledge was, for Smethurst, Prenties, La Corne, and their unnumbered fellow-travellers in post-Seven Years' War northeastern North America, an indispensable support upon which the success of commercial and imperial ventures ultimately rested.²⁸

Hydrographic Survey: Anti-Abjection Narratives

The relationship between material constraint and local knowledge described in shipwreck narratives was paralleled in the experience of surveyors working in the northeastern coastal zone. For the same reasons that travel in the region was difficult and dangerous, the geography and climate of northeastern North America resisted easy survey. The land and coasts covered by the gulf and Nova Scotia surveys was shaped by recent glaciation. Thousands of ice-gouged channels formed long chains of lakes and rivers running into the interior in most areas; coastal approaches were similarly intricate and broken. Outside of large river valleys physical landscapes were mostly forests,

²⁸ Abjection narratives demonstrating the consequences of shipwreck in the northeastern region include George Dartnell, *A Brief Narrative of the Shipwreck of the Transport 'Premier', Near the Mouth of the St. Lawrence. On the 4th November, 1843* (London: J. How, 1845); Neil Dewar, *Narrative of the Shipwreck and Sufferings of Neil Dewar, (Who Has Lost Both His Legs and Arms), Seaman of the Rebecca of Quebec, Wrecked on the Coast of Labradore, 20th November, 1816* (Greenock: W. Johnston, 1843); Robert Sands, *The Shipwreck, or, The Stranding of the Warrens, of London, on the Coast of Labrador, on the Morning of the 15th October, 1813* (Quebec: New Printing-Office, 1814); John Smith, *Narrative of the Shipwreck and Sufferings of the Crew and Passengers of the English Brig Neptune which was Wrecked in a Violent Snow Storm on the 12th of January 1830, on Her Passage from Bristol to Quebec* (New York: J. Smith, 1830).

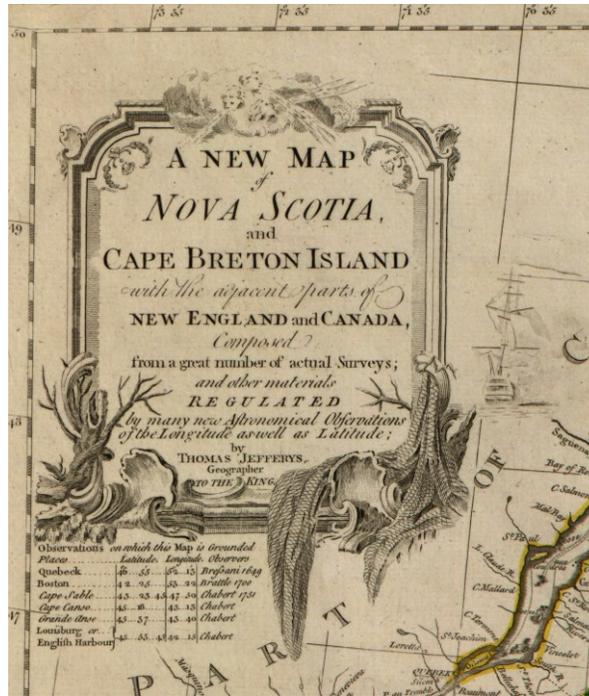


Fig. 6.15. Detail of Thomas Jefferys, *A New Map of Nova Scotia, and Cape Breton Island with the Adjacent Parts of New England and Canada, Composed from a Great Number of Actual Surveys; and Other Materials Regulated by Many New Astronomical Observations of the Longitude as Well as Latitude* from *The American Atlas: Or, A Geographical Description of the Whole Continent of America* (London: Sayer and Bennet, 1776). David Rumsey Historical Map Collection, 0346.016. The cartouche from Jefferys' Nova Scotia map is supported by images of the sea and the fishery, and of forest growth; it is surmounted by figures boisterously symbolic of wind. To its right, a ship disordered by wind vanishes in fog. Metropolitan Britons viewed the northeastern region meteorologically.

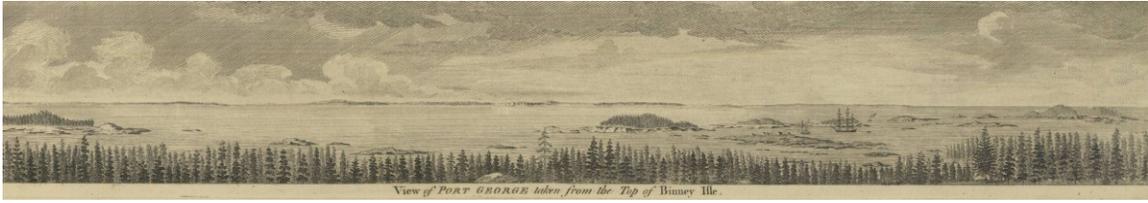


Fig. 6.16. J.F.W. Des Barres, detail of *Chart of Canso Harbour* [1775], from *The Atlantic Neptune*. National Maritime Museum, Greenwich, HNS 57. Making a single line of fir trees a synecdoche for a large forested region, and using it as a screen through which to view the scant, denuded islands that supported enterprise at Canso, Des Barres conveys a strong sense of the constriction of the British maritime cultural landscapes exploited in northeastern North America after the Seven Years' War.

wetland, and barrens. Bare granite coasts from Massachusetts north to Labrador were exposed to the open North Atlantic and extremely difficult to approach in many areas. The region was on the track of powerful cyclonic storms in the Atlantic and subject to strong continental westerly winds and extreme cold. In summer, coastal areas could be foggy forty percent of the time. In winter the gulf and river froze over, and in spring icebergs threatened navigation.²⁹ In summertime swarms of biting insects posed a real hazard to physical and mental health.³⁰ Outside of a few large river valleys with ready access to the ocean the region was sparsely populated. Almost all travel was by sea or overland by water. Even the densest settlements in the St. Lawrence valley were entirely riparian, expanding from the riverbank to mountain or forest barriers a few miles or (as at Chateau Richer and St. Joachim) a few hundred metres inland.

Surveying parties moved through these landscapes and worked in this climate for months at a time. The extremely broken and exposed nature of the coast ensured that surveying parties' experience there was an extremely difficult and dangerous ordeal that

²⁹ The rigours of the northeastern climate not only threatened the well-being of surveyors, but could make it extremely difficult to take accurate observations. See LAC, CO 323, Board of Trade, Samuel Holland to John Pownall, 4 March 1765; J.F.W. Des Barres, *Preface* [1775] from *The Atlantic Neptune* National Maritime Museum, Greenwich, HNS 4.

³⁰ See, for example, Holland's account of the mosquitos and sand flies on St. John's Island: LAC, CO 323, Board of Trade, Samuel Holland to John Pownall, 6 October 1765. The real dangers presented by insects were undoubtedly even greater in other parts of the region, such as on the coast of Labrador and the lower north shore of the St. Lawrence.

sometimes killed them.³¹ They travelled long distances over difficult terrain with no roads, set stations on hills and other places hard to access, made landings on open beaches in surf, erected equipment on exposed rocks and islands.



Fig. 6.17. J.F.W. Des Barres, *West Shore of Richmond Isle, Near the Entrance to the Gut of Canso* [1777], from *The Atlantic Neptune*. National Maritime Museum, Greenwich, HNS 64. Des Barres' view of a survey party at work aptly illustrates the isolation and exposure that comprehending maritime physical geography entailed in the northeastern region. Living in boats for long periods of time, hydrographic surveyors' connection to the land was frequently limited and instrumental. Land was measured for baselines, but more often it was used as a fixed point from which to record maritime features. Note the conventionalized impenetrable forest graphically delimiting the narrow intertidal zone.

Their occupation required them to keep small boats on station as close to navigational hazards as was prudent, and to remain there until they had identified and recorded observable perils. These perils could be severe: in autumn 1765 John Pringle and Thomas Wright surveyed the Cape Breton coast that was the site of both La Corne's and Prenties'

³¹ LAC, CO 323, Board of Trade, Samuel Holland to John Pownall, 20 November 1764.

shipwrecks, a coast formed largely by several-hundred-foot sheer cliffs open to westerly winds driving directly on shore. Holland's *Description of the Island of Cape Breton* prepared for the Board of Trade and Plantations offers a vivid picture of the nature of this duty:

From this part [Cheticamp] to Cape North, the coast is exceedingly rocky and mountainous, neither fit for agriculture or any other improvement; the coast is very bold and has but few sandy beaches or coves for a boat to land at, by which means the survey of this part was attended with great difficulty and danger...and often the surveying party was brought to a starving condition, as they could not provide themselves with provisions from the schooner boat that attended them. When the wind was offshore and when on the contrary it blew on, she was obliged to go round Cape North for a harbor. In short there is scarce a place hereabouts without the remains of wrecks.³²

This is an admittedly extreme example of the routine dangers that hydrographic surveying required. But whenever a coast was surveyed, the closer inshore a party worked the smaller were the boats they worked in, and the more likely they were to suffer the rigours of the littoral zone. Both Holland's and Des Barres' surveys regularly experienced marine accidents resulting in the loss of boats (some of them quite large) and, less frequently, the loss of surveying personnel's lives. Des Barres himself narrowly escaped drowning when the boat he was in wrecked while landing on Sable Island.³³ The

³² Samuel Holland, "A Description of the Island of Cape Britain Relative to the Plan Surveyed, Agreeable to the Orders and Instructions of the Right Honorable the Lords Commissioners for Trade and Plantations," in D.C. Harvey ed., *Holland's Description of Cape Breton and Other Documents* (Halifax: Public Archives of Nova Scotia, 1935), 62; see also LAC, CO 323, Board of Trade, Samuel Holland to John Pownall, 24 Nov 1765. The ordeals related to the profession of surveying were not limited to those working in the coastal zone; surveyors working in the forested continental interior suffered similar, if less extreme, environmental trials. See, for example, LAC, Correspondence with the English Ministry MG11-CO42Q, John Collins to Lords Commissioners of Trade and Plantations, 22 July 1766.

³³ J.F.W. Des Barres, *Preface* [1777] from *The Atlantic Neptune*, National Maritime Museum, Greenwich, HNS 4; LAC, ADM 1/483, Samuel Hood to Philip Stephens, 5 September 1767. The correspondence of surveyors and their superiors at the Admiralty and Board of Trade is peppered with references to the loss of boats, and at times officials became impatient with the expense that resulted. See, for example, LAC, ADM 1/483, Samuel Hood to Philip Stephens 5 August 1768; LAC, ADM 1/484, John Montagu to Philip Stephens, 22 September 1771; LAC, ADM 1/484, Henry Mowat to Samuel Graves, 1 September 1744.

desertion of seamen attached to the surveys was, perhaps, related to the uncommon rigours of the service: to constant exposure to the elements and conspicuous marine hazards.³⁴ Surveyors' duty required them to risk the disaster they sought to avert; consequently, abjection was sometimes the price of hydrographic knowledge.

Survey and Embodied Local Knowledge

The exacting nature of survey in inshore and riverine waters meant that surveyors preferred when possible to employ men who were familiar with the North American littoral environment, either British military personnel seasoned by previous experience there or people who had been born in the region, who had spent a lifetime travelling its waters, and who could help to record local conditions. The northeastern region's political history meant that in practice it was Acadian and Aboriginal boatmen, pilots, and guides who were employed, and who were an important component of contemporary surveys. Local peoples played an important role in helping survey parties adapt to local conditions by, for example, providing the clothing, sledges, dogs, and other equipment required to continue working through the northeastern winter season.³⁵ In addition to general knowledge of local conditions, Acadian and Aboriginal pilots and guides could offer surveyors specific information that allowed access to areas to which might otherwise be impossible to survey. Holland's lack of such knowledge in Cape Breton had a direct effect on quality of his survey: writing to John Pownall, Secretary of the Board of Trade and Plantations, in April 1767, he reported that the maps based on his work there would

³⁴ LAC, ADM 1/482, Colvill to Phillips Stephens, 9 September 1764; LAC, ADM 1/482, Colvill to Phillips Stephens, 30 November 1764. See also Stephen J. Hornsby, *Surveyors of Empire: Samuel Holland, J.F.W. Des Barres, and the Making of The Atlantic Neptune* (Montreal and Kingston: McGill-Queen's University Press, 2011), 97-101

³⁵ LAC, CO 323, Board of Trade, Samuel Holland to John Pownall, 4 March 1765.

be at a smaller scale than anticipated because of the paucity of Acadian pilots familiar with the area's coasts.³⁶ Des Barres addressed the difficulty of accessing and retaining trained naval seamen for his Admiralty-sponsored surveys by enlisting Acadian boatmen, some of whom presumably had life-long experience in northwestern Atlantic waters. While this expedient proved difficult because of naval pay practices designed for ships and men who communicated regularly with metropolitan authorities in Britain, Des Barres' superior officer in Halifax recognized that the Acadians' experience and knowledge was necessary to the survey, and that to lose it would slow the survey's progress.³⁷ Local pilots and guides were fully aware of their value to survey, overland communication, and other acts of imperial administration in the northeast, and so demanded ample remuneration for their services, to the discomfort of economy-minded officials.³⁸

Embodied local geographic knowledge of northeastern North America was made accessible for commercial and administrative purposes by means of the technical practices of survey. Hugh Finlay, who as Surveyor of Post Roads in North America undertook surveys to improve Quebec's communications with the Atlantic, employed Wabanaki guides to direct parties along unsurveyed routes to the coast. His account of this experience illustrates the process through which agents of formal survey adapted vernacular local knowledge to imperial purposes. Finlay employed four Wabanaki guides, specifically because they were familiar both with the terrain the survey was to

³⁶ Samuel Holland to John Pownall, 15 April 1767, in D.C. Harvey ed., *Holland's Description of Cape Breton and Other Documents* (Halifax: Public Archives of Nova Scotia, 1935), 48-49.

³⁷ LAC, ADM 1/483, James Gambier to Philip Stephens, 13 June 1771; LAC, ADM 1/484, John Montagu to Philip Stephens, 30 June 1772; LAC, ADM 1/484, John Montagu to Philip Stephens, 16 December 1772; LAC, ADM 1/484, John Montagu to Philip Stephens, 20 April 1773; LAC, ADM 1/484, John Montagu to Philip Stephens, 16 December 1772; LAC, ADM 1/484, John Montagu to Philip Stephens, 28 June 1773.

³⁸ See, for example, LAC, Haldimand Papers, MG21, Add. Mss. 21810, Frederick Haldimand to John Parr, 21 June 1783.

pass through and with the languages of the people who lived there. The guides were hired not just as wayfinders, but as cultural intermediaries as well. Their knowledge was embodied knowledge, resulting from prolonged experience of conditions in the region traversed: “these countries were perfectly well known to them, having been reared in these woods, which they had yearly traversed from their infancy.”³⁹ The transfer of this knowledge from the Wabanaki to the British cultural context required that the surveyors themselves enact it, that they undergo the experience of travel through which the experience was initially gained, and that they then translate that experience into the idiom of European spatial knowledge through the technique of running survey. Every evening Finlay would confer with the guides, who prepared maps of the next day’s travel on sheets of birch bark. The maps showed “rivulets, ponds, lakes, marshes, ascents and descents” and were accompanied by remarks on the length and depth of watercourses to be traversed, and by dotted lines indicating “the passes most proper for a road.”⁴⁰ Finlay transcribed this information onto paper, and during the next day’s passages measured distances between the features identified, and took compass readings of their bearings relative to the route travelled. He then transferred this amended version of the guides’ directions to a general chart of the entire route. Experience confirmed the accuracy of the guides’ maps: Finlay concluded they were “right in everything but distances.”⁴¹ His

³⁹ LAC, Haldimand Papers, MG21, Add. Mss. 21686, Hugh Finlay, *Journal thro’ the Woods from Quebec to Falmouth in Casco Bay in September 1773*. On Aboriginal mapping and its relation to directed survey, see G. Malcolm Lewis ed., *Cartographic Encounters: Perspectives on Native American Mapmaking and Map Use* (Chicago: University of Chicago Press, 1998); David Woodward and G. Malcolm Lewis eds., *The History of Cartography* volume 2, book 3 *Cartography in Traditional African, American, Arctic, Australian, and Pacific Societies* (Chicago: University of Chicago Press, 1998); J.B. Harley, “Rereading Maps of the Columbian Encounter,” *Annals of the Association of American Geographers* 82: 3 (1992), 522-536.

⁴⁰ LAC, Haldimand Papers, MG21, Add. Mss. 21686, Hugh Finlay, *Journal thro’ the Woods from Quebec to Falmouth in Casco Bay in September 1773*.

⁴¹ *Ibid.*

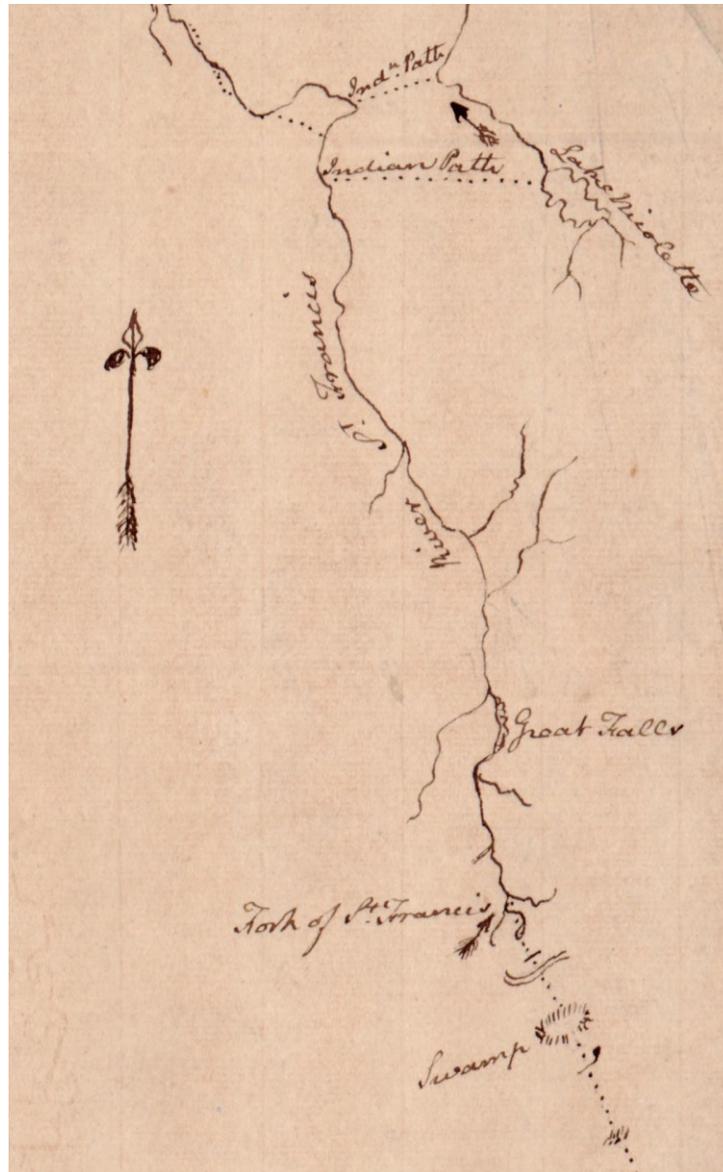


Fig. 6.18. Hugh Finlay, detail of “Plan of the Route from St. Francis to Connecticut River [c. 1774].” Library of Congress, Geography and Map Division G3451.P25 1774 .F5. Adaptation of Aboriginal geographical knowledge to British and British American use in the post-Seven Years’ War period focused particularly on recording long-used riverine and forest travel landscapes, incorporating these into existing imperial networks linking continental interior settlements, coastal towns, and the broader Atlantic world.

comment regarding distances, however, was a misapprehension based on different culturally determined standards of measurement, rooted in very different spatial senses and relations to the physical landscape. Finlay’s assessment of his completed map highlights the hybrid nature of the geographical knowledge upon which British surveys of

the northeast ultimately rested: “Now,” he asserts, “from their sketches and remarks, and my own observations, the nature of the country will be known.”⁴² Finlay’s survey illustrates the processes through which Britons assimilated local American geographical knowledge and made it available for state and commercial purposes: survey used technical observation (compass bearings, measured distances) to translate local knowledge into the language of European scientific geography.

By collecting and re-ordering the sort of intimate local geographic knowledge possessed by the Mi’kmaq men and women who came to the assistance of Smethurst, and the Wabanaki men hired by Finlay, maps, charts, and sailing directions acted as a sort of anti-abjection narrative.⁴³ Sailing directions described the same sort of coastwise itinerary as did Samuel Prenties’ shipwreck account, but they did so to identify the hazards of these routes in advance, so that users could avoid the personal suffering and commercial and imperial discontinuities that resulted from ignorance of local conditions. In a sense these documents disembodied local knowledge, representing it in radically abstracted form and rendering it portable.⁴⁴ The purpose of charts and sailing directions was to allow commercial and imperial actors—merchants, soldiers, seamen, and administrators—to act independently of the knowledge of local peoples in specific areas.

The extent of contemporary survey activity suggests that portable local guidance was

⁴² *Ibid.*

⁴³ See, for example, Des Barres’ reflections in the preface to the first volume of *The Atlantic Neptune*: “The climate not admitting the use of instruments more than six months in the year, added to the frequent interruptions by fogs, and precarious weather, unavoidably made tedious a performance in which accuracy and certainty were the *prima desiderata*, and has rendered many years necessary to complete it for publication. But when the author reflects that the accuracy and truth of his work will stand the test of ages, and preserve future navigators on that coast from the horrors of shipwreck and destruction, he does not repine at its having employed so large a portion of his life.” J.F.W. Des Barres, *Preface* [1777] from *The Atlantic Neptune*, National Maritime Museum, Greenwich, HNS 4.

⁴⁴ James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven: Yale University Press, 1998); Bruno Latour, *Science in Action: How to Follow Scientists and Engineers through Society* (Cambridge, MA: Harvard UP, 1987).

especially needed in northeastern North America, where maritime imperial activity intensified from the mid-eighteenth century onward, and where living pilots and guides were few. The low density of settlement in most areas of the Laurentian Basin and its watershed meant that there was a lot of geography to know and relatively few people to know it.⁴⁵ Imperial agents and commercial interests had to find ways to gain reliable pilot knowledge of waters in which they operated but for which no pilots existed. They needed inventories of local marine environments, representing hydrographical features in compact, usable, and readily available form.

Scientific Survey in the St. Lawrence Region

Developments in the technology and methodology of survey offered powerful tools to assist this abstraction of northeastern geography and hydrography. Improved instruments, especially Hadley's octant (for measuring angular distances) and the station pointer (for improving the accuracy of angles measured from offshore), along with more refined practices of triangulated survey (in which long, measured baselines permitted geometrical determination of distance between widely separated points), allowed more precise and efficient survey of the inshore physical landscape. Improvements in methods of determining longitude meant that localized surveys undertaken with the assistance of these technologies and practices could be fit more readily into the global positioning framework of latitudes and longitudes. Because it systematically applied these technologies to the coastal environment, hydrographic survey in the post-war St.

⁴⁵ On the lack of pilots and more generally of embodied pilot knowledge in thinly occupied areas of northeastern North America, see J.F.W. Des Barres, *Preface* [1775] from *The Atlantic Neptune* National Maritime Museum, Greenwich, HNS 4; Samuel Holland to John Pownall, 15 April 1767, in D.C. Harvey ed., *Holland's Description of Cape Breton and Other Documents* (Halifax: Public Archives of Nova Scotia, 1935), 48-49.

Lawrence region has been interpreted as a laboratory for the development of the techniques of world-wide geodetic reconnaissance, a place where the cross-fertilization of army engineering (in the person of Samuel Holland) and naval endeavour (in the person of James Cook) began the process of assimilating local places to European scientific conceptions of geographical order on a global scale.⁴⁶ In this context the significance of the work of surveyors like Cook, Des Barres, and their metropolitan British counterpart Murdoch Mackenzie (who executed triangulated hydrographic surveys in British waters from the late 1740s), is that these men pioneered the use of geodetical control and triangulation in hydrographic survey, prefiguring the inventory of the world's coasts undertaken by the Admiralty Hydrographic Office in the nineteenth century. Their work thus laid the foundation for the scientific delineation of fundamental elements of planetary geography.

The specifically geodetic accomplishments of these figures were, however, quite limited. While Des Barres did pursue a triangulated survey, his geodetic control points were few and, as later investigators found, not very accurate. It is unclear whether Des Barres himself undertook observations of longitude in the course of his work.⁴⁷ Observed positions resulting from the Board of Trade's general surveys of eastern North America

⁴⁶ Archibald Day, *The Admiralty Hydrographic Service, 1795-1919* (London: HMSO, 1967); George S. Ritchie, *The Admiralty Chart: British Naval Hydrography in the Nineteenth Century* (London: Hollis & Carter, 1967); see also Mary Blewitt, *Surveys of the Seas: A Brief History of British Hydrography* (London: McGibbon and Kee, 1957). In the Canadian context, this historiographical approach is strongly evident in Stanley Filmore and R.W. Sandilands, *The Chartmakers: The History of Nautical Surveying in Canada* (Toronto: Published by NC Press Limited in association with The Canadian Hydrographic Service, Department of Fisheries and Oceans, 1983), and D.W. Thomson, *Men and Meridians: The History of Surveying and Mapping in Canada* (Three volumes, Ottawa: R. Duhamel, Queen's Printer and Controller of Stationery, 1966-1969.).

⁴⁷ Roy L. Bishop, "J.F.W. DesBarres: An Eighteenth-Century Nova Scotia Observatory," in Paul A. Bogaard ed., *Profiles of Science and Society in the Maritimes prior to 1914* (Fredericton: Acadiensis Press, 1990), 65-81. See also Stephen J. Hornsby, *Surveyors of Empire: Samuel Holland, J.F.W. Des Barres, and the Making of The Atlantic Neptune* (Montreal and Kingston: McGill-Queen's University Press, 2011), 113-114.

were sometimes very inaccurate. Thomas Wright's observations of the longitude of Anticosti, for example, vexed Admiralty hydrographer Henry Wolsey Bayfield during his nineteenth-century survey of the gulf: in May 1832 Bayfield's survey vessel *Gulnare* was nearly wrecked near the Mingan Islands while navigating on the basis of this longitude, as laid down in *The Atlantic Neptune*.⁴⁸ While James Cook's observation of a solar eclipse at the Newfoundland island of Burgeo ultimately assisted in the determination of that place's longitude, charts based on the surveys he and Michael Lane undertook in the gulf did not include longitudinal data.⁴⁹ Indeed, commercially produced charts of the gulf region published in the interwar period included few observations of longitude, which were in any case of very limited utility to contemporary navigators.

ASTRONOMICAL OBSERVATIONS on which this Chart is Grounded							
Names of Places	Latitude D. M. S.	Longitude	Observers	Names of Places	Latitude D. M. S.	Longitude D. M. S.	Observers
CAPE ROSIERS	48.57		} Observed in 162 Mascare's Ship Nerech in 1676.	Grande Ance in the GULF or CANSO	45.37	61.16	} Chabert in 1750.
Isle Bonaventure	48.53.20			Grande Island	45.20.7	60.50	
Mifco Island	48.4			Chamberry Island near CAPERCAISO	45.19.10		
North Cape	47.7		} Captain Holland in 1758.	Louifbourg	45.55.45	59.50	Chabert in 1751.
Isle or ST. JOHN The Fort on the South Side	46.12			North East Point of Seatar Island	46.1.50		Chabert in 1750
East Point	46.50			Isle S ^t Paul	47.11.50		Chabert in July 1751.
Gasperau River	45.59		} Capt. Bellingham in the French Ship the Arc in Oct. 1761.	Petit Port to the North of CAPERAY	47.52.30		Chabert in July 1751.
Cape S ^t Louis	46			Great Burgeo Island at Eclipse I.	47.55.30	57.51	Cook in 1765.

London. Printed for S. Sayer & J. Bennett, N^o. 53 in Fleet Street, at the Act direct. 25th March 1775.

Fig. 6.19. Detail of *A Chart of the Gulf of St. Lawrence, Composed from a Great Number of Actual Surveys and Other Materials, Regulated and Connected by Astronomical Observations from The American Atlas: Or, a Geographical Description of the Whole Continent of America...* (London: Sayer and Bennett, 1776). David Rumsey Historical Map Collection, 0346.012. The paucity of longitudes in late-eighteenth-century commercially produced charts is explicable by contemporary navigators' continuing inability to determine longitude at sea. Astronomical positions served instead to assert the chart's quantified, scientific character.

⁴⁸ LAC, H.W. Bayfield Papers, MG 24, F 28, vol. 4: Journal, 1831-1833, 16 May 1832. For a contemporary reference to Wright's fixing of Anticosti's latitude, see LAC, Haldimand Papers, MG21, Add. Mss. 21727, Samuel Holland to Frederic Haldimand, 20 January 1768.

⁴⁹ For an account of Cook's observations at Burgeo, see Victor Suthren, *To Go Upon Discovery: James Cook and Canada, from 1758-1779* (Toronto: Dundurn Press, 2000), 149.

This is not to suggest, however, that newer and more refined methods of spatial analysis did not have a significant impact on the surveys undertaken in this period, or that the charts produced on the basis of these surveys were not more accurate than their predecessors. There was, in fact, a cross-fertilization of army engineering and naval survey in the St. Lawrence region during and after the Seven Years' War, but its most immediate and significant effect was not to fix the region more fully in the geodetic grid. Rather, the Hadley octant's improved capacity for measuring angles between objects, and triangulated survey's ability to quickly and accurately determine distances between points, contributed to more accurate and rigorous surveys of extremely localized geographies. Some of Des Barres' Nova Scotia surveys, for example, were made at a scale of 1:30,000; in contrast, Jefferys' 1757 St. Lawrence chart (based on Jean Deshayes' late-seventeenth-century survey) was at a scale of 1:695,000.⁵⁰ As early as 1760 charts produced on the basis of Admiralty surveys show this more rigorous approach to precise measurement in hydrographic survey. Charles Saunders' 1760 chart of the St. Lawrence, based on existing French charts and British military surveys undertaken during and after the 1759 campaign, displays this increased rigour in its more detailed delineation of coasts, density of soundings, and number and precision of directional lines in difficult parts of the river. The superiority of this new approach to hydrographic survey ensured that French mapmakers soon copied Saunders' chart and incorporated elements of it into their own maps, as early as Jacques Nicolas Bellin's 1761 *Carte du cours du fleuve de Saint Laurent*. It is significant that this accelerated

⁵⁰ http://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~1904~120011:An-Exact-Chart-of-the-River-St--Lau?sort=Pub_List_No_InitialSort%2CPub_Date%2CPub_List_No%2CSeries_No&qvq=q:jefferys%2Bst.%2Blawrence;sort:Pub_List_No_InitialSort%2CPub_Date%2CPub_List_No%2CSeries_No;lc:RUMSEY~8~1&mi=1&trs=5 (accessed 6 August 2012).

development of triangulated hydrographic survey and its first cartographic products were the result of the practice of warfare: improved or scientific hydrography was largely a product of the military's hydrographic gaze. Improved survey permitted army engineers' fundamentally tactical approach to the physical landscape to take ship, to become more mobile and, in the following century, more extensive. Britain's amphibious military campaigns of the Seven Years' War produced an amphibious technique of comprehending the geography of the maritime world. James Cook's circumnavigations of the late 1760s and 1770s showed this technique's capacity to expedite survey on a global scale.

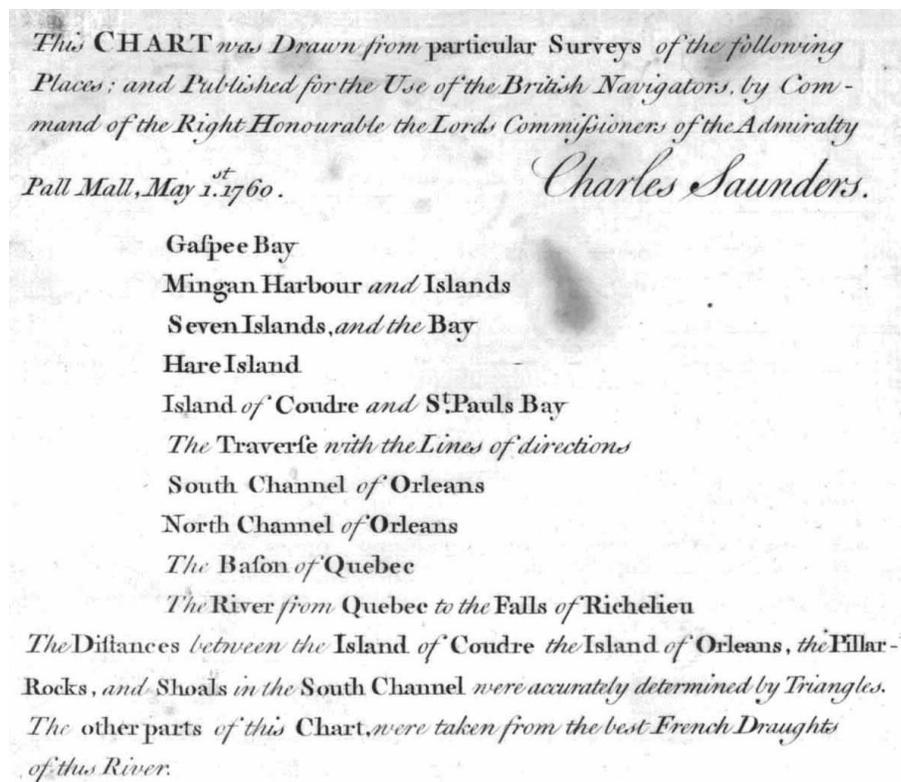


Fig. 6.20. Detail of *A New Chart of the River St. Laurence from the Island of Anticosti to the Falls of Richelieu: With all the Islands, Rocks, Shoals, and Soundings, also Particular Directions for Navigating the River with Safety; Taken by the Order of Charles Saunders, Esqr. Vice-Admiral of the Blue, and Commander in Chief of His Majesty's Ships in the Expedition against Quebec in 1759* (London: Lords Commissioners of the Admiralty, 1760). Bibliothèque et Archives nationales du Québec,

G 3312 S5 1760 J4 CAR. Charles Saunders' 1760 chart of the St. Lawrence, based in part on triangulated surveys completed after the conquest of Quebec, was the first of a series of directed surveys that, by 1775, almost certainly made the coastal areas of Nova Scotia, Newfoundland, and the St. Lawrence the most thoroughly surveyed marine area of its size in the world.

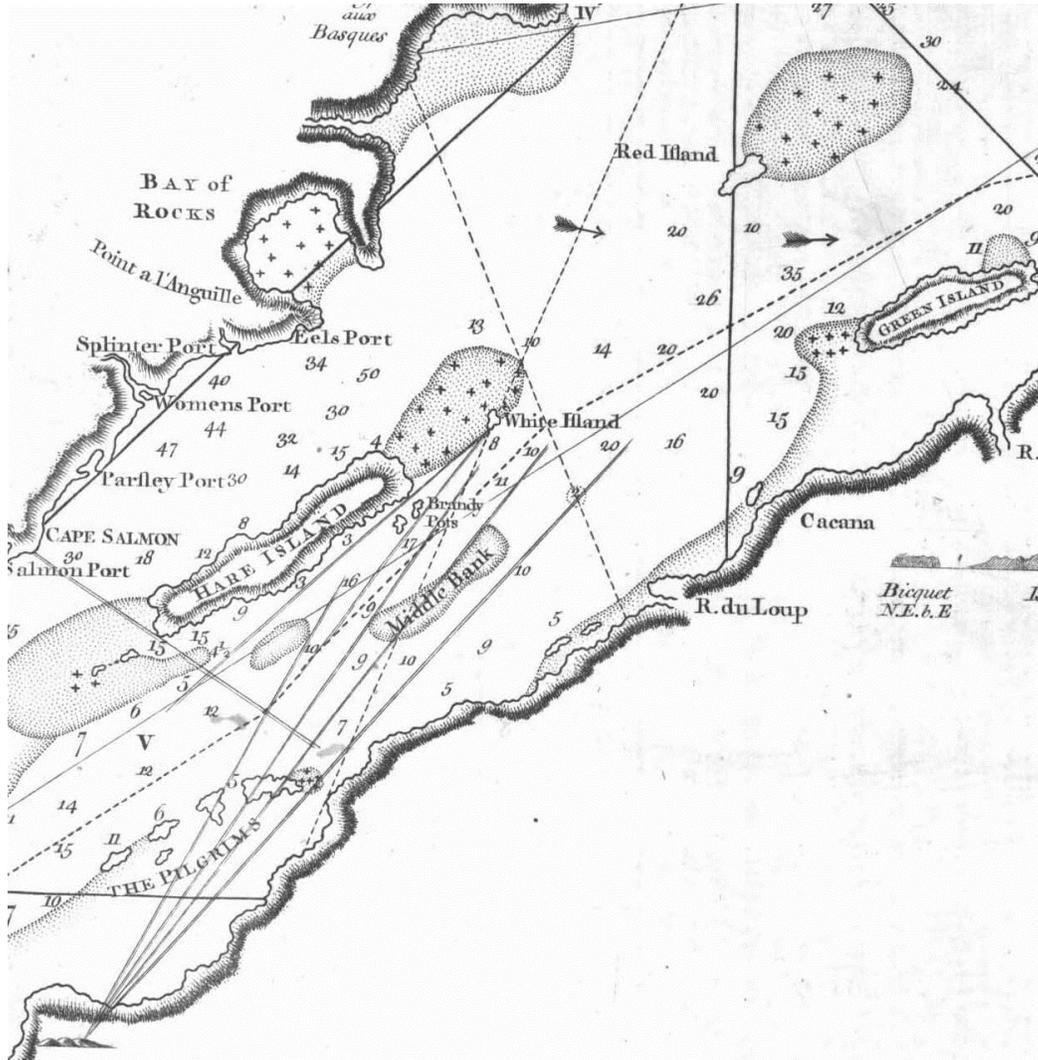


Fig. 6.21. Detail of Charles Saunders, *A New Chart of the River St. Laurence* [1760]. Post-war triangulated hydrographic surveys identified and measured northeastern North America with unprecedented thoroughness, supporting the creation of detailed and innovative charts, mostly by British commercial mapmakers. Note especially the abundance of directional lines and landmarks ashore.

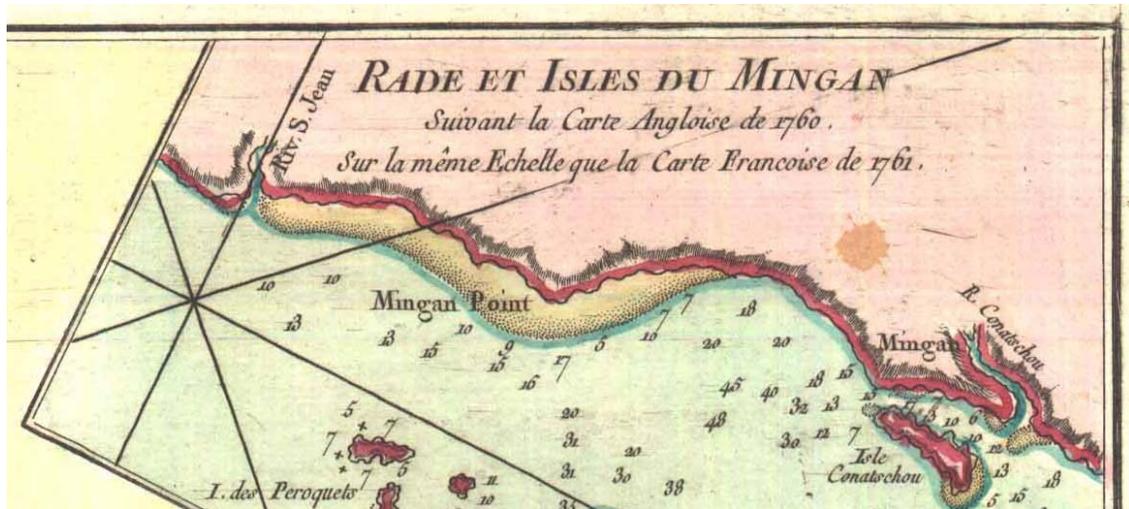


Fig. 6.22. Detail of Jacques Nicolas Bellin, *Carte du cours du fleuve de Saint Laurent depuis la mer jusqu'a Quebec en deux feuilles* (Paris: Departement de la Marine, 1761). Bibliothèque et Archives nationales du Québec, G 3312 S5 1761 B41 CAR. The superiority of Saunders' 1760 St. Lawrence chart was soon recognized by French mapmakers, who incorporated British surveys into their own charts.

St. Lawrence Surveys and Refinement of the Waggoner Tradition

The volume and detail of information produced by the new method of survey accelerated the refinement of an existing grammar of hydrographic representation rooted in the waggoner/sea atlas tradition.⁵¹ This tradition evolved to assist determination of position in inshore areas with reference to the distance and bearing of conspicuous landward features represented graphically on the chart. It delineated submarine geography, and linked this graphic information with textual sailing directions presenting a narrative itinerary re-enacting successful voyages through the waters described. The conventions of the waggoner tradition effectively systematized pilot information and made it available to navigators travelling without a pilot; it was thus an ideal vehicle for use in waters that (outside of the St. Lawrence Valley) were mostly uncharted, and where

⁵¹ Susanna Fisher, "The Organisation of Hydrographic Information for English Navigators—Five Hundred Years of Sailing Directions and Charts," *Journal of Navigation* 54: 2 (2001), 157-159; D.W. Waters, "The English Pilot: English Sailing Directions and Charts and the Rise of English Shipping, 16th to 18th Centuries," *Journal of Navigation* 42:3 (1989), 322-30; Peter Whitfield, *The Charting of the Oceans: Ten Centuries of Maritime Maps* (London: The British Library, 1996), 67-74.

there was little embodied pilot knowledge. State-supported surveys of Samuel Holland, J.F.W. Des Barres, James Cook, Michael Lane, Joseph Gilbert and others generated a large volume of hydrographic information that was ultimately incorporated into new charts of the region in this tradition; these charts were not, however, produced by British state agencies. To adapt Bruno Latour's formulation, the contemporary British state was more effective as a centre of accumulation than as a centre of calculation. It would not have a central hydrographic agency until the establishment of the Admiralty Hydrographic Department in 1795, long after many rival European states. Prior to that (and indeed after, as the department did not publish charts itself until the early nineteenth century), the publication and distribution of hydrographic information on which extension of maritime empire relied continued to be driven by commercial imperatives. With the significant exception of *The Atlantic Neptune*, British nautical charts of North American waters published in the second half of the eighteenth century were not subject to centralized state oversight; instead, commercial map sellers (especially William Faden and the firm Sayer and Bennett) pursued diverse publication programs not different in kind (although different in extent) from those pursued a century earlier resulting in the publication of *The English Pilot*. Surveys, remarks and materials from many sources were incorporated or simply copied in charts and directions that, while incorporating conventions derived from the Dutch sea atlas tradition, allowed considerable leeway for experimentation in the presentation of hydrographic material.⁵²

⁵² Mary Pedley, *The Commerce of Cartography: Making and Marketing Maps in Eighteenth-Century France and England* (Chicago: University of Chicago Press, 2005); Laurence Worms, "The Maturing of British Commercial Cartography: William Faden (1749-1836) and the Map Trade," *Cartographic Journal* 41:1 (2004), 5-11; J.B. Harley, "The Bankruptcy of Thomas Jefferys: An Episode in the Economic History of Eighteenth Century Map-Making," *Imago Mundi* 20 (1966), 27-48. Cf. Jeffers Lennox, "L'Acadie

cartography that might not have been possible under greater state control. Admiralty-supported surveys of the gulf, for example, adapted practices of army engineering to permit accurate delineation of coastal topography; this in turn helped commercial chartmakers to move beyond conventionalized representations of landward features, allowing for surer identification of landmarks in enclosed waters.



Fig. 6.24. Detail of Johannes Van Keulen, *Nouvelle Carte de la Riviere de Canada ou St. Laurens* [1717]. Bibliothèque et Archives nationales du Québec, G 3312 S5 1717 K4 CAR. Illustration of topography is entirely conventional.

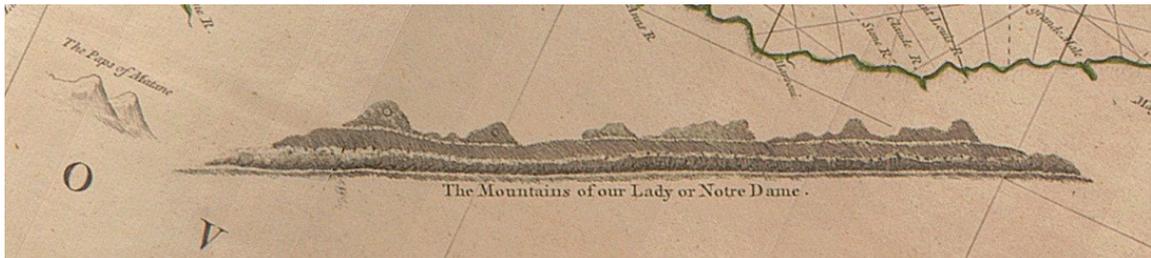


Fig. 6.25. Detail of Thomas Jefferys, *An Exact Chart of the River St. Laurence, from Fort Frontenac to the Island of Anticosti Shewing the Soundings, Rocks, Shoals &c with Views of the Lands and all Necessary Instructions for Navigating that River to Quebec* [1757]. David Rumsey Historical Map Collection, 0346.011. The same conventional topography is presented naturalistically, but is not an empirical depiction of actual physical features.



*Thus appears the Pilgrim Islands, and the main Land behind them;
when abreast of Tankard Island .*

Fig. 6.26. Detail of Charles Saunders, *A New Chart of the River St. Laurence* [1760]. Empirical depiction of actual physical features.

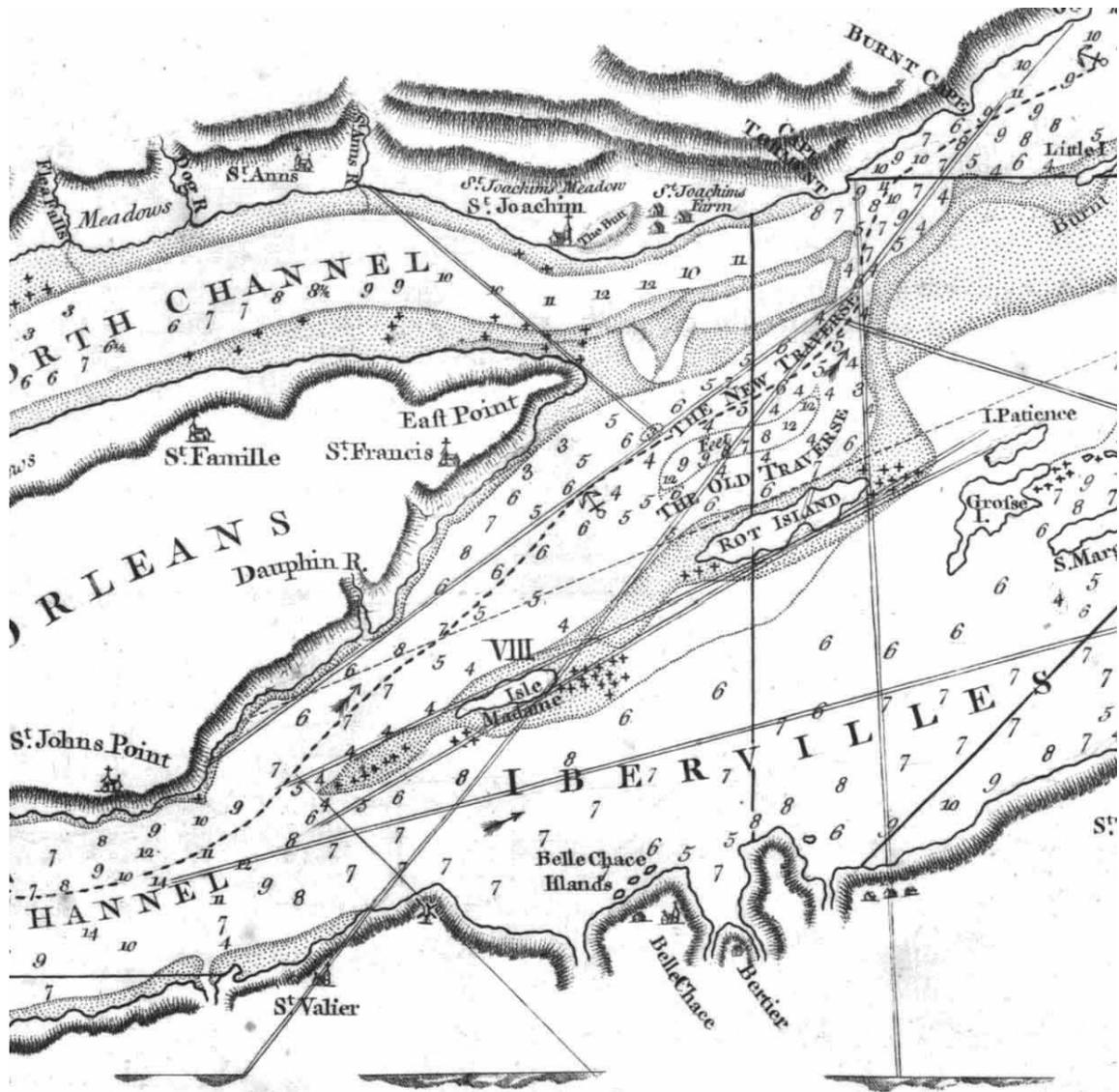


Fig. 6.27. Detail of Charles Saunders, *A New Chart of the River St. Laurence* [1760]. Keying directional lines to numerous small profiles of landmarks increased the chart's capacity to convey local pilot information graphically.

While this sort of mimetic representation was not entirely novel, the thoroughness of improved survey greatly expanded the number of such views. Commercial chartmakers developed innovative ways of integrating this abundant material into their products, as

Charles Saunders' chart of the St. Lawrence and Cook's charts of western Newfoundland demonstrate.

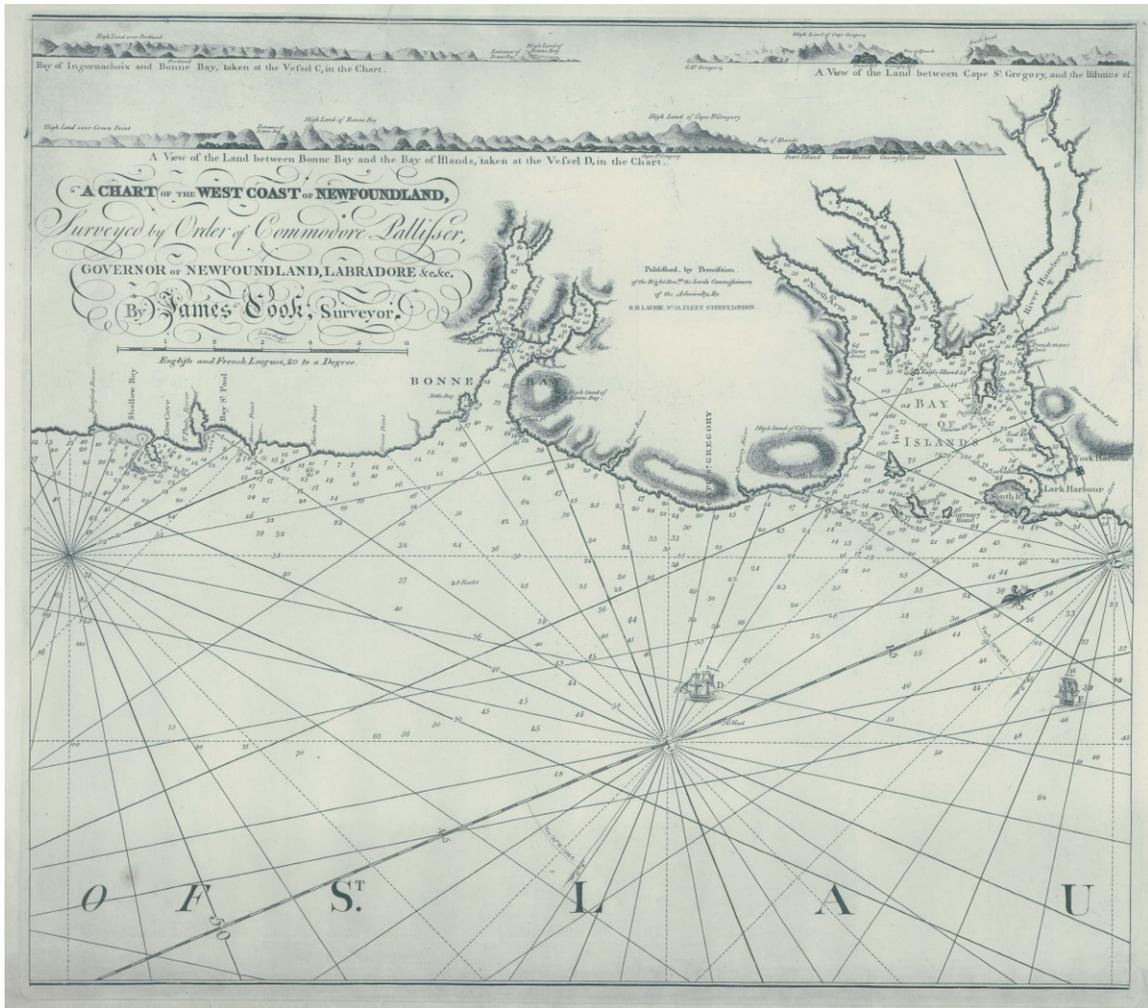


Fig. 6.28. James Cook, *A Chart of the West Coast of Newfoundland, Surveyed by Order of Commodore Palliser, Governor of Newfoundland, Labradore &c. &c.* (London: Sayer and Bennet, 1770). Memorial University of Newfoundland, Centre for Newfoundland Studies, G 3436 P5 1770 C6 c.2 MAP. The sheer volume of topographic information provided in Cook's charts reflects his familiarity with the survey practices of army engineers. Compare with fig. 6.23.



Fig. 6.29. Detail of James Cook, *A Chart of the West Coast of Newfoundland* [1770].

This empirical representation of topography was also keyed to increasingly sophisticated means of identifying position with reference to it, either by visual means as in the Cook chart shown in figures 6.28 and 6.29, or by reference to printed sailings direction published to accompany particular charts. Charles Saunders' 1760 St. Lawrence directions, for example, set up the profile depicted in figure 6.26 as follows: "Fig. 1 is the appearance of the land, a mountain on the mainland at the letter *a* (it is the first hill remarkable from the eastward for a good way). When this mountain is brought almost on the east hummock of the north-east Pilgrim at the letter *b*, or to rest on it in the same manner it does in the above representation over the west hummock of the said island, at the letter *c*, you will then be on the middle of the bank...."⁵³ This increasingly sophisticated depiction of topography was further developed by Des Barres in *The Atlantic Neptune*, giving cartographic representations of northeastern North America an appearance of unprecedented three-dimensional materiality. It also later proved, in the hands of topographical artists like J.T. Serres, to be a powerful tactical tool for active naval operations.⁵⁴

⁵³ Charles Saunders, *Directions for Navigating the Gulf and River of St. Laurence, with a Particular Account of the Bays, Roads, Rocks, Sands, Landmarks, Depths of Water, Latitudes, Bearings, and Distance from Place to Place; the Setting and Flowing of the Tides &c. Founded on Accurate Observations and Experiments, Made by the Officers of His Majesty's Fleet* (London: Thomas Jefferys, 1760), 9.

⁵⁴ M.K. Barritt, *Eyes of the Admiralty: J.T. Serres, An Artist in the Channel Fleet, 1799-1800* (London: National Maritime Museum, 2008); Luciana de Lima Martins, "Mapping Tropical Waters: British Views and Visions of Rio de Janeiro," in Denis E. Cosgrove ed., *Mappings* (London: Reaktion Books, 1999), 148-168; Francis Curtis, "British Charts and Surveys c. 1780-1820: the Rhetoric of Cultural Narrative," *Terrae Incognitae* 29 (1997), 35-50; John O. Sands, "The Sailor's Perspective: British Naval Topographic Artists," in Derek Howse ed., *Background to Discovery: Pacific Exploration from Dampier to Cook* (Berkeley: University of California Press, 1990), 186-200.



Fig. 6.30. J.F.W. Des Barres, *A View of the Entrance of the Gut of Annapolis Royal* [1779], from *The Atlantic Neptune*. National Maritime Museum, Greenwich, HNS 22F. Des Barres' training as an engineer gave his maritime views and profiles a topographic three-dimensionality unlike that usually found in the sea atlas tradition. Use of linear perspective, foregrounding a variety of sailing craft against the physical geography of the coast depicted, conveys a sense of scale and distance applicable to the work of inshore navigation.



Fig. 6.31. James Peachey, *View of Island Coudre, Bearing N.W. Distance 2 Leagues, Taken in Crossing the Traverse, 17th [November] 1784*. Library and Archives Canada, 1989-218-9. Peachey's training as a British army draftsman is evident in the plain style and strong perspective of his St. Lawrence views.



Fig. 6.32. J.T. Serres, *The Coast of France Showing the Entrance of Camaret Bay Bearing S.E. by South 10 June* [1800], from M.K. Barritt, *Eyes of the Admiralty: J.T. Serres, An Artist in the Channel Fleet 1799-1800* (Greenwich: National Maritime Museum, 2008), 58. By the end of the eighteenth century, perspective views of coastlines had become a refined tactical tool employed by British forces operating off of French and Spanish ports.



Fig. 6.33. J.F.W. Des Barres, *The Isthmus of Nova Scotia* [1779], from *The Atlantic Neptune*. National Maritime Museum, Greenwich, HNS 15. Representation of topography achieved virtuoso status in Des Barres' Nova Scotia charts, which demonstrate the interpenetration of army engineering and marine survey to an unprecedented degree.

Accelerated development of the representation of coastal topography as a navigational and military tool is perhaps the most striking product of the growing interrelation of state survey and commercial chart production, but it was by no means the only one. A much greater density of soundings and more printed descriptions of the composition of seabeds assisted inshore navigators working in the foggy conditions that often characterized the northeastern region. This was spectacularly evident in *The Atlantic Neptune*, where soundings off the Nova Scotia coast extend to the edge of the continental shelf, and where submarine topography is depicted with an unprecedented level of detail.

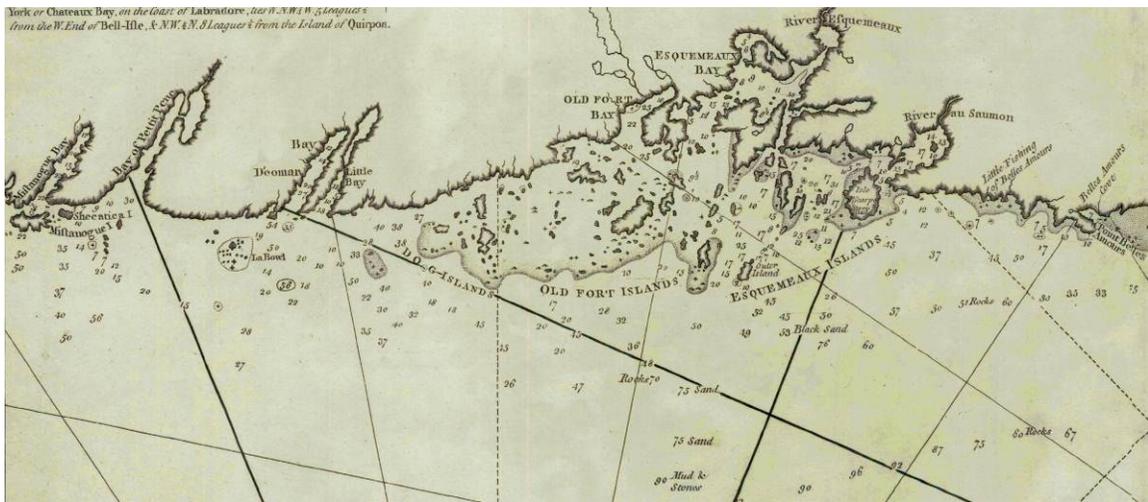


Fig. 6.34. Detail of *A Chart of the Straights of Bellisle with Part of the Coast of Newfoundland and Labradore from Actual Surveys Published by Permission of the Right Honourable the Lords Commissioners of Admiralty and Taken in 1766, by James Cook, Afterwards Capt. Cook the Celebrated Circumnavigator, and by Michael Lane in 1769* (London: Laurie and Whittle, 1794). Memorial University of Newfoundland, Centre for Newfoundland Studies, G 3436 P5 1794 C6 c.1 MAP. Cook and Lane's surveys and charts incorporated much information on submarine topography—soundings, contours, and descriptions of bottoms—that abstracted local pilot knowledge and made it generally available through commercial channels.

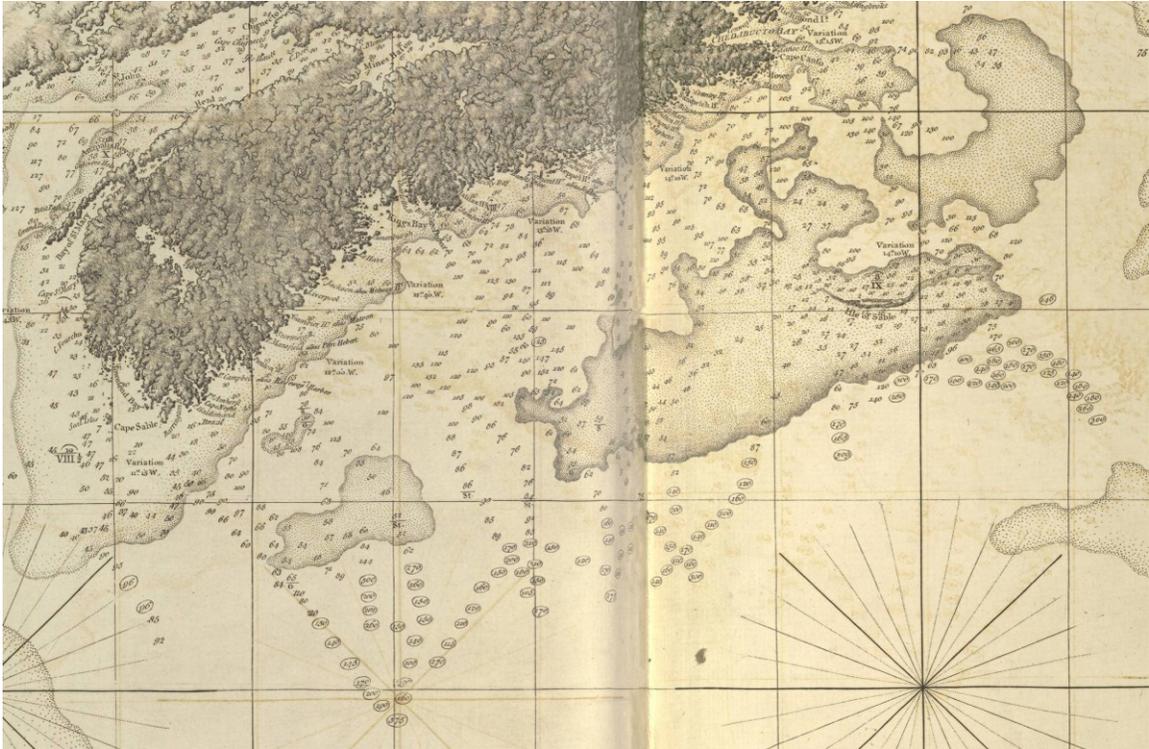


Fig. 6.35. Detail of J.F.W. Des Barres, *The Coast of Nova Scotia, New England, New York, Jersey, the Gulph and River of St Lawrence, the Islands of Newfoundland, Cape Breton, St John, Antecosty, Sable &c. and the Soundings Thereof* [1778], from *The Atlantic Neptune*. National Maritime Museum, Greenwich, HNS 121. Des Barres' Admiralty survey ran deep-sea soundings to the edge of the continental shelf, and delineated offshore submarine features through measurement.

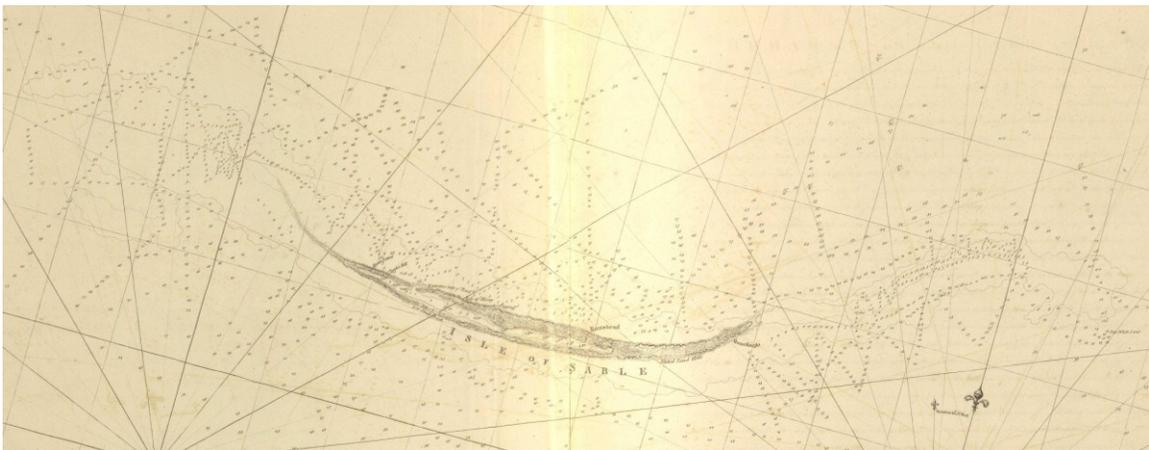


Fig. 6.36. Detail of J.F.W. Des Barres, *Chart of the Isle of Sable* [1776], from *The Atlantic Neptune*. National Maritime Museum, Greenwich, HNS 73. Note the number and density of the lines of soundings in proximity to Sable Island, a conspicuous hazard in the Atlantic approaches to northeastern North America.

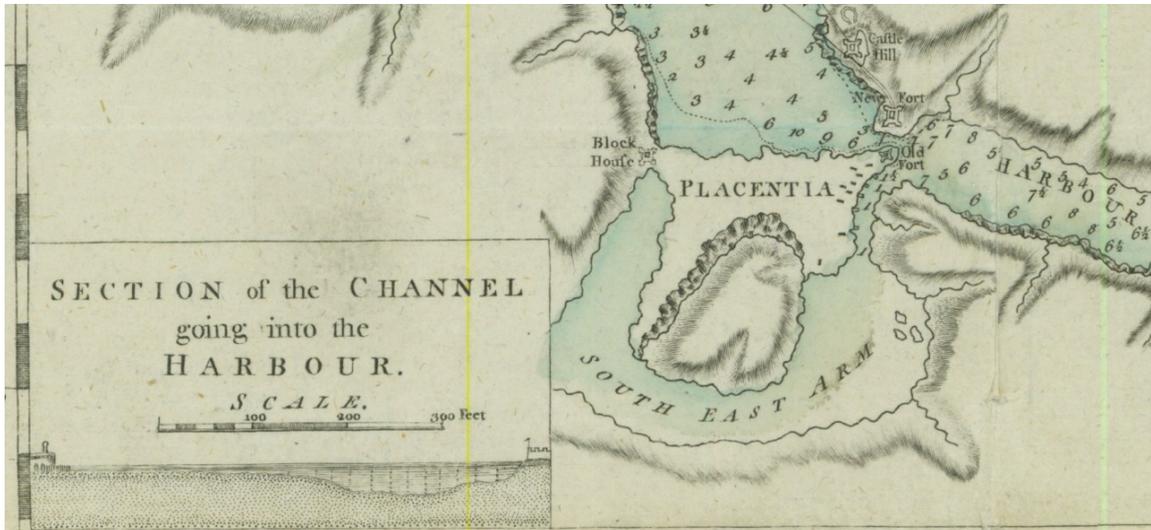


Fig. 6.37. Detail of Michael Lane, *A Chart of the Bay of Placentia on the South Coast of Newfoundland, Surveyed by order of Commodore Shuldham, Governor of Newfoundland, Labradore &c.* (London: Jefferys and Faden, 1773). Memorial University of Newfoundland, Centre for Newfoundland Studies, G 3437 P6 P5 1773 L3 c.2 MAP. Note the cross-section diagram, a very unusual manner of delineating depth of channel on hydrographic charts.

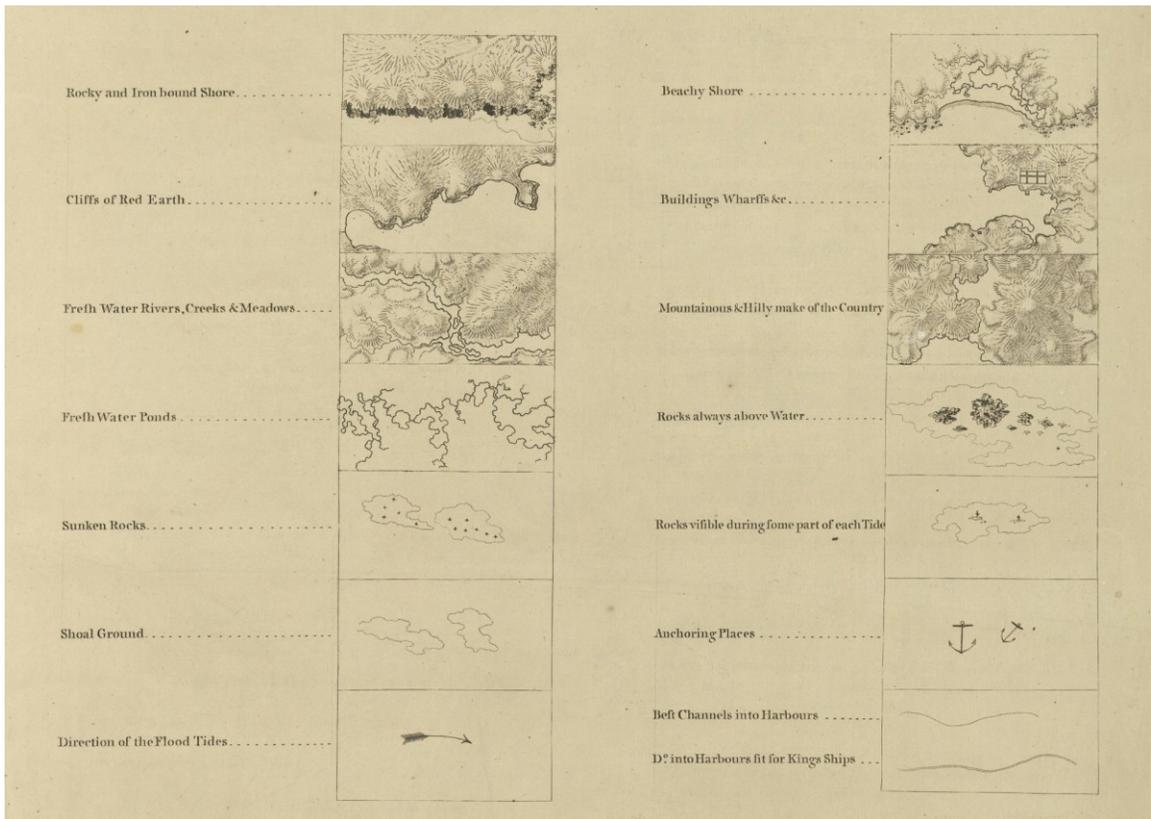


Fig. 6.38. Detail of J.F.W. Des Barres, *References* [1777], from *The Atlantic Neptune*. National Maritime Museum, Greenwich, HNS 43. Conventionalized symbols were a

common feature of the sea atlas tradition; Des Barres' charts standardized and systematized their use.

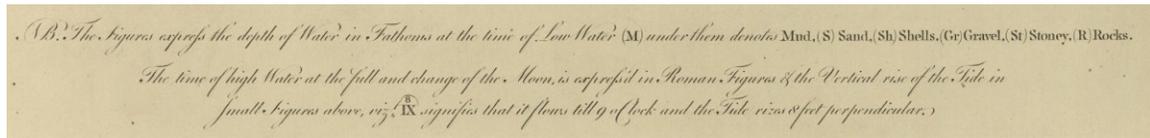


Fig. 6.39. Detail of J.F.W. Des Barres, *References* [1777], from *The Atlantic Neptune*. National Maritime Museum, Greenwich, HNS 43. Standardization extended to descriptions of bottoms. Des Barres' charts represented local currents and tides to a degree largely absent in other contemporary charts, conveying important pilot knowledge of specific marine regions.

Contemporary charts of the region experimented with the representation of channels and harbour entrances, integrated textual description of local conditions in innovative ways, worked to standardize symbolic representation of hydrographic and landward features, and included more information on local tides and currents than previously.

Des Barres' and his co-workers on *The Atlantic Neptune* pioneered many of these developments, and created an information-rich form of hydrographical representation that prefigured the densely detailed Blueback charts of the nineteenth century. Des Barres' work has been widely appreciated for the aesthetic refinement of its views, but less so for its unparalleled systematic representation of pilot knowledge in graphic form. These charts acted as hybrid informational vehicles that incorporated as much pilot and other navigational material—delineation of coasts, topography, soundings, profile views, sailing directions, notes on tides and currents, recommended courses—onto a single printed sheet as was possible. The cartographical experiments of quarter-century following the Seven Years' War abstracted the physical landscape of the coastal zone with unprecedented detail and comprehensiveness, making this information available for commercial and imperial purposes through London's burgeoning contemporary map trade.

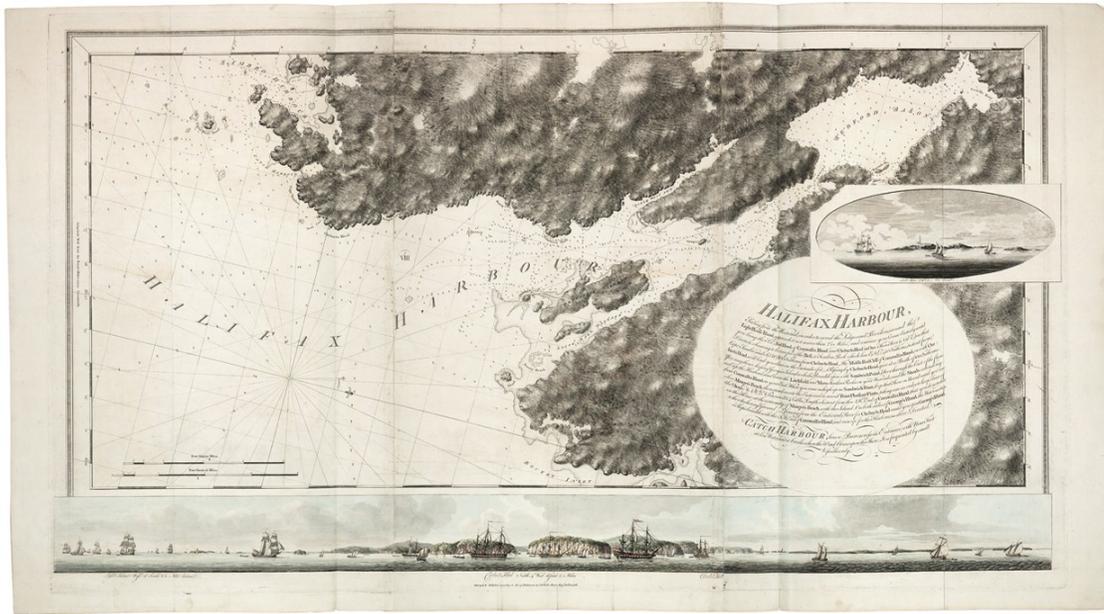


Fig. 6.40. J.F.W. Des Barres, *Halifax Harbour* [1776], from *The Atlantic Neptune*. National Maritime Museum, Greenwich, HNS 45. Des Barres' most complex charts were composite vehicles conveying visual, textual, and empirical information regarding local hydrographic conditions. They represented extremely local coastal areas in unprecedented detail and thoroughness, abstracting large quantities of local pilot knowledge.

Conclusion

State surveys of the northeastern North American region collected and ordered geographical and hydrographical knowledge to further the material interests of the British state in its overseas possessions and enclaves. They did so, largely, by serving a distinctly utilitarian purpose: facilitating the everyday movement of people and goods on which virtually all human communities in the northeast depended. The world-historical and even cosmological implications of the globally extensive surveys undertaken by Cook and others in the two decades immediately following the Seven Years' War have, to an extent, obscured the practical purposes for which contemporary survey technologies were refined and developed. Hydrographic survey, army engineers' surveys, large parts of the general surveys of the Board of Trade, private commercial survey, and the reports of

individual travelers were all presented as accurate witnesses to particular geographical spaces. Nautical charts, like other ambulatory maps but to an even higher degree (and with much wider distribution and influence), were designed to be used primarily in the environments they represented in order to meet and safely overcome the material constraints on movement in these environments.⁵⁵ In this sense, hydrographic knowledge was always embodied, providing mariners with the pilot information normally possessed by local peoples long familiar with the hazards of particular navigations. As Des Barres himself framed it, by following his charts and directions “every master of a vessel became his own pilot.”⁵⁶ The guidance offered by his work was, he felt, in some respects superior to that of living pilots, whose intelligence and loyalties were never transparent. But the epistemological fix offered by new and more complex charts—and the independence from local peoples and knowledge they promised—was, to an extent, illusory. Commenting on his charts and views of Sable Island—which are virtuoso empirical descriptions of physical landscapes—Des Barres perhaps inadvertently drew attention to their ultimate inadequacy as reliable pilotage tools: “I have described these bars such as I found them; but as they are composed of shifting sands, repeated storms, and the violence of the sea, may in a course of years considerably alter their form or extent.”⁵⁷ The physical landscape of the littoral zone was in constant flux in response to changing meteorological and climatic conditions; it defied definitive representation. For

⁵⁵ For discussions of ambulatory maps, see Martin Brückner, “The Ambulatory Map: Commodity, Mobility, and Visualcy in Eighteenth-Century Colonial America,” *Winterthur Portfolio* 45: 2, 3 (2011), 141-160; Jeremy Black, “A Revolution in Military Cartography? Europe 1650-1815,” *Journal of Military History* 73: 1 (2009), 53; J.B. Harley, “Contemporary Mapping of the American Revolutionary War,” in J.B. Harley, Barbara Bartz Petchenik, and Lawrence W. Towner eds., *Mapping the American Revolutionary War* (Chicago: University of Chicago Press, 1978), 1-44.

⁵⁶ J.F.W. Des Barres, *Utility of the Atlantic Neptune* from from *The Atlantic Neptune* [c. 1781]. National Maritime Museum, Greenwich, HNS 3.

⁵⁷ J.F.W. Des Barres, *Remarks on the Isle of Sable* from from *The Atlantic Neptune* [n.d.]. National Maritime Museum, Greenwich, HNS 78.

this and other reasons, maritime empire was never free from reliance on embodied pilot knowledge, as the Chapter Seven examines in greater detail.

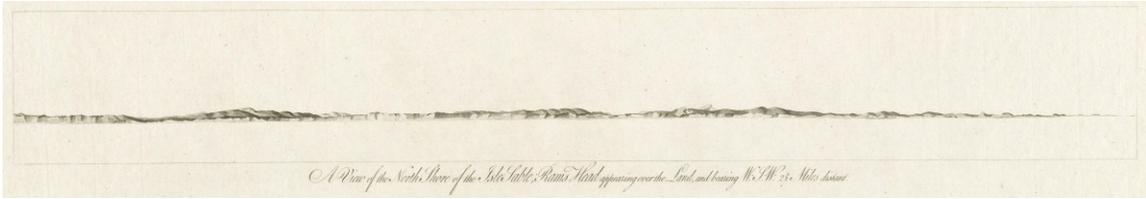


Fig. 6.41. J.F.W. Des Barres, *A View of the North Shore of the Isle of Sable, Ram's Head Appearing Over the Land, and Bearing W.S.W. 2 1/2 Miles Distant* [1776], from *The Atlantic Neptune*. National Maritime Museum, Greenwich, HNS 74. Des Barres' views and profiles of Sable Island are a monument to Enlightenment empiricism: they abstract in exquisite detail a landscape literally built on sand, a landscape that could not long be fixed or archived, by definition. Surveyors undertook such work fully aware of its temporality, demonstrating their commitment to an ideal of "plain drawing," of transparent representation of physical reality inculcated through training as military engineers.

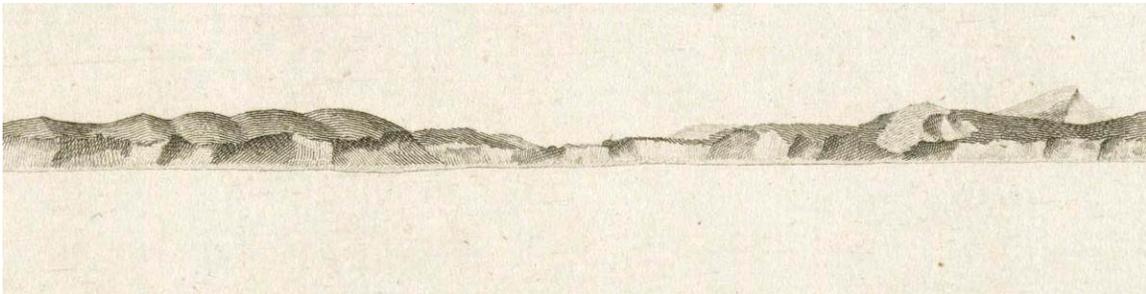


Fig. 6.42. Detail of J.F.W. Des Barres, *A View of the North Shore of the Isle of Sable* [1776].

Chapter Seven
Configuring Maritime Empire: Improved Hydrography,
Naval Force, and Littoral Disorder to 1783

The process of incorporating local, frequently indigenous, knowledge of the northeastern North American region into the corpus of quantified scientific geography was pursued at great expense between the end of the Seven Years' War and the beginning of the American Revolutionary War. While Samuel Holland suffered from a near-catastrophic lack of local geographical information in 1764, by the time the General Survey of the Northern District ended just over a decade later detailed knowledge of the coasts and rivers of northeastern North America was widely available via commercially produced and distributed maps and charts, many of them based at least in part on work Holland himself had overseen. The American Revolutionary War, which brought Holland's survey to an abrupt end, intensified demand for accurate North American geographic and hydrographic information. Widely distributed publications—such as the charts and directions of the *North American Pilot* (1775), Thomas Jefferys' *American Atlas* (1776), and Robert Sayer and John Bennet's *American Military Pocket Atlas* (1776)—drew on an abundance of printed and manuscript charts and surveys made during and after the Seven Years' War, many by military officers and other agents of the British state.¹

¹ *The North American Pilot for Newfoundland, Labradore, the Gulf and River St. Laurence: Being a Collection of Sixty Accurate Charts and Plans, Drawn from Original Surveys: Taken by James Cook and Michael Lane, Surveyors, and Joseph Gilbert, and other Officers...chiefly engraved by The late Thomas Jefferys...on Thirty-Six Large Copper-Plates* (London: Sayer and Bennett, 1784); *The American Atlas: Or, A Geographical Description Of The Whole Continent Of America; Wherein Are Delineated at Large, Its Several Regions, Countries, States, and Islands; and Chiefly the British Colonies, Composed from Numerous Surveys, Several of which Were Made by Order of Government by Capt. Holland, Capt. Carver, Lewis Evans, William Scull, Henry Mouzon, Lieut. Ross, J. Cook, Michael Lane, Joseph Gilbert, Gardner, Hillock, &c. &c.; Engraved On Forty-Eight Copper Plates, By The Late Mr. Thomas Jefferys, Geographer*

Geographical and hydrographical surveys carried out under the auspices of the Admiralty, the Board of Trade and Plantations, and by colonial governors in Nova Scotia and the St. Lawrence region were key elements of British efforts to comprehend and order newly conquered domains in the northeastern North American region. The majority of surveyors employed on these projects were military engineers or naval masters who had developed their skills during the many amphibious campaigns of the Seven Years' War. Holland's General Survey of the Northern District (1764-1775, comprising the Gulf and River St. Lawrence and the Atlantic seaboard from the St. John River to Long Island Sound), James Cook and Michael Lane's surveys of the coastal waters of southern and western Newfoundland and Labrador (1763-1775, the south and west coasts of Newfoundland and southern Labrador), and J.F.W. Des Barres' examination of Nova Scotia's inshore waters (1764-1772, from Cocagne on the Northumberland Strait to the St. John River) together represented perhaps the most concentrated and extensive geographical inventory ever undertaken in a comparable timespan.² In the post-war period Britain's capacity for operational amphibious survey was adapted to the manifold needs of multiple state agencies. By the time of the outbreak of the American Revolutionary War, northeastern North America was probably represented cartographically as fully as any comparably sized European region. As the images of dominance and cultivation present in many of the region's map cartouches suggest, for

to the King, and Others (London: Sayer and Bennett, 1776); *The American Military Pocket Atlas; Being An Approved Collection of Correct Maps, Both General and Particular, of The British Colonies; Especially Those which Now Are, or Probably May Be the Theatre of War: Taken Principally from the Actual Surveys and judicious Observations of Engineers De Brahm and Romans; Cook, Jackson, and Collet; Maj. Holland, and other Officers, Employed in His Majesty's Fleets and Armies* (London: Sayer and Bennet, 1776).

² For a detailed discussion of the progress of these surveys, see Stephen J. Hornsby, *Surveyors of Empire: Samuel Holland, J.F.W. Des Barres and the Making of The Atlantic Neptune* (Montreal and Kingston: 2011), 33-86.

many contemporary Britons cartographic comprehension vouchsafed and confirmed imperial control of these coasts and territories.³

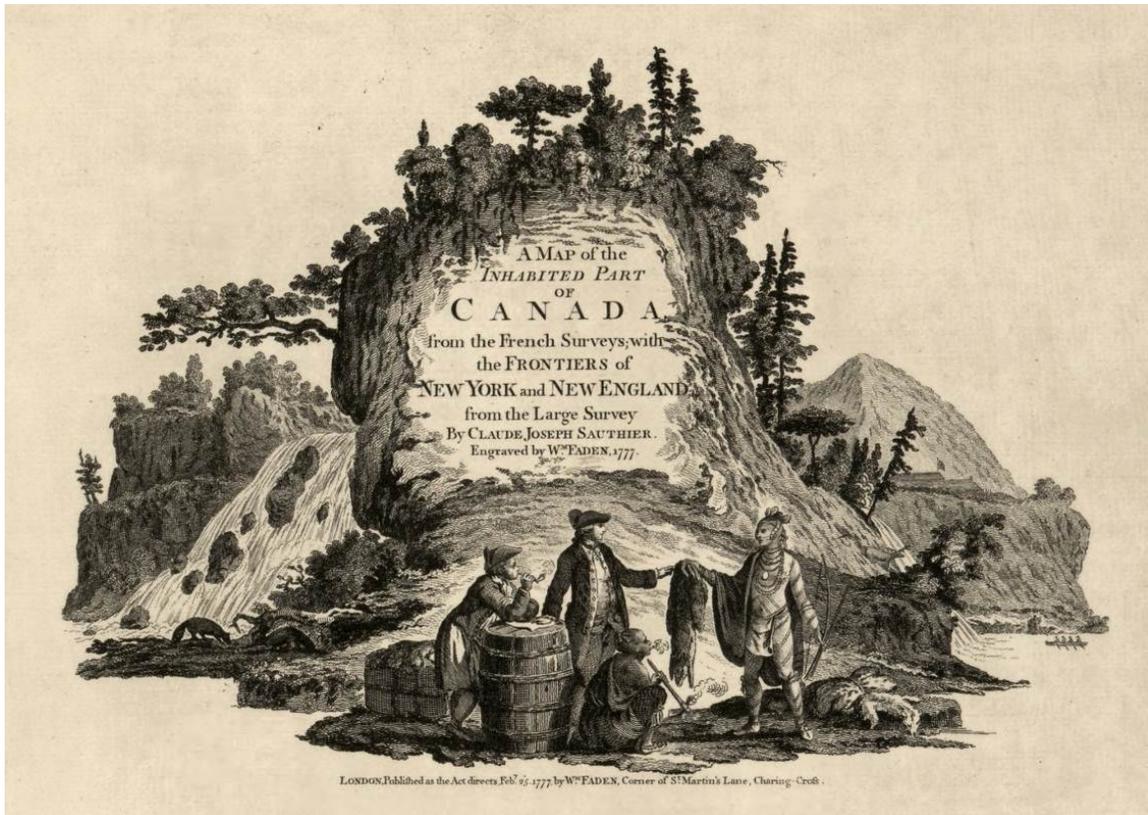


Fig. 7.1. Detail of *A Map of the Inhabited Part of Canada from the French Surveys, with the Frontiers of New York and New England; From the Large Survey by Claude Joseph Sauthier* (London: William Faden, 1777). Library of Congress, Geography and Map Division, G3401.F2 1777 .F3 Vault : Am. 3-22. Faden's cartouche forcefully conveys British perception of Canada as boreal and littoral space, in which forests, rivers, and the people who inhabit them exist to support maritime commerce. Note the fortified trading post in the right background, vouchsafing the security of British commerce.

³ G.N.G. Clarke, "Taking Possession: the Cartouche as a Cultural Text in Eighteenth-Century American Maps," *Word and Image* 4 (1988), 455-474.



Fig. 7.2. Detail of Thomas Jefferys, *A Map of the Island of St. John in the Gulf of St. Laurence Divided Into Counties & Parishes And the Lots, as Granted by Government, to Which are Added the Soundings Round the Coast & Harbours, Improv'd from the late Survey of Captain Holland*, from *The American Atlas: Or, A Geographical Description of the Whole Continent of America* (London: Sayer and Bennet, 1776). David Rumsey Historical Map Collection, 0346.013. British possession of St. John's Island, where governance and landholding regimes sought to create agricultural estates, was represented by the fence, the gridiron, and the plow, balanced by emblems of maritime industry. A sprouting stump is almost all that hints at the island's forest cover.

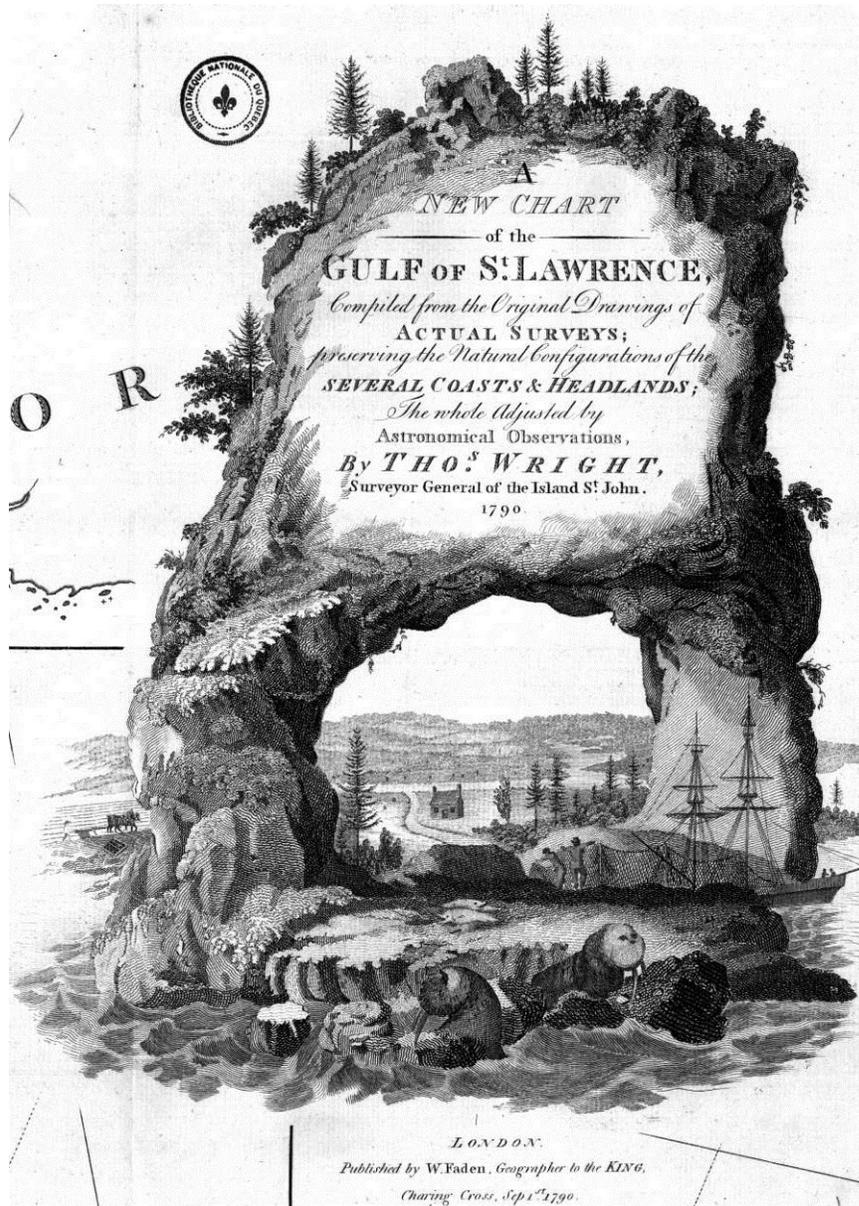


Fig. 7.3. Detail of Thomas Wright, *A New Chart of the Gulf of St Lawrence, Compiled from the Original Drawings of Actual Surveys; Preserving the Natural Configurations of the Several Coasts and Headlands; the Whole Adjusted by Astronomical Observations* (London: William Faden, 1790). Bibliothèque et Archives nationales du Québec, G 3402 S5 1790 W7 CAR. The Gulf of St. Lawrence continued to be conceived of as maritime space throughout the eighteenth century. The cartouche from Wright's chart foregrounds the "sea cows" that were the object of important fisheries on the Labrador coast; the settled area in the background is a pioneer landscape, where a plow furrows the water's edge and a cultivated valley disappears into the forested hills behind.

Northeastern Surveys and Global Scientific Inventory

By deploying amphibious survey in systematic inventories of the region's littoral geography, surveyors were contributing to a growing process of worldwide geographical reconnaissance that aimed to assimilate global localities to European (and increasingly to British) standards of scientific rationality. The last decades of the eighteenth century and the first decades of the nineteenth were a time when cartography emerged as "empirical, objective, and unproblematic *science*" in Matthew Edney's words, rather than a merely technical exercise designed to facilitate the passage of men and materiel from one point on the globe to another.⁴ The most advanced and sophisticated British surveyors working in North America in the wake of the Seven Years' War knew that they were contributing to a wide-ranging project of mathematical cosmography pioneered by the geodetic investigations of France's Cassini family and their European contemporaries. In this emerging scientific cartography, the discipline was conceived not merely as a set of practices the end of which was the production of maps; rather, it was seen as the conceptual nexus between astronomy and geography, between the heavens and earth. Thus it was linked to the broadest cosmological concerns of the period. When James Cook observed an eclipse at Burgeo, Newfoundland in 1766, or when Thomas Wright calculated the longitude of a point on the south coast of Anticosti in 1767, they were self-consciously contributing to this universal inventory; the astronomical observations of

⁴ Matthew H. Edney "Mathematical Cosmography and the Social Ideology of British Cartography, 1780-1820," *Imago Mundi* 46 (1994), 101.

several surveyors working in the northeastern region were published in the *Transactions* of Britain's Royal Society, a key organ of Enlightenment natural philosophy.⁵



Fig. 7.4. Detail of *A Chart of Part of the South Coast of Newfoundland Including the Islands of Langley, St. Peters and Miquelon with the Southern Entrance into the Gulph of St. Laurence from Actual Surveys Taken by Order of Commodore Palliser Governor of Newfoundland, Labradore, &c.* (London: Laurie and Whittle, 1794). Memorial University of Newfoundland, Centre for Newfoundland Studies, G 3436 P5 1794 C56 MAP. Observations of longitude were relatively rare occurrences that served to bring the northeastern region into increasingly accurate relation with European conceptions of global and universal space. They were accordingly seen to vouchsafe the scientific character of a chart, and its accuracy. Here, Cook's 1766 observation of a solar eclipse at Burgeo, Newfoundland (later used to determine the place's longitude) is noted.

⁵ See, for example, "An Observation of an Eclipse of the Sun at the Island of Newfoundland, August 5, 1766, by Mr. James Cook, with the Longitude of the Place of Observation Deduced from It," *Philosophical Transactions of the Royal Society of London* 57:1 (1767), 215-216; "Astronomical Observations Made by Samuel Holland, Esq., Surveyor General of Lands for the Northern District of North America, for Ascertaining the Longitude of Several Places in the said District," *Philosophical Transactions of the Royal Society of London* 64 (1774), 527; "Immersion and Emergence of Jupiter's First Satellite, Observed at Jupiter's Inlet, on the Island of Anticosti, North America, by Mr. Thomas Wright..." *Philosophical Transactions of the Royal Society of London* 64 (1774), 528.



Fig. 7.5. Detail of Thomas Wright, *A New Chart of the Gulf of St Lawrence, Compiled from the Original Drawings of Actual Surveys; Preserving the Natural Configurations of the Several Coasts and Headlands; the Whole Adjusted by Astronomical Observations* (London: William Faden, 1790). Bibliothèque et Archives nationales du Québec, G 3402 S5 1790 W7 CAR. The northeastern region's integration into European geographical discourses was embodied toponomically: Jupiter Cove, on Anticosti Island, was named to mark surveyor Thomas Wright's 1767 observations determining that place's longitude.

Surveyors such as Samuel Holland and J.F.W. Des Barres employed instruments to take precise measurements, thereby producing precise knowledge; they were thus seen as the very embodiment of what Edney calls the “quantifying spirit”.⁶ And as surveyors and mapmakers were emblematic of the processes of scientific knowledge-gathering during the Enlightenment, the map was made to stand for enlightened knowledge itself. The social prestige of these connections could be seen, for example, in the enormous sums offered and effort expended for the solution of the longitude problem.⁷

⁶ Matthew H. Edney, “Mathematical Cosmography and the Social Ideology of British Cartography, 1780-1820,” *Imago Mundi* 46 (1994): 101-105. The emphasis in the first quotation is Edney's.

⁷ While the most effective solution to the challenge of determining longitude at sea was a mechanical one—John Harrison's chronometer—the solutions that carried the greatest cultural prestige in the eighteenth century were astronomically based, notably Astronomer Royal Nevil Maskelyne's method based on lunar distances. The depth of prestige accorded to the quest for a solution is attested to by, for example, William Hogarth's inclusion of a vexed candidate among the inmates of his Bedlam scene in *The Rake's Progress* (published 1735). For an introduction to the effort to solve this challenge, see Dava Sobel, *Longitude: The True Story of a Lone Genius Who Solved the Greatest Scientific Problem of His Time* (New York: 1996); for a critical assessment of Sobel's account from the perspective of practical navigation, see William E. Carter and Merri S. Carter, “The Age of Sail: A Time when the Fortunes of Nations and Lives of Seamen

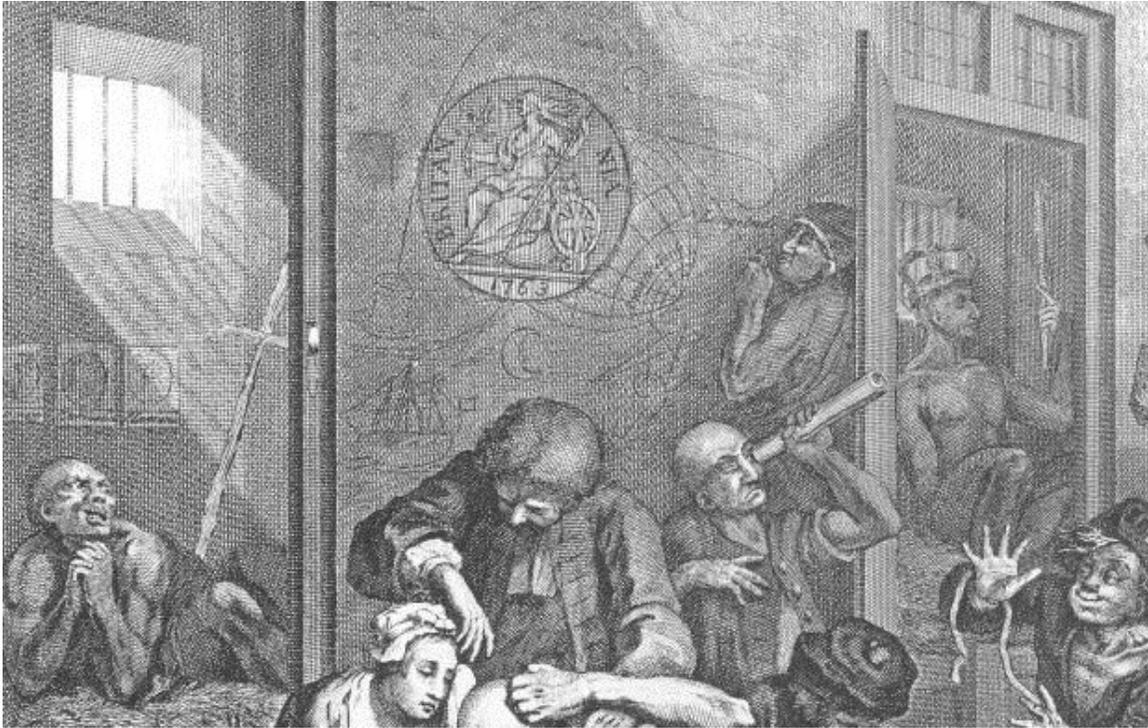


Fig. 7.6. Detail of William Hogarth, *In the Madhouse*, plate 8 of *A Rake's Progress* [1763]. First published 1735; based on canvases painted 1732-1733. State support for efforts to solve the “longitude problem” inscribed geographic and astronomic discourses on British popular culture. Between familiar figures of religious and political mania, Hogarth places a new form of pathological obsession: that generated by the vexing difficulty of applying astronomical phenomena to the practical problem of fixing a vessel’s position at sea.

Mathematical cosmography and its cartographic representation increasingly served as a paradigmatic instance of the organization of knowledge of natural phenomena evident, for example, in the classificatory systems of Humboldtian inventory science.⁸ Seen in this context, the simultaneous presence of James Cook and Joseph Banks in Newfoundland and Labrador in 1766 (the former charting coastlines, the latter recording flora and fauna

Literally Turned with the Winds Their Ships Encountered at Sea,” *Journal of Navigation* 63 (2010): 717-731.

⁸ See, for example, Mary Louise Pratt, *Imperial Eyes: Travel Writing and Transculturation* (New York: Routledge, 2008); Richard Drayton, *Nature's Government: Science, Imperial Britain and the 'Improvement' of the World* (New Haven: Yale University Press, 2000); Felix Driver, *Geography Militant: Cultures of Exploration and Empire* (Oxford: Blackwell, 2001); Victoria Dickenson, *Drawn from Life: Science and Art in the Portrayal of the New World* (Toronto: University of Toronto Press, 1998); Barbara Stafford, *Voyage Into Substance: Art, Science, Nature, and the Illustrated Travel Account, 1760-1840* (Cambridge, MA: MIT Press, 1984).

in his first overseas collecting expedition) was coincidental but not unrelated: both men were working to integrate overseas colonial possessions into schemes of avowedly universal comprehension that, from this period on, were increasingly identified with British overseas empire. This identification would grow stronger as a result of Cook and Banks' cooperation in the circumnavigations of the later 1760s and 1770s, and would later gain a firm institutional basis as Banks formalized scientific links with the Admiralty as President of the Royal Society. This grafting of empirical science and naval endeavour would reach its apotheosis during the tenure of Admiralty Hydrographer Francis Beaufort, when naval hydrographers (including Henry Wolsey Bayfield, working in the St. Lawrence) made crucial contributions to Britain's emergence as Europe's pre-eminent scientific nation.⁹

Survey and Governance in Northeastern North America

In the immediate post-Seven Years' War period, the growing power and prestige of survey was turned to the task of governing Britain's new-won territories in northeastern North America. A key task for imperial authorities in London and for their counterparts in North America was to integrate territories and resources into the British commercial system in the context of an ongoing drive to reform imperial governance. The territory in question was extensive, comprising Cape Breton, St. John's Island, the disputed western parts of Acadia or Nova Scotia, Gaspé, Canada (including, after 1774, the continental interior stretching to the mouth of the Mississippi River), coastal Labrador, and areas of western Newfoundland formerly under de facto French authority.

⁹ Alfred Friendly, *Beaufort of the Admiralty: The Life of Sir Francis Beaufort 1774-1857* (New York: Random House, 1977); George S. Ritchie, *The Admiralty Chart: British Naval Hydrography in the Nineteenth Century* (London: Hollis & Carter, 1967).



Fig. 7.7. Thomas Jefferys, *An Accurate Map Of North America. Describing and Distinguishing the British and Spanish Dominions on the Great Continent, According to the Definitive Treaty Concluded at Paris 10th Feby. 1763* from *The American Atlas: Or, a Geographical Description of the Whole Continent of America...* (London: Sayer and Bennet, 1776). David Rumsey Historical Map Collection, 0346.008. Britain's greatly increased territorial claims in North America resulting from the victories of the Seven Years' War were built around the hydrographic armature of the St. Lawrence system and its connections to the broader Atlantic world.

In all of these areas, not excepting those in the continental interior, European settlement was coastal or littoral in nature: most strategic and economic resources were marine, and their exploitation depended on effective marine communications. Developing effective structures of governance for the territories surrounding the Gulf and River St. Lawrence (and in addition the Great Lakes and Mississippi) required a naval presence and the accumulation and deployment of hydrographic knowledge. Naval forces had to adapt to

local conditions with, at times, very limited resources.¹⁰ In most of these areas the physical and administrative structures of European settlement and economic exploitation had been systematically destroyed during the war, and in many areas Aboriginal societies remained the dominant population and most effective military force.¹¹

The need to ensure that overseas colonial possessions served the interests of the British state and of the peoples of the British Isles, rather than those of rival nations, indigenous peoples, or British American colonists, was deeply embedded in mercantilist legislation from the mid-seventeenth century onward. It gained renewed impetus in the 1740s as Parliament passed additional legislation regulating colonial commerce and as Britain sought to strengthen imperial military presence in North America, most notably through the founding of Halifax, Nova Scotia, in 1749 and contemporaneous support for Georgia, both at taxpayers' expense.¹² This reform impetus continued and strengthened in the post-Seven Years' War period, as Parliament sought to tax British American colonists to reduce debt accruing from the war itself, and to pay for the continuing military presence required to maintain imperial influence in territories and populations ceded in the 1763 Treaty of Paris. As reform of colonial governance continued between 1763 and the outbreak of the American Revolutionary War, control of the coastal zone—to exclude imperial rivals, facilitate trade, and to ensure the collection of imperial revenues—became central to the negotiation of power relationships among colonial, imperial and Aboriginal peoples in northeastern North America. This was as true of the new British

¹⁰ Jerry Bannister, *The Rule of the Admirals: Law, Custom, and Naval Government in Newfoundland, 1699-1832* (Toronto: Osgoode Society and University of Toronto Press, 2003), 22-23, 104-140.

¹¹ Gordon Rothney, "L'annexion de la côte du Labrador à Terre Neuve, 1763," *Revue d'histoire de l'Amerique Francaise* 17:2 (1963): 220.

¹² Ian Steele, "The British Parliament and the Atlantic Colonies to 1760: New Approaches to Enduring Questions," *Parliamentary History* 14:1 (1995), 45. See also John G. Reid and Elizabeth Mancke, "From Global Processes to Continental Strategies: The Emergence of British North America to 1783," in Phillip Buckner ed., *Canada and the British Empire* (Oxford: 2008), 22-42.

polities defining the St. Lawrence basin as it was of the older colonies of the Atlantic seaboard. Imperial efforts to assert this control are apparent in the forms of government extended to newly conquered northeastern colonial possessions. These essentially littoral regions offered the British imperial state opportunities to experiment with forms and techniques of governance tailored to the exploitation of maritime colonies. Experience during the Seven Years' War honed amphibious military tactics that spread British imperial influence globally in the following century. In the post-war period colonial governors and administrators, army and navy personnel, and merchants worked to develop amphibious administration in the regions so influenced.

The interrelations of survey, naval activity, and governance are particularly well illustrated by the convergence, in 1760s Newfoundland and Labrador, of naval governor Hugh Palliser, surveyor James Cook, and naturalist Joseph Banks. In the spring of 1764, Cook returned to American waters in command of the Royal Navy schooner *Grenville* to survey the coasts of southern and western Newfoundland and southern Labrador.¹³ The vessel was named for George Grenville, the contemporary Prime Minister who sought to accelerate reform of imperial governance. The most notorious of these reforms was the Stamp Act of 1765, a measure that intensified both naval efforts to control the northeastern North American coastal zone and resistance to those efforts. The *Grenville* was built to execute policies of the ministry whose name it bore: Cook's surveys in the gulf were themselves elements of a broader program that tried to bring newly conquered territories in the region into profitable relation with the British metropolis. An important

¹³ Cook's development of strong marine surveying skills during and after the Quebec Campaign brought him to the attention of superior officers who were able to recommend him to top administrative officials at the Admiralty for further work of the kind, a process that would be repeated and would lead to his appointment to head the navy's South Sea expedition of 1768. See, for example, LAC, ADM 1/482, Alexander Colvill to John Cleveland, 30 December 1762.

aspect of this program was a systematic inventory of the region's geography and natural resources, especially those linked most closely with Britain's perceived economic and political advantage. Cook's first surveys in 1764 were those of St. Pierre and Miquelon and of the Strait of Belle Isle, areas where vestigial French presence in the gulf was of most concern to British officials. Cook's surveys helped expand British fisheries and monitor French presence in gulf, and helped police smuggling, which eroded colonial state revenues. They also put an imperial stamp on the region by replacing Aboriginal, French and other place names with English equivalents, commemorating patrons and extending the penumbra of official influence to newly British localities. Toponymy served as a symbolic adjunct to increased Royal Navy presence in gulf waters post-war, asserting Britain's cultural sovereignty in the region while political and economic claims were asserted through armed force.

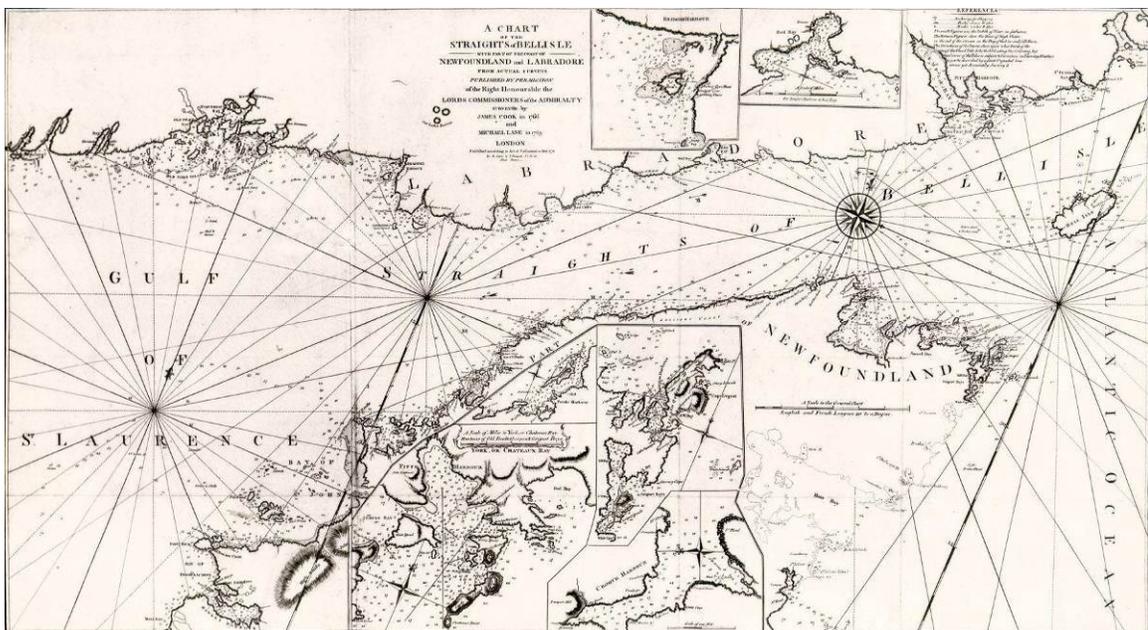


Fig. 7.8. James Cook, *A Chart of the Straights of Bellisle with Part of the Coast of Newfoundland and Labradore from Actual Surveys Published by Permission of the Right Honourable the Lords Commissioners of Admiralty and Taken in 1766, by James Cook, Afterwards Capt. Cook the Celebrated Circumnavigator, and by Michael Lane in 1769* (London: Laurie and Whittle, 1794). Memorial University of Newfoundland, Centre for

Newfoundland Studies, G 3436 P5 1794 C6 c.1 MAP. Cook and Lane’s Admiralty surveys imposed British imperial toponomy—here, Pitts Harbour and York (Chateaux) Bay in the Strait of Belle Isle—on the complex maritime cultural landscape of the Newfoundland and Labrador coasts. Contemporary British imperial place names would prove remarkably persistent.

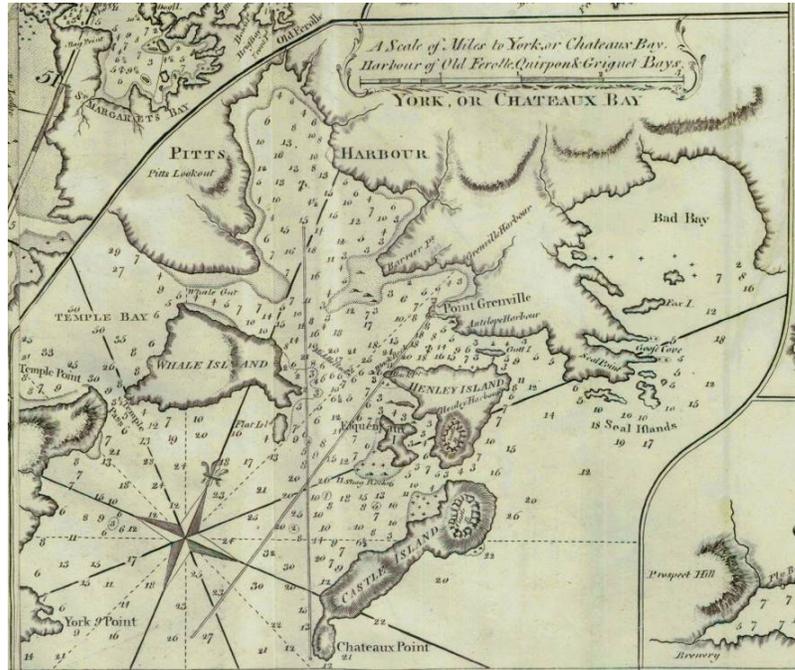


Fig. 7.9. Detail of James Cook, *A Chart of the Straights of Bellisle with Part of the Coast of Newfoundland and Labradore....*

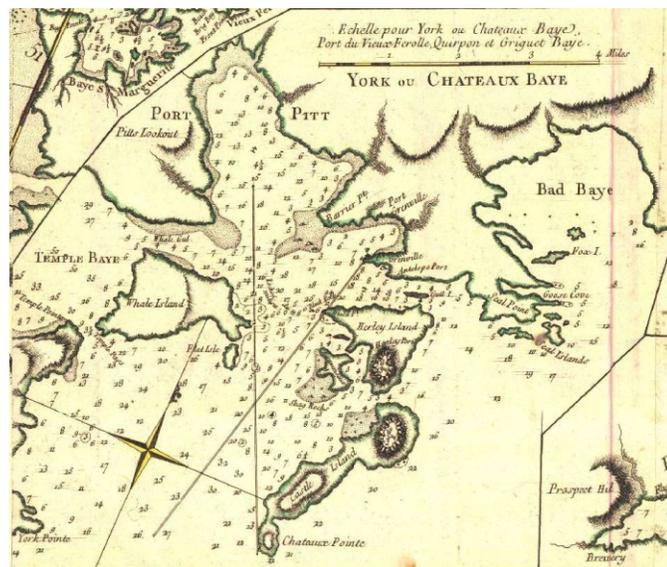


Fig. 7.10. Detail of *Détroit de Belle Isle: partie des côtes septentrionales de Terre Neuve et de Labrador* (Paris: George Louis Le Rouge, 1778). Bibliothèque et Archives nationales du Québec, G 3402 B4 1778 C6 CAR. A French copy based on Cook and Lane’s surveys, illustrating the influence of imperial toponomy.

Cook's work in Newfoundland and Labrador, and that of his assistant and successor Michael Lane, was part of a broader effort to reconfigure the economic, governmental, and demographic realities of the gulf region in accordance with mercantilist goals of exploiting colonial possessions for the benefit of the imperial state. Hugh Palliser's tenure as naval governor of Newfoundland illustrates the pursuit of these goals with particular clarity. Palliser interpreted and enforced Britain's rights in the region as expansively as possible, and aimed to restrict French rights as narrowly as possible. He used naval force to control access to the coastal waters of the gulf: Cook's surveys of St. Pierre and Belle Isle were predicated in part on this requirement. Palliser's fortification of Chateau Bay, Labrador, in the northwestern entrance to the strait, served a similar purpose. His transportation of Moravian missionaries to the region in Royal Navy vessels sought to influence the loyalty of Inuit residents on the Labrador coast, in the hope that they would contribute to the development of the region's fisheries and trade, rather than inhibit it. Palliser worked to uproot the French regime's seigneurie-based Labrador salmon and seal fisheries, which required permanent landward establishments and a body of local knowledge, and replace them with a "free British fishery" for cod that was migratory and Great Britain-based, on the pattern and under the jurisdiction of Newfoundland. Property rights in coastal zones adjacent to fishing banks were deemed incompatible with the privileged needs of fishers who required scarce beach space to dry their product on a seasonal basis and so, initially, were proscribed.¹⁴

¹⁴ William H. Whiteley, "Newfoundland, Quebec and the Labrador Merchants 1783-1809," *Newfoundland Quarterly* 73: 4 (1977), 17-26; *idem*, "Newfoundland, Quebec and the Administration of the Coast of Labrador, 1774-1783," *Acadiensis* 6: 1 (1976), 92-112; *idem*, "James Cook and British Policy in the Newfoundland Fisheries, 1763-7," *Canadian Historical Review* 54: 3 (1973), 245-272; *idem* "Governor Hugh Palliser and the Newfoundland and Labrador Fishery, 1764-1768," *Canadian Historical Review* 50: 2 (1969), 141-163; *idem*, "The Establishment of the Moravian Mission in Labrador and British Policy, 1763-83," *Canadian Historical Review* 45: 1 (1964), 29-50; Gordon Rothney, "L'annexion de la côte du



Fig. 7.11. Detail of a copy of James Cook's manuscript chart of Chateau Bay, Labrador, draftsman unknown. Reproduced in A.M. Lysaght, *Joseph Banks in Newfoundland and Labrador, 1766. His Diary, Manuscripts and Collections* (London: Faber and Faber, 1971), pl. 40. Note the Inuit skin boats in the channel above Gull Island, observing the warship at anchor.

Palliser assisted Joseph Banks' visit to the gulf coasts in the Newfoundland squadron's HMS *Niger*; depictions of specimens Banks collected on this voyage, by prominent natural-history artists G.D. Ehret and Sydney Parkinson, began the process of ordering regional flora and fauna in accordance with Linnaean classification. Preceding Banks' visits to northern Scotland and Iceland by several years, this experience contributed to the growing association of aesthetic sublimity with boreal coastal environments. All of these acts of imperial fashioning aimed to reconfigure North American peoples and spaces in ways that favoured British metropolitan interests; all were realized along the

Labrador à Terre Neuve, 1763," *Revue d'histoire de l'Amérique Française* 17: 2 (1963), 213-243; *idem*, "The Case of Bayne and Brymer: An Incident in the Early History of Labrador," *Canadian Historical Review* 15: 3 (1934), 264-275.

transportation corridors identified and made known by the surveys and charts of Cook and Lane.¹⁵



Fig. 7.12. G.D. Ehret, *Rhododendron canadense*, from A.M. Lysaght, *Joseph Banks in Newfoundland and Labrador*, pl. 34. Hydrographic survey of northwestern Atlantic inshore waters advanced contemporaneously with inventory of the region's flora and fauna, and its integration into European taxonomic systems. The simultaneous presence of James Cook and Joseph Banks in the Gulf of St. Lawrence in the post-Seven Years' War period prefigured projects of cartographic and natural historical reconnaissance carried out on a global scale in the later 1760s and 1770s.

¹⁵ For the concept of "imperial fashioning", see Daniel Clayton, *Islands of Truth: The Imperial Fashioning of Vancouver Island* (Vancouver: University of British Columbia Press, 2000); Daniel Clayton, "The Creation of Imperial Space in the Pacific Northwest," *Journal of Historical Geography* 26 (2000), 327-350.

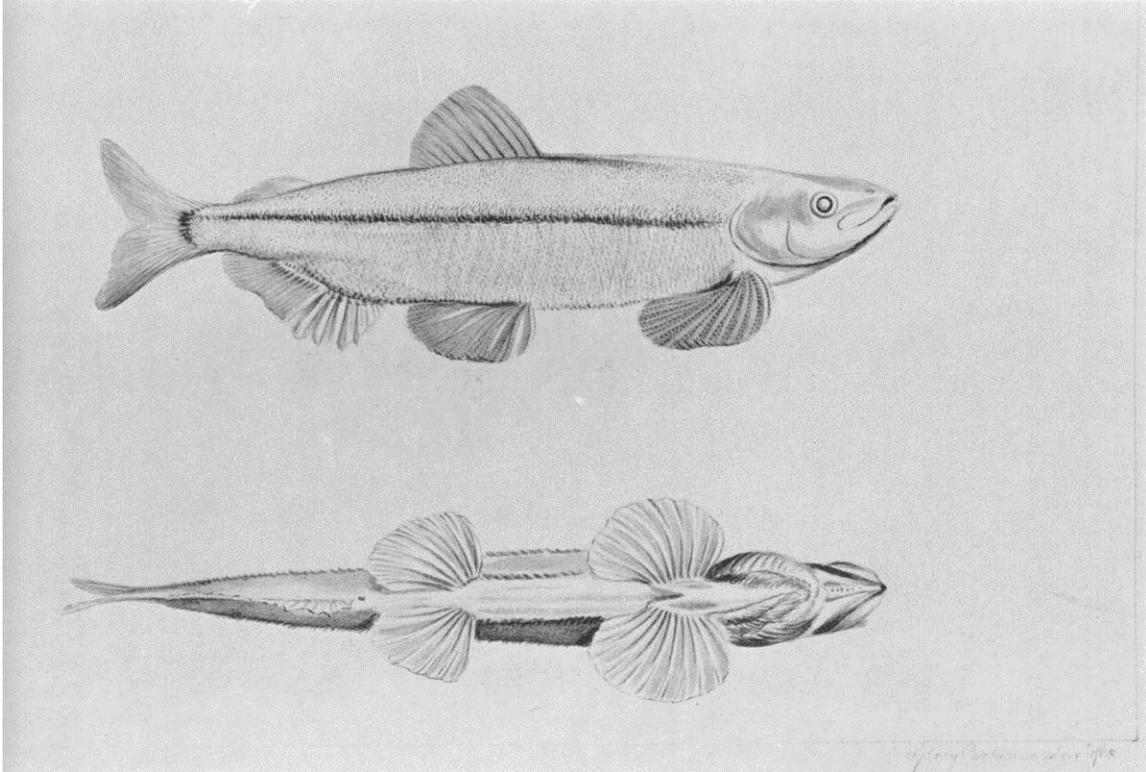


Fig. 7.13. Sydney Parkinson, *Lateral and Ventral views of a Male Capelin* [1768], from A.M. Lysaght, *Joseph Banks in Newfoundland and Labrador*, pl. 29. For hundreds of years the northeastern region's fauna had been the subject of European commercial interest; in the post-war period, it became subject to the classificatory systems of European natural history as well.

Intractable Locality and the Limits of Metropolitan Knowledge

Hydrographic survey was thus part of a broader imperial process that sought to inventory colonial peoples and resources to assist with their exploitation in accordance with mercantilist precepts of maritime empire. As is evident in the experience of *Canadien* fishers evicted from the Labrador coast and Inuit men and women introduced to alien religious traditions, this process had real and wide-ranging impacts on the lives of those subjected to it.¹⁶ Throughout the second half of the eighteenth century and well into the nineteenth, however, the relationship between European inventory science, mathematical cosmography, and hydrographic surveying was not straightforward. While

¹⁶ See, for example, Stephen Hay, "The Creative Misunderstandings of George Cartwright: A Popular Culture in Cartwright's Labrador, 1770-1786" (MA Thesis, Dalhousie University, 2008).

offering powerful tools to assist imperial officials and commercial interests active in the region, these activities were not able either to fully comprehend local realities or consistently shape them in ways amenable to the expansion of maritime empire. While the work of Holland, Cook, Lane, Des Barres, and their surveying parties did bring parts of the northwestern North Atlantic into more definite relation with European conceptions of universal geographic order, the primary aims of hydrographic survey were more specific and local. Maps and charts resulting from these surveys certainly did contribute to the broad goals of the British imperial state—as aids to interstate diplomacy, as tools of colonial governance, or of naval strategy—but they were, more fundamentally, practical documents meant to facilitate travel in little-known areas. As products of the hydrographic gaze—the combination of directed measured observation and vernacular experience of the inshore marine environment—they sought in particular to clarify the puzzle of navigation in unfamiliar waters. The difficult geographical and climatic character of northeastern North America made these products ever more necessary as British state and commercial interests sought to exploit the gains made in the Seven Years' War as fully as possible.

Mastery of maritime epistemology—gathering and effectively employing knowledge of coastal and riverine waterways, through the techniques of hydrographic survey and pilotage—had been an important element of Britain's rapid imperial expansion in the decades prior to 1763. Wielding these tools to meet the imperial challenge of inshore navigation during a relatively short military campaign (or series of campaigns) was, however, an accomplishment of a different order from using it in a sustained manner to ensure that colonies gained in war would be made secure and

productive in peace. In the post-war period surveyors employed by British state agencies undertook the work of identifying and recording transportation and communications corridors across the entirety of the North American continent east of the Mississippi River. General Surveys undertaken by Samuel Holland (1764-1775) and William Gerard De Brahm (1765-1773), Admiralty surveys by Cook and Lane in the Gulf of St. Lawrence (1763-1775), Des Barres in Nova Scotia (1764-1773), and George Gauld in the Gulf of Mexico (1764-1778), and army surveys by (among others) Joseph Peach on the St. John River (1762) and by Philip Pittman and Thomas Hutchins along the Mississippi and Ohio River (1764-1766) were all predicated in part on the need to identify and record the hydrographic features of the North American coast and the riverine interior. Surveys of the Gulf and River St. Lawrence and the Mississippi were especially important, as these large river systems were the main gateways to the strategic and material resources of the continental interior.¹⁷ They were thus vital conduits through which the British state sought to meet the need for governance and to effect the broad geopolitical changes mandated by the 1763 Treaty of Paris and Royal Proclamation; for example, by making it possible to convey sufficient military forces into the interior to enforce its status as a reserve for the region's Aboriginal nations.¹⁸

¹⁷ Post-1763 Britain was faced with the challenge of overcoming inadequate access to the Mississippi by means of the Iberville River; see LAC, MG 21, Haldimand Papers, Add. Mss. 21663, Thomas Gage to Frederick Haldimand, 20 March 1767; LAC, MG21, Add. Mss. 21727, Thomas Home to Brig. Gen. Taylor, 6 May 1767; LAC, MG 21, Haldimand Papers, Add. Mss. 21663, Frederick Haldimand to Thomas Gage, 28 February 1768.

¹⁸ Colin G. Calloway, *The Scratch of a Pen: 1763 and the Transformation of North America* (New York: Oxford University Press, 2006).

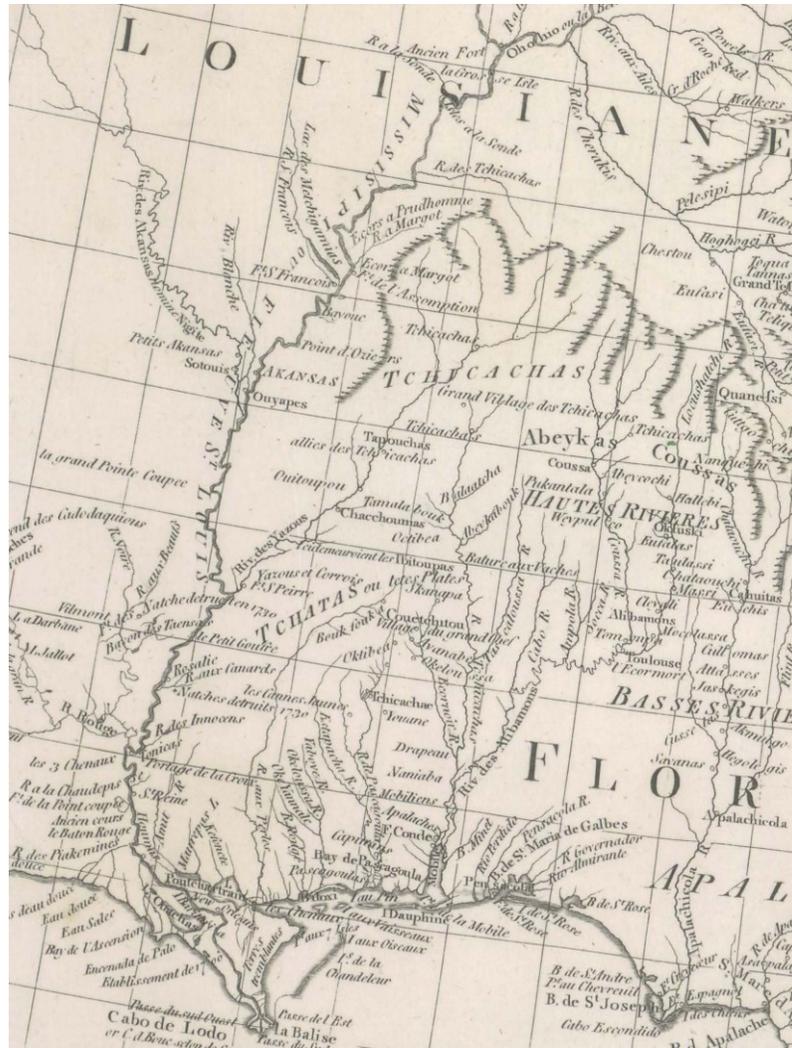


Fig. 7.14. Detail of *A Particular Map of the American Lakes, Rivers &c.* from *D'Anville's Atlas, Containing a Map of the World, The World in Twelve Maps, and Twelve Maps of the Most Interesting Parts of the World upon a Large Scale* (London: Engraved and printed for John Harrison, 1792). Post-war cartography of the Mississippi reinforced the hydrographic character of the North American continent in European imperial perception. As British reconnaissance moved into previously unsurveyed territories, this tracery of rivers and mountains—of material constraints on imperial activity, and the means to overcome them—was extended to represent ever-larger portions of the continent.

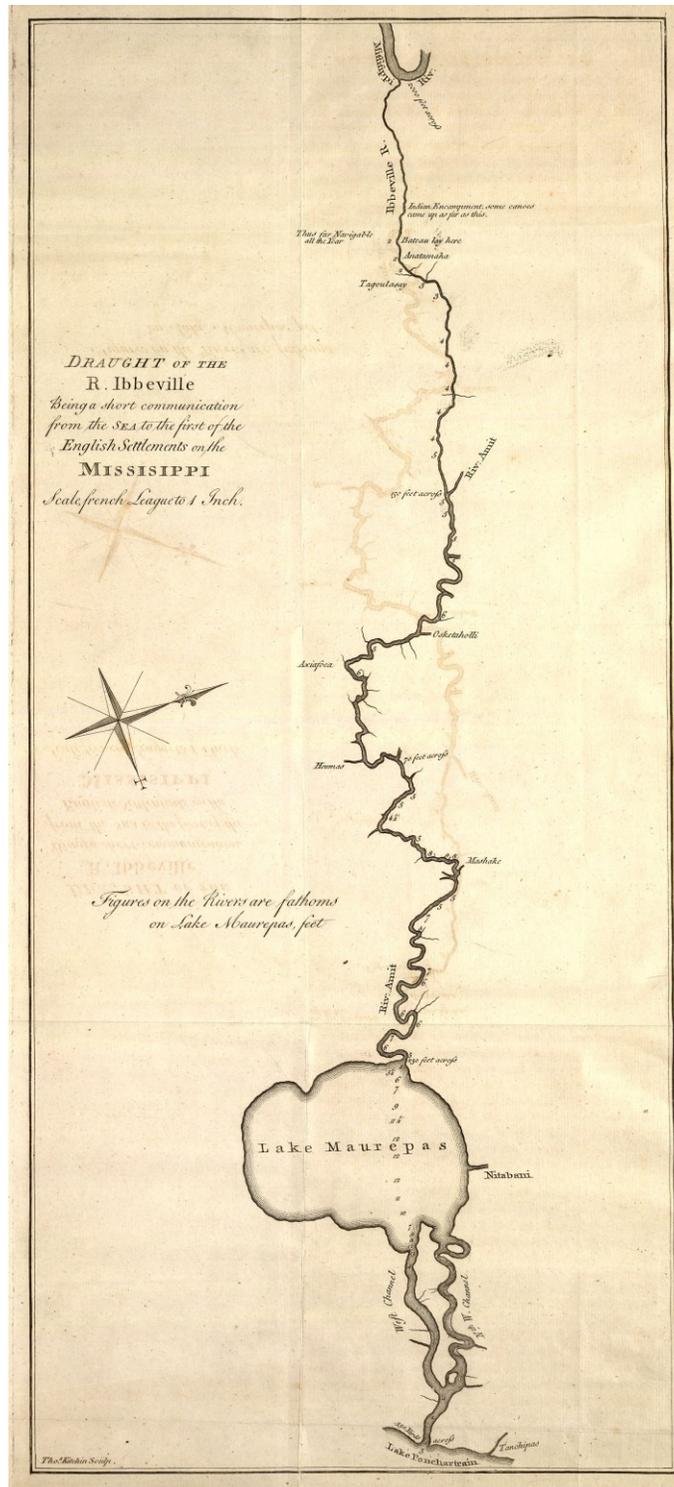


Fig. 7.15. Philip Pittman, *Draught of the R. Ibbeville Being a Short Communication from the Sea to the First of the English Settlements on the Mississippi* (London: J. Nourse, 1770). Library of Congress, Geography and Map Division, F352 .P68 G4012.M25. Post-war surveys abstracted the course of imperial corridors through the North American interior, betraying the often-attenuated channels through which imperial influence flowed. Note the single line of soundings across Lake Maurepas.

The growing strategic importance of the North American continental interior after 1763 intensified the need to comprehend and control the physical landscape of northeastern North America and in particular to overcome difficulties to navigation in the St. Lawrence watershed. Despite the remarkably casualty-free passage of Saunders' fleet in 1759, administrators charged with the task of integrating territories of the former New France into the British imperial system did not expect the task to be easy. In addition to the expected perils of transatlantic navigation and the inconvenience of estuarine travel in the St. Lawrence—where, as has been demonstrated, contrary currents and prevailing westerly winds funneled by the river's banks could make the passage from the Cabot Strait to Quebec as long as the Atlantic passage itself—the Canadian winter closed the river and gulf to navigation from November until May, making the already lax pace of eighteenth-century communications much slower.

In practice this meant, for example, that the annual cycle of correspondence between London and Quebec through which colonial governors, army and naval officers reported on local conditions and received instructions from their superiors could be disrupted several years in succession, leaving local authorities to make highly consequential decisions on their own authority.¹⁹ Ships and boats carrying official letters and even officials themselves sank, or missed the navigation season due to persistent inclement weather.²⁰ Administrators in Quebec were required to send multiple copies of

¹⁹ P.J. Marshall, *The Making and Unmaking of Empires: Britain, India and America c. 1750-1783* (Oxford: Oxford University Press, 2005), 73; Peter Marshall, "The Incorporation of Quebec in the British Empire, 1763-1774," in Virginia Platt and David Skaggs eds., *Of Mother Country and Plantations: Proceedings of the Twenty-Seventh Conference in Early American History* (Bowling Green, Ohio: Bowling Green State University Press, 1971), 55.

²⁰ LAC, Correspondence between Governor Carleton and the English Ministry 1767-1768, MG11-CO42Q, George Jackson to Richard Sutton, 13 January 1768; LAC, Governor Haldimand 1778, MG11-CO42Q, George Germain to Guy Carleton, 15 April 1778; LAC, CO 323, Board of Trade, vol. 18, Samuel Holland to John Pownall, 4 March 1765.

official correspondence, in excess of norms for communication between colonies and the metropolis.²¹ Quebec's governors could become dangerously isolated, as when Frederick Haldimand was reduced to receiving war news during the American Revolution from rebel newspapers smuggled north via overland routes.²² Vital military equipment, provisions, and other materials required for administration and for the maintenance of Aboriginal alliances in the interior could be subjected to unpredictable disruption.²³ As Quebec's first military (and later civil) governor James Murray noted, "The success of our affairs in Canada depend entirely upon our being masters of the river St. Lawrence...."²⁴

It was therefore necessary to improve Quebec's connections with the interior, with the Atlantic, and with British colonies on the Atlantic seaboard that enjoyed readier oceanic communications with Britain. As early as 1760 Charles Saunders' chart of the St. Lawrence navigation from Anticosti to the falls of the Richelieu River, and its accompanying sailing directions, offered an unprecedentedly accurate guide for vessels from the gulf to the furthest extent of deep-water navigation.²⁵ Systematic survey by navy

²¹ LAC, Governor Haldimand 1779, MG11-CO42Q, Frederick Haldimand to George Germain, 24 October 1779.

²² LAC, Governor Haldimand 1780, MG11-CO42Q, Frederick Haldimand to George Germain, 17 February 1780; LAC, Governor Haldimand 1782, MG11-CO42Q, Frederick Haldimand to Townshend 26 October 1782.

²³ LAC, Correspondence with the English Ministry 1766, MG11-CO42Q, Ralph Burton to James Murray 29 September 1765; LAC, Correspondence between Gov. Carleton, Gen. Burgoyne and Lord George Germain 1777, MG11-CO42Q, George Germain to Guy Carleton 26 March 1777.

²⁴ LAC, James Murray Papers, Correspondence, 1760-1761, Letter Bundle #2, James Murray to Colonel Fraser, 29 July 1760.

²⁵ Charles Saunders, *A New Chart of the River St. Laurence from the Island of Anticosti to the Falls of Richelieu: With all the Islands, Rocks, Shoals, and Soundings, also Particular Directions for Navigating the River with Safety; Taken by the Order of Charles Saunders, Esqr. Vice-Admiral of the Blue, and Commander in Chief of His Majesty's Ships in the Expedition against Quebec in 1759* (London: Lords Commissioners of the Admiralty, 1760); *Directions for Navigating the Gulf and River of St. Laurence, with a Particular Account of the Bays, Roads, Rocks, Sands, Landmarks, Depths of Water, Latitudes, Bearings, and Distance from Place to Place; the Setting and Flowing of the Tides &c. Founded on Accurate Observations and Experiments, Made by the Officers of His Majesty's Fleet* (London: Thomas Jefferys, 1760).

sailing masters employing triangulated survey techniques adapted from army engineering, integrated into Saunders' chart, identified the river's channels and hazards with great accuracy. The results of Holland's General Survey and Cook and Lane's hydrographic work would, in the course of the following twenty years, be incorporated into commercially published charts, including Sayer and Bennett's *North American Pilot* and accompanying sailing directions, and the fourth volume of *The Atlantic Neptune*.²⁶ Quebec's seaward approaches, while difficult and subject to inalterable hydrographic and climatic hazards, were already as well-charted as those in most areas of the world in 1760, and would become even more so by the outbreak of the American Revolutionary War.

Survey and the Challenge of Inland Navigation

The St. Lawrence system, and its tributaries and connections above Quebec, were less well known, as were alternative routes from Canada to the Atlantic that could mitigate the physical disadvantages of the St. Lawrence route. The river as far as Montreal had been surveyed under the French regime, and both French originals and English copies of maps and charts based on these surveys were available commercially.

²⁶ See, for example, *Sailing Directions for the North American Pilot: Containing the Gulf and River St. Lawrence, the Whole Island of Newfoundland, Including the Straits of Belle-Isle, and the Coast of Labrador. Giving a Particular Account of the Bays, Harbours, Rocks, Land-marks, Depths of Water, Latitudes, Bearings, and Distance from Place to Place, the Setting and Flowing of the Tides, &c. Founded on Actual Surveys, Taken by Surveyors that Have Been Employed by the Admiralty, and Other Officers in the King's Service. Published by Permission of the Right Honourable the Lords Commissioners of the Admiralty* (London: Sayer and Bennett, 1778); *Directions for the Gulph and River of St. Lawrence with Some Occasional Remarks* (Philadelphia: William and Thomas Bradford, 1774). The latter is compiled from individual mariners' reports as well as formal surveys, in the style of *The English Pilot*; William Bradford was a vocal opponent of the Stamp Act and other imperial interventions in North America, and later became a rebel military officer and official printer for the Continental Congress.

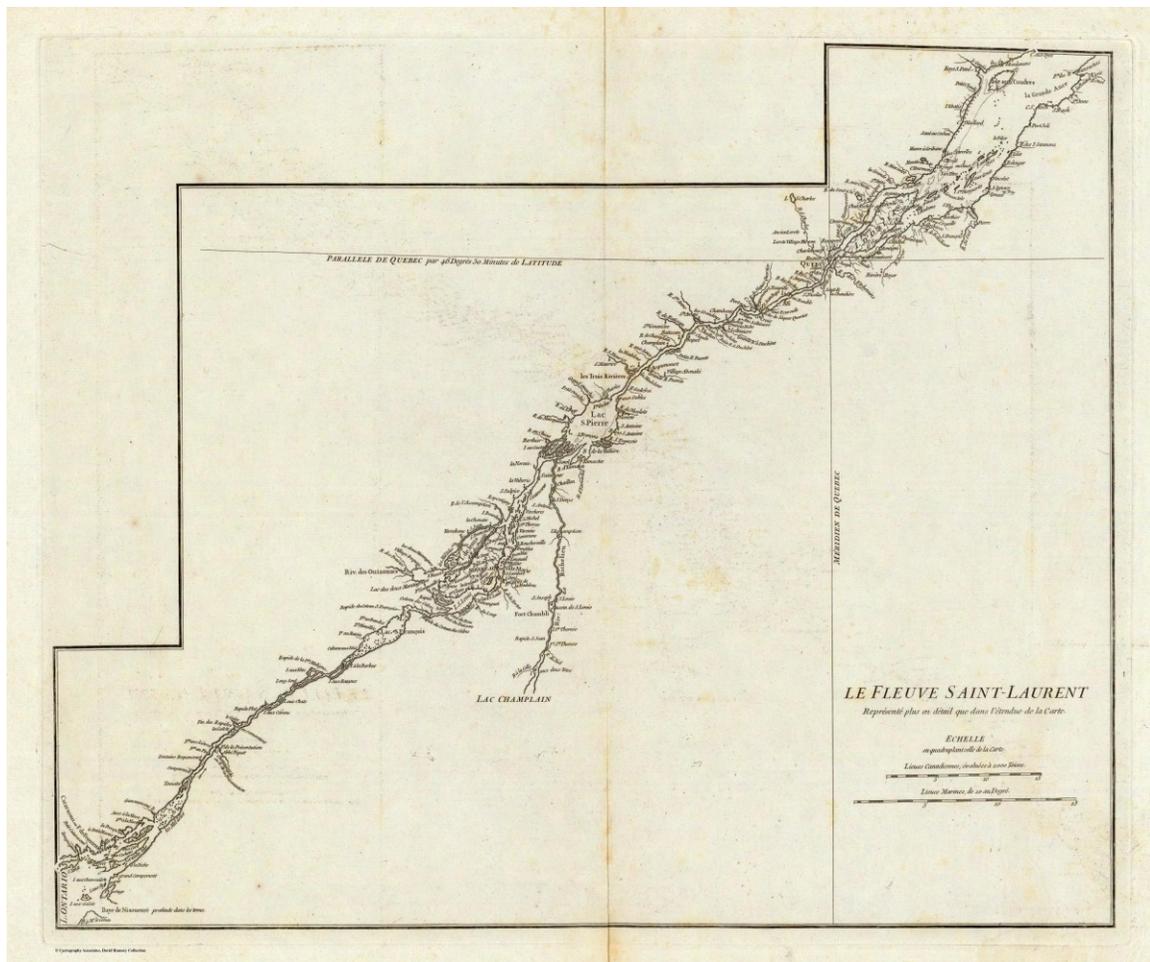


Fig. 7.16. Detail of Jean Baptiste Bourguignon d'Anville, *Canada, Louisiane et Terres Angloises* (Paris: J.B.B. D'Anville, 1755). Between Quebec and Lake Ontario hydrographic impediments—shoals and, especially, rapids above Montreal—made the St. Lawrence a problematic channel across which to direct imperial influence into the continental interior. The logistical challenge of overcoming these impediments was solved chiefly through the recruitment of the skilled labour of *Canadien* boatmen, often involuntarily through the use of *corvée* regulations that were a legacy of French administration of New France prior to its conquest.

James Murray's post-war survey of Quebec and Holland's General Survey both deepened this knowledge.²⁷ The changing nature of the St. Lawrence system above Quebec, however, required different approaches to the collection of hydrographic and related

²⁷ The manuscript maps resulting from Murray's surveys was a virtuoso demonstration of the growing capacities of British imperial survey; completed at a scale of 1:24,000, they measured forty-five by thirty-six feet. Nathaniel N. Shipton, "General James Murray's Map of the St. Lawrence." *The Cartographer* 4: 2 (1967), 93-101; see also Stephen J. Hornsby, *Surveyors of Empire: Samuel Holland, J.F.W. Des Barres and the Making of The Atlantic Neptune* (Montreal and Kingston: 2011), 25-30

route-finding information. Deep-water navigation stopped at Montreal, and the river from there to Lake Ontario became narrower in some places, widened into broad lakes in others, was broken by long and difficult rapids and falls, and followed channels that were regularly altered by the effects of currents and ice.²⁸

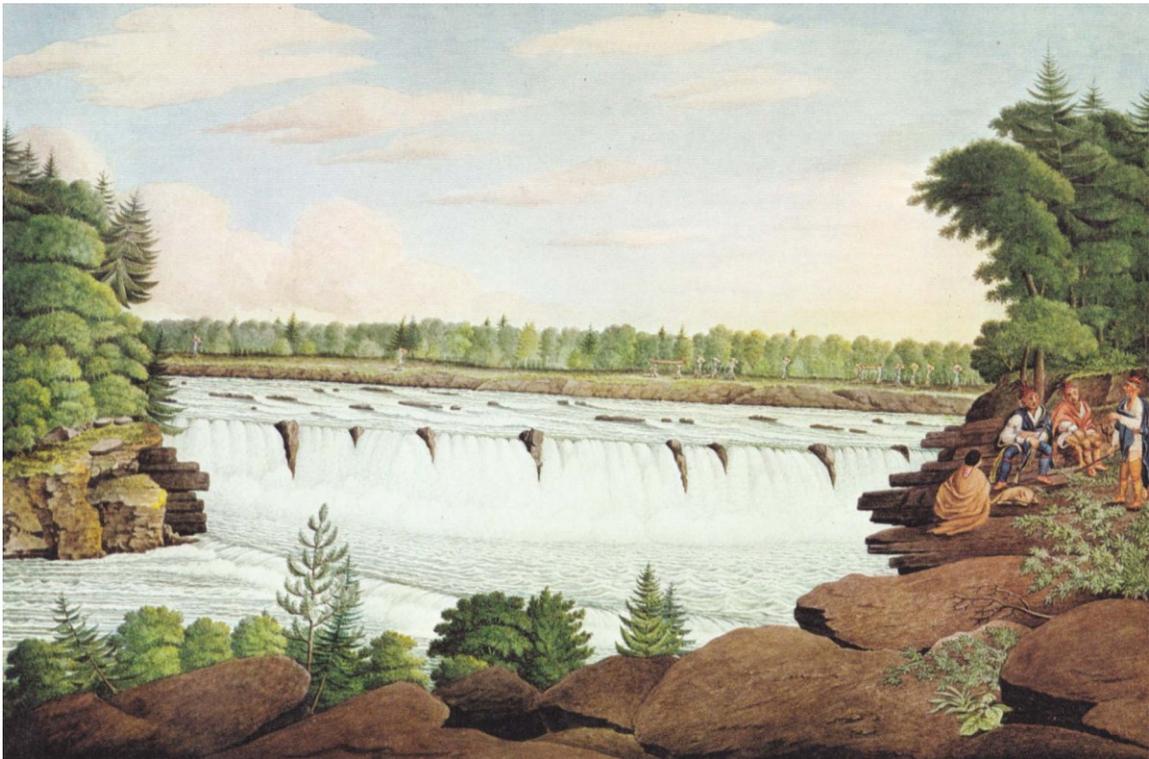


Fig. 7.17. Thomas Davies, “View of the Great Falls of the Outavauis River Lower Canada [c. 1791].” National Gallery of Canada, 6287. Davies’ views of waterfalls and rapids in the northeastern region highlighted the hydrographic discontinuities of the upper St. Lawrence and its tributaries. Note the line of figures in the background portaging around the falls.

Under such conditions surveys might rapidly become out of date, and embodied pilot and guide knowledge was accordingly relied on to a much greater extent than in more maritime parts of the river and estuary. The same was true of navigation on the Great

²⁸ Analysis of the hydrographical impediments of the St. Lawrence system above Montreal was central to Canadian national historiography in the twentieth century; see, for example, Carl Berger, *The Writing of Canadian History: Aspects of English-Canadian Historical Writing since 1900* (Second edition, Toronto: University of Toronto Press, 1986); Gary S. Dunbar, “Harold Innis and Canadian Geography,” *The Canadian Geographer* 29:2 (1985), 159-164; Donald Creighton, *The Empire of the St. Lawrence* (Second edition, Toronto: Macmillan, 1956); Marion I. Newbigin, *Canada: The Great River, the Lands and the Men* (London: Christophers, 1927).

Lakes and along the Hudson River routes to New York. This is not to say that these areas were not, to some extent at least, known: as Amherst's 1759/1760 campaigns demonstrate, given sufficient resources Britons and British Americans were capable of operating effectively in these regions. Indeed, British Americans had used these routes repeatedly during the eighteenth century to strike at targets in New France, usually with the assistance of Aboriginal people serving as guides. In such cases, however, embodied knowledge had either to be obtained through pay or coercion of local peoples, or made through long experience in these areas by imperial agents themselves.

From 1760 onward British agencies and individuals made concerted efforts to comprehend these inland routes. As early as January 1760 Murray dispatched a party under army engineer John Montresor to the Chaudière-Kennebec region, carrying dispatches to New York along a communications route between Quebec and the Atlantic colonies then mostly unknown to British forces. This party's experience highlighted the hazards of riverine travel through the forested interior of the northeast in wintertime. Travelling in canoes with regular army personnel and colonial rangers, but without Aboriginal guides, Montresor recorded lakes, streams, falls, and other impediments to travel. His party was inadequately adapted to the conditions they encountered, and so suffered the experience of abjection that would become a persistent impediment to the continuity of imperial and commercial endeavour in poorly known regions of North America. They were reduced, for example, to eating raw birds and their own shoes and clothing to avoid starvation. One man died from the frostbite that struck many of the party's members. The expedition did, however, achieve its goals. The dispatches were delivered, and the chief impediment to communication along this route (summarized by

Montresor as “The knowledge of the country, unknown but to savages and those but few”²⁹) was overcome. Montresor’s manuscript charts and his journal of his travels recorded the route and its impediments, and this knowledge later served to direct subsequent travelers safely along this way.



Fig. 7.18. John Montresor, “Plan of a Rout Undertaken in Winter, Jany. 26th, from Quebec, the Capital of Canada, to the Frontier Settlements of the Township of Topsham Near Brunswick Fort on the River Ammerascaegun in the Province of New Hampshire, Feby. 20th 1760. [c. 1760]” Library of Congress, Geography and Map Division, G3734.T65A1 1760 .M6 Vault. Reconnaissance or ambulatory maps produced by army engineers sought to overcome discontinuities in imperial corridors of communication, extending the identification of navigable water routes through passes in the mountainous terrain that characterized the interior geography of much of the northeastern region.

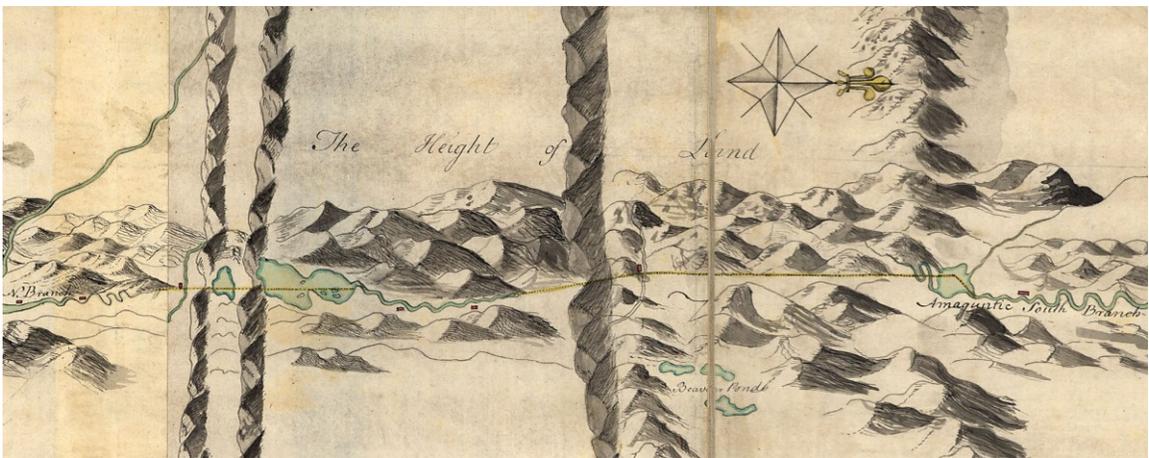


Fig. 7.19. Detail of John Montresor, “Plan of a Rout Undertaken in Winter, Jany. 26th, from Quebec...” In reconnaissance maps, topographical and hydrographical features alike were analyzed to identify viable conduits for official communication between

²⁹ John Montresor, “Lt. John Montresor’s Journal of an Expedition in 1760 Across Maine from Quebec,” *New England Historical and Genealogical Register* 36 (1882), 34. On attempts to improve Quebec’s connections to the Atlantic via the Chaudière-Kennebec route in the years immediately after the conquest, see LAC, James Murray Papers, Correspondence, 1760-1761, James Murray to William Pitt, 11 May 1761; LAC, Correspondence with General Murray 1761-1763, MG11-CO42Q, James Murray to William Pitt, 17 July 1761; LAC, James Murray Papers, Correspondence, n.d. [1762], Notes on the Murray Map, ms. notes signed Lt. Alex. Shaw, 5 September 1762.

imperial centres of influence in the interior, coastal settlements, and the broader Atlantic world.

This and similar manuscript route maps were commonly produced by engineers and other surveyors employed by the state in the course of their regular duties. The utilitarian function of these maps was largely identical to that of hydrographic charts—assisting safe passage through inadequately known navigations—and material from surveys by army engineers and government land surveyors was sometimes integrated into these charts. The hachures and shading used by surveyors to indicate topography were a sort of mirror image of the soundings and contour lines used by hydrographers. This is not coincidental: in the glaciated landscapes of northeastern North America, in which most effective travel was, to the extent possible, by water, engineers and surveyors were required to undertake informal hydrographic surveys themselves as part of their duties. This is evident, for example, in engineer Charles Blaskowitz's 1765 map of Lake Champlain, based on surveys by civilian surveyor John Collins. Collins was employed by Governor Murray and later by Samuel Holland and undertook many surveys of regions inland from the Laurentian heartland.³⁰ Besides being a frequently used invasion route connecting New York and Quebec, the Lake Champlain-Hudson corridor was the primary means through which officials in the two colonies corresponded, and a key channel of communication between officials and merchants in Quebec and their imperial interlocutors. It was a problematic route, however, difficult to traverse under winter conditions and afflicted by contrary prevailing winds at other times of the year. Blaskowitz and Collins' map was commissioned by James Murray in part to help

³⁰ Stephen J. Hornsby, *Surveyors of Empire: Samuel Holland, J.F.W. Des Barres and the Making of The Atlantic Neptune* (Montreal and Kingston: 2011), 49.

overcome these impediments.³¹ The map covers the entire lake from Île aux Noix to Crown Point. While it does not include formal, measured soundings, shallow areas of the lake are indicated with shading and conventional symbols representing rocks and other hazards. Individual submerged features dangerous to navigation are identified and their depths in various conditions are given textually. Detached islands and other landmarks useful for navigation are noted. Rivers and streams emptying into the lake are assessed for their navigability. Areas of the lake navigable by bateaux—along with the bark canoe, the most common vessel used in the interior—are clearly indicated. A clear purpose of the map is to facilitate water transport; here, land survey shades perceptibly into hydrography. Manuscript maps of inland navigations were potentially powerful tools with which to facilitate imperial communications and the exercise of military force in the continental interior. In wartime in particular they were especially valued by officers charged with moving personnel and materials through such areas.³²

³¹ LAC, Correspondence with the English Ministry MG11-CO42Q, John Collins to Lords Commissioners of Trade and Plantations, 22 July 1766.

³² LAC, MG 21, Haldimand Papers, Add. Mss. 21699, Guy Carleton to William Phillips, 23 March 1777. Because of the Lake Champlain route's strategic importance it was surveyed repeatedly in the interwar period; see, for example, LAC, ADM 1/3820, Remarks on Lake Champlain for his Excellency Gov. Wentworth, Surveyor General of all and Singular His Majesty's Woods in North America by Adolphus Benzel, 11 November 1772, Portsmouth, New Hampshire.

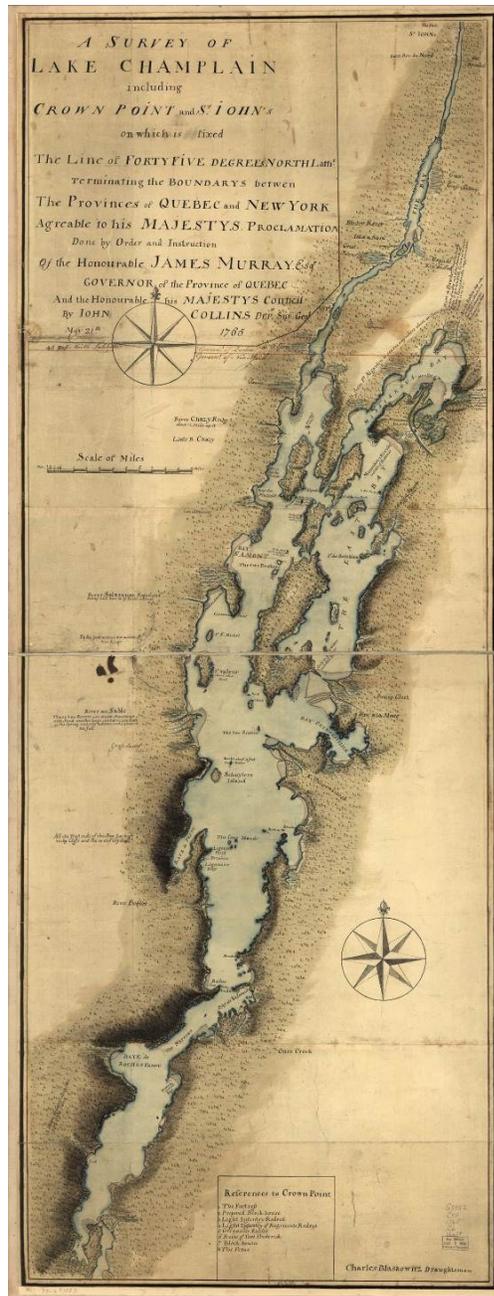


Fig. 7.20. Charles Blaskowitz and John Collins, “A Survey of Lake Champlain Including Crown Point and St. John's on which is Fixed the Line of Forty Five Degrees North Lattit. Terminating the Boundarys betwe[e]n the Provinces of Quebec and New York Agree[e]able to his Majesty's Proclamation Done by Order and Instruction of the Honourable James Murray, Esqr., Governor of the Province of Quebec and the Honourable His Majestys Council by John Collins, Depy. Surv. Genl., May 21th 1765. Charles Blaskowitz, Draughtsman [c. 1765].” Library of Congress, Geography and Map Division, G3802.C45 1765 .C6 Vault. Engineers’ maps of strategically important and well-used water routes in the interior, such as the Lake Champlain-Richelieu route, could include significant amounts of specifically hydrographic information predicated on the need to overcome impediments to the movement of military personnel and supplies.

Pilots and Guides, Loyalty, and the Colonial State

British efforts to survey the hydrography and topography of their new colonial possessions in northeastern North America, and to delineate the corridors through which imperial influence might flow ensured that in the years between the end of the Seven Years' War and the outbreak of the American Revolution the transportation routes of the St. Lawrence and its adjuncts were better represented cartographically than ever before. But as the preceding chapter demonstrated, there were limits on cartographic representation's ability to comprehend physical landscapes of transportation and to embody the pilot knowledge required to traverse them successfully. Accordingly, James Murray and his successors in Quebec sought to ensure that the organization of pilotage effected under the supervision of Charles Saunders during the war was sustained and extended with the return of peace. Among Murray's early actions was to pass a law regulating pilotage. He commissioned senior pilots—including Augustin Raby, one of the chief pilots employed by the British in 1759—to report on the state of pilotage in the river, and to offer recommendations for its improvement. Pilots were thenceforward examined and certified by the colonial government. A state office was created to inspect pilots, an office that had not existed under the French regime. Fixed pilot stations were mandated, one at Coudres for sections nearest Quebec, and one at Bic for the lower river; a minimum number of pilots were required to be on station at each. Ocean-going vessels were required either to carry an official pilot in the most difficult stretches of the river or to pay most of the pilotage fees anyway if they did not. These regulations were confirmed and extended by Murray's successor, Guy Carleton, in 1768.³³

³³ Jean Leclerc, "Les pilotes du Saint-Laurent et l'organisation du pilotage en aval du havre de Québec, 1762-1920" (PhD thesis, Laval University, 2003), 60-64.

Because pilots (and guides, their equivalents in the continental interior) fulfilled a vital function in facilitating communication between imperial and colonial spheres across the difficult physical landscapes of littoral space, their persons and their work were highly valued by state officials. Pilots and guides did not just carry traffic safely over impediments to navigation in colonial approaches and in the continental interior, they performed a range of functions that assisted imperial agents to adapt to colonial conditions. They could, for example, quickly make repairs to ocean-going vessels in areas far from formal shipbuilding facilities.³⁴ They assisted with the settlement process, and with the relocation of settlers in areas where weak imperial influence rendered occupation unsustainable.³⁵ They could carry information to areas not represented on maps or charts, becoming in their own persons a sort of mobile imperial conduit.³⁶ They served as cultural intermediaries, translating state objectives into the idioms of local languages and cultures of colonial and Aboriginal peoples. The ideal pilot or guide was thus someone who straddled cultures: a *Canadien* with English-language skills sympathetic to the British regime or, in the interior, an Aboriginal person with long experience in colonial service or a seasoned veteran of irregular warfare. Because of their ability to move easily in North American landscapes and societies, pilots were seen as indispensable for key communications tasks and were remunerated accordingly. They were aware of the value of their skills, and could use the leverage this provided to

³⁴ LAC, Haldimand Papers, MG21, Add. Mss. 21802, John Schanke and Peter Yonge to Frederick Haldimand, 15 June 1781.

³⁵ LAC, Haldimand Papers, MG21, Add. Mss. 21819, Frederick Haldimand to John Johnston, 23 March 1780.

³⁶ LAC, Haldimand Papers, MG21, Add. Mss. 21809, Lieutenant Lawson to Captain Matthews, 29 September 1782.

demand payment that sometimes bordered on the extortionate in the eyes of their state paymasters.³⁷

The important roles that pilots and guides played in imperial logistics, communications, and intercultural relations in the post-war period ensured that, as in the campaigns of the Seven Years' War, ensuring loyalty was a crucial and highly contested process. Pilots and guides in the post-war period continued to be overwhelmingly *Canadien* in ethnicity and, in the eyes of at least some imperial authorities, of questionable loyalty on that basis alone. This questioning persisted throughout the period between the end of the Seven Years' War and the end of the American Revolutionary War; as late as 1783 Quebec governor Frederick Haldimand received a proposal for the thorough Anglicization of pilotage on the river. The petitioner in this case noted that “[t]here is much in the power of a pilot, who can furnish information of various sorts to an enemy, with plans and charts; it should therefore be a part of the scheme to supply as speedily as possible English instead of French pilots. An oath should be framed for the pilots & their crews.”³⁸ During the Revolutionary War, colonial officials augmented pilots' pay specifically to ensure that their skills continued to serve British, rather than rebel interests.³⁹ Aboriginal guides demanded high rates of pay, openly stating that they would switch their loyalties if their demands were not met.⁴⁰ British officers and

³⁷LAC, Haldimand Papers, MG21, Add. Mss. 21732, pt. 2, Robert Hunter to Frederick Haldimand, 1 February 1780; LAC, MG 21, Haldimand Papers, Add. Mss. 21809, Lieutenant Lawson to Captain Matthews, 29 September 1782; LAC, MG 21, Haldimand Papers, Add. Mss. 21810, Frederick Haldimand to John Parr, 21 June 1783. See also LAC, Miscellaneous Papers during the Government of Brig-Gen Hope, 1786, MG11-CO42Q, Guy Carleton to Evan Nepean, 30 August 1786.

³⁸ LAC, Haldimand Papers, MG21, Add. Mss. 21755, H. Hamilton to Frederick Haldimand, 19 [April?] 1783

³⁹ LAC, Haldimand Papers, MG21, Add. Mss. 21809, Lieutenant Connor to Captain Matthews, 21 August 1782.

⁴⁰ LAC, Haldimand Papers, MG21, Add. Mss. 21780, Alexander Fraser to Frederick Haldimand, 6 July 1779; LAC, Haldimand Papers, MG21, Add. Mss. 21777, Captain Schmid to Frederick Haldimand, 3 February 1782.

administrators were concerned about the loyalties of the *Canadien* population as a whole during the war, and their anxieties were fuelled by incidents in which *Canadiens*, including militia captains, were implicated in assisting rebel spies and military units.⁴¹ Pilots in the gulf were widely assumed to be involved in smuggling French goods through St. Pierre and Miquelon prior to the Revolutionary War, and in rebel privateers' depredations during it.⁴²

Loyalties were contested most openly and persistently along the water routes into the interior above Montreal. Movement along these routes depended not only on the local knowledge of *Canadien* and Aboriginal people, but on their embodied skills as well, which were absolutely necessary to supply of British military posts, trade, and alliances in the interior. This was not a matter of brute labour: moving people and goods in canoes and, especially, in bateaux, required specialized boat-handling and logistical skills that were the product of a lifetime's application to these tasks. Taking craft up and down the many rapids above Montreal was especially perilous work not safely consigned to people unfamiliar with white-water navigation, as Jeffery Amherst's troops discovered in 1760. This was especially so in springtime, when a strong freshet and powerful currents made successful pilotage extremely difficult.⁴³ One official charged with arranging transport from the interior to the town of Quebec noted "Canadian pilots [are] absolutely necessary

⁴¹ LAC, Haldimand Papers, MG21, Add. Mss. 21789, Justus Sherwood to Henry Watson Powell, 23 July 1778; LAC, Haldimand Papers, MG21, Add. Mss. 21844, Examination of William Hood, 14 April 1780; LAC, Governor Haldimand 1782, MG11-CO42Q, Deposition of Caleb Closson, taken by Edward Abbott, Commissioner of the Peace, 24 February 1781; LAC, Haldimand Papers, MG21, Add. Mss. 21821, Captain Azariah Pritchard to Captain Matthews, 21 October 1781; LAC, Haldimand Papers, MG21, Add. Mss. 21797, Friedrich Adolph Riedesel to Frederick Haldimand, 29 March 1782.

⁴² LAC, ADM 1, vol. 482, Alexander Colvill to Phillips Stephens, 22 September 1764; LAC, Haldimand Papers, MG21, Add. Mss. 21862, Felix O'Hara to Frederick Haldimand, 3 September 1782.

⁴³ LAC, Haldimand Papers, MG21, Add. Mss. 21731, G. Maturin to Frederick Haldimand, 19 March 1774.

and must be procured.”⁴⁴ It was the way that boatmen for bateaux service was procured that stoked concerns about their loyalty. Unlike river pilots or wilderness guides, boatmen were frequently compelled to serve state projects on the St. Lawrence and other waterways in accordance with a system of compulsory service or *corvée* that was the legacy of the French regime. Unlike contemporary naval impressment, *corvée* was defined in civil law. Its defined mutual obligations and rights were sometimes abused by merchants and state officers in peacetime. In wartime the practice was enforced coercively. The duty was widely disliked by the *Canadiens*, but was frequently employed by colonial authorities availing themselves of post-war Quebec’s long periods of martial law to command labour without judicial or other restraints. To officials like James Murray the effects of this on *Canadien* loyalty were clear: abuses of *corvée* labour in peacetime could potentially be disastrous.⁴⁵ In peacetime the service, while resented, was at least well-remunerated according to prevailing market rates; with the outbreak of the American Revolutionary War, bateaux men became subject to military discipline that became harsher as British fortunes in the war became bleaker.⁴⁶ As a result, *Canadien* loyalty to British authority came under increasing pressure at the worst possible time.

Embodied Knowledge and the American Revolutionary War: Revolt of the Local

By 1775 Britain had achieved mastery of the coastal waters of northeastern North America on several levels. In the years between the capture of Louisbourg and the beginning of the American Revolutionary War the British army and navy, operating

⁴⁴ LAC, Haldimand Papers, MG21, Add. Mss. 21823, R. Matthews to Major McAlpine, 24 April 1780.

⁴⁵ LAC, James Murray Papers, Letterbook, 1763-1765, James Murray to Ralph Burton 7 October 1765.

⁴⁶ See, for example, LAC, Haldimand Papers, MG21, Add. Mss. 21848, Frederick Haldimand to Christopher Carleton, 30 April 1779; LAC, Haldimand Papers, MG21, Add. Mss. 21848, Frederick Haldimand to Christopher Carleton, 6 May 1779; 1779.05.10; LAC, Haldimand Papers, MG21, Add. Mss. 21743, Order of 22 July 1779.

cooperatively in thousands of amphibious actions, asserted military control of the littoral zone of northeastern North America from Cape Breton to the Strait of Belle Isle to the continental interior of the St. Lawrence watershed. Fear of rampant smuggling from France's last gulf possession, St. Pierre, were largely unrealized, as levels of Royal Navy presence in the gulf region and adjacent Newfoundland remained relatively high throughout the 1760s.⁴⁷ Surveys of unprecedented accuracy, scope and detail had recorded the physical geography and hydrography of the coastal and riverine fringe of an enormous area of the North American continent. In 1773 Des Barres' survey ended; in 1774 the first plate of *The Atlantic Neptune* appeared. Holland's General Survey had reached New Hampshire by 1775, as war broke out in neighbouring Massachusetts. In 1775 the imperial presence in North America was almost entirely dependent on the British military's amphibious capacity: to sustain armies transatlantically, to supply Quebec and Nova Scotia, to protect the Newfoundland fisheries, to provide support to civil and military authorities in loyal colonies and loyal peoples in rebel ones, to supply allied Aboriginal nations, and to control the American coastline. The coasts of Nova Scotia, Newfoundland and the gulf were well charted, as were those of the seaboard colonies. A regulated pilotage regime was in place on the St. Lawrence, and British businessmen, civil and military authorities had more than a decade's experience organizing water transport to posts and trade in the Great Lakes region. Britain at the outset of the war seemed well prepared to maintain control of the coastal areas and river

⁴⁷ The work of suppressing smuggling was performed simultaneously with the work of survey: Henry Mowat, whose vessel *Canceaux* supported Holland's General Survey for nearly a decade, made several interdictions in the gulf region during this time. See, for example, LAC, ADM 1/482, Instructions from Lord Colvill to the Commanders of armed vessels appointed to cruise in the River St. Lawrence, 7 August 1764; LAC, ADM 1/482, Alexander Colvill to Phillip Stephens, 26 April 1766; LAC, ADM 1/483, Samuel Hood to Philip Stephens, 28 March 1768.

systems that supported the great majority of North America's population and exploitable resources.

Causes for the ultimate loss of most of these areas and systems, of the entire British North American landmass south of Nova Scotia and Quebec, are notoriously complex. Militarily, Britain's attempts to fight on both sides of the Atlantic and maintain supply across it ultimately proved too difficult to sustain. British naval dominance, the ultimate guarantor of continued transatlantic imperial activity, broke down during the war, if perhaps to an extent that has been exaggerated in past accounts.⁴⁸ Along the coasts and rivers of eastern America, however, the ability to maintain effective control of specific regions frequently depended on mastery of local marine resources and knowledge. The consequences of losing that mastery were made evident from the early 1760s forward as Britain gradually lost effective local control of large areas of the American coast, especially in New England. Violent resistance to enforcement of customs duties mandated by the British ministry's reform policies started soon after the Seven Years' War ended. Already in 1764 Alexander Colvill, commander of the Royal Navy's North American Station, noted that pilots would not work in king's ships for fear of retaliation.⁴⁹ The 1772 looting and destruction of HMS *Gaspée*, an act that brought factions in North America closer to open hostilities, took place as the vessel was sounding off Providence, Rhode Island.⁵⁰ Pilots were widely despised for their ability to direct navy forces into the most intricate passages along the American coast and to

⁴⁸ Daniel A. Baugh, "Why Did Britain Lose Command of the Sea during the War for America?," in Jeremy Black and Philip Woodfine eds., *The British Navy and the Use of Naval Power in the Eighteenth Century* (Leicester: Leicester University Press, 1988), 149-169.

⁴⁹ LAC, ADM 1/482, Colvill to Phillips Stephens, 09 November 1764.

⁵⁰ LAC, ADM 1/484, John Montagu to Philip Stephens, 12 June 1772.

disrupt the smuggling activities that became endemic during the 1760s and early 1770s.⁵¹ In September 1774, Frederick Haldimand witnessed armed mobs intimidating pilots at New York.⁵² With the outbreak of open warfare localized control of inshore waters collapsed completely in many areas; from the summer of 1775 onward scores and eventually hundreds of American privateers operated along the coast of the western Atlantic and its approaches, in the gulf, and in European waters.⁵³ While Britain's navy could blockade the rebel colonies' deep-water ports early in the war, they could not control the movements of local seamen employing the tactics of *petite guerre navale* in the western Atlantic. As the war expanded to include European rivals France and Spain, Britain lost control of the ocean; but it had lost control of much of the North American coastal zone before the war even began.

In 1775 the British government of Quebec found itself in a position very similar to that of New France in 1759. Rebel forces attacked along both the Hudson-Lake Champlain corridor and overland to the St. Lawrence, following John Montresor's route along the Kennebec overland to the Chaudière.⁵⁴ Britain's amphibious response to these threats in 1776 relieved Quebec and destroyed American naval capacity on Lake Champlain, apparently demonstrating Britain's capacity to secure both the approaches to

⁵¹ LAC, ADM 1/482, Alexander Colvill to Phillips Stephens, 8 August 1765; LAC, ADM 1/482, Alexander Colvill to Phillips Stephens, 7 November 1765; LAC, ADM 1/483, Samuel Hood to Philip Stephens, 20 December 1767; LAC, ADM 1/483, Samuel Hood to Philip Stephens, 21 January 1769. British naval commanders recognized this fact, and sought to lessen the level of animus by moving pilots from region to region along the seaboard; LAC, ADM 1/483, James Gambier to Philip Stephens, 6 November 1770.

⁵² LAC, Haldimand Papers, MG21, Add. Mss. 21663, Frederick Haldimand to Thomas Gage 12 September 1774.

⁵³ Olaf Janzen, "The American Threat to Newfoundland Fisheries, 1776-1777," *American Neptune* 48 (1988), 154-164; Olaf Janzen, "The Royal Navy and the Defence of Newfoundland during the American Revolution," *Acadiensis* 14: 1 (1984), 28-48; John D Faibisy, "Privateering and Piracy: The Effects of New England Raiding upon Nova Scotia during the American Revolution, 1775-1783" (PhD thesis, University of Massachusetts, 1972).

⁵⁴ Michael P. Gabriel ed., *Quebec During the American Invasion, 1776-1776: The Journal of François Bay, Gabriel Taschereau, and Jenkin Williams* (East Lansing, MI: Michigan State University Press, 2005. ETC

the St. Lawrence gateway and the interior itself. Such assessments would prove premature. From as early as 1770, naval forces were drawn from the gulf in response to the accelerating collapse of order along the coasts of colonies further south.⁵⁵ Rebel privateers operated widely along the northeastern Atlantic coast and in the gulf. One captured privateer vessel carried manuscript sailing directions for the gulf tailored to the needs of *petite guerre navale*, identifying potential shoreward targets and safe places for “skulking”.⁵⁶ Charlottetown in St. John’s Island was looted in a rebel descent in November 1775. The privateers carried the colony’s Attorney General, Phillips Callbeck, as hostage to Massachusetts; upon his release he petitioned for greater naval presence in the gulf, but was told that such requests were common along Atlantic coast, and could not be fulfilled.⁵⁷

The spread of disorder in American coastal waters from New England to the Gulf of St. Lawrence had potentially disastrous consequences for the fortunes of British empire in North America. The British Army in Quebec, the main component of imperial forces on North America’s northern flank, was supplied almost entirely by means of the St. Lawrence, as were Britain’s Aboriginal allies in the continental interior. While regulation of pilotage on the river had proven sufficient in peacetime, at several points during the war the volume of traffic feeding the war effort in the north overwhelmed the number of available pilots.⁵⁸ American privateers and North Atlantic weather interrupted

⁵⁵ LAC, ADM 1/483, James Gambier to Philip Stephens, 10 September 1770.

⁵⁶ LAC, ADM 1/483, Captain Parker's Intelligence from Governor Tryon, n.d.

⁵⁷ LAC, ADM 1/484, Phillips Callbeck to Molyneux Shuldham, 10 January 1776; LAC ADM 1, vol. 484, Molyneux Shuldham to Phillips Callbeck, 6 February 1776.

⁵⁸ This was especially the case in the years after the British defeat at Saratoga and the growing disorder in the waters of the gulf; LAC, Haldimand Papers, MG21, Add. Mss. 21722, Frederick Haldimand to Captain Harvey, 27 August 1778; LAC, Haldimand Papers, MG21, Add. Mss. 21796, Friedrich Adolph Riedesel to Frederick Haldimand, 4 September 1781; LAC, Haldimand Papers, MG21, Add. Mss. 21800, Capt. Pringle

virtually all supply to the interior in 1780, and seriously impaired it in other years.⁵⁹ The logistical situation on the Lake Champlain-Hudson River corridor, which was dependent on the embodied skills of *Canadien* boatmen, proved even more consequential. In 1777 British forces under General John Burgoyne sought to consolidate gains made in the north in 1776, mounting an expedition southward along the corridor to secure its exclusive use for Britain and to physically separate rebel colonies in the north from those in the south. The consequent Saratoga Campaign proved disastrous for Britain, in large part because of its inability to sustain mastery of hydrographic routes in the interior. Authorities in Britain were insufficiently appreciative of the nature of the terrain in which the campaign took place, and neglected to provide necessary equipment to meet the challenges of the physical landscape. Planners dispatched inadequate numbers of flat-bottomed boats, which were essential to carry large numbers of troops and material into the theatre of war.⁶⁰ Volumes of imported provisions were drastically inadequate.⁶¹ Without adequate supply, Burgoyne's forces were required to disperse over large areas of Quebec and to live off the land, seriously impeding their military effectiveness.

to Frederick Haldimand, 21 August 1781; LAC, Haldimand Papers, MG21, Add. Mss. 21800, Capt. Pringle to Frederick Haldimand, 28 August 1781.

⁵⁹ LAC, Correspondence between Gov. Carleton, Gen. Burgoyne and Lord George Germain 1777; MG11-CO42Q, George Germain to Guy Carleton, 26 March 1777; LAC, Governor Haldimand 1778, MG11-CO42Q, Frederick Haldimand to George Germain, 27 April 1778; LAC, Governor Haldimand 1779, MG11-CO42Q, Haldimand to Germain, 4 October 1779; LAC, Governor Haldimand 1780, MG11-CO42Q, Frederick Haldimand to George Germain, 10 November 1780. After the disastrous 1780 shipping season Quebec Governor Haldimand was forced to ration flour for troops across the St. Lawrence watershed; in response, Germain suggested interior posts be encouraged to engage in gardening and husbandry. Discontinuity of supply along the St. Lawrence route threatened abjection on an immense scale. LAC, Governor Haldimand 1781, MG11-CO42Q, Frederick Haldimand to George Germain, 14 June 1781; LAC, Governor Haldimand 1781, MG11-CO42Q, George Germain to Frederick Haldimand, 12 April 1781.

⁶⁰ LAC, Lt. General Burgoyne's Expedition and Surrender at Saratoga 1777, MG11-CO42Q, Guy Carleton to George Germain, 16 October 1777.

⁶¹ R. Arthur Bowler, *Logistics and the Failure of the British Army in America 1775-1783* (Princeton: Princeton University Press, 1975), 221.

WINTER QUARTERS OF THE KING'S ARMY IN CANADA, 1776.

Regiments.	Quarters.
20 th	<i>Isle aux Noix</i>
21 st	<i>Fort S.^t John</i>
53 ^d	<i>Fort Chambly</i>
<i>General Fraser's Corps with the Light Infantry & Grenadiers of the 24th.....</i>	} <i>On the East side of River S.^t Lawrence at la Prairie Longueuil, Boucherville, Vereune; Isles S.^{te} Therese & Bouchard Contrecoeur & S.^t Ours.</i>
<i>the Royal Artillery; and General Hospital.....</i>	<i>Montreal</i>
<i>Maclean's Royal Emigrants.....</i>	<i>la Chine, la Presentation</i>
<i>S.^r Jo. Johnstons Royal New Yorkers.....</i>	<i>Pointe Claire S.^{te} Anne</i>
8 th	<i>the Back Posts</i>
9 th }.....	} <i>Isle Jesus Riviere des Paires le Saut du Recollet S.^{te} Genevieve S.^t Laurent</i>
47 th }	
31 st	<i>S.^t Antoine S.^t Denys S.^t Ours, Sorel</i>
<i>The Troops of Brunswick & Hanau.....</i>	} <i>On the River S.^t Lawrence from Berthier to Trois Riviers and 40 Miles below Trois Riviers on the Road to Quebec.</i>
24 th	<i>Quebec</i>
62 ^d	<i>Pointe Levi & neighbouring Towns.</i>

Fig. 7.22. Detail of *A Map of the Inhabited Part of Canada from the French Surveys, with the Frontiers of New York and New England; From the Large Survey by Claude Joseph Sauthier* (London: William Faden, 1777). Library of Congress, Geography and Map Division, G3401.F2 1777 .F3 Vault : Am. 3-22. The dangerous dispersion of British troops in the northeast early in the American Revolutionary War indicated in this detail was in large part a consequence of the inability to maintain supply along the St. Lawrence corridor.

Most importantly, transportation along Lake Champlain to engage rebel forces in the south proved disastrously ineffective. The hundreds of *Canadiens* conscripted to perform corvée duty in the campaign proved frustratingly recalcitrant, insisting that their service be restricted to the limited requirements mandated by civil law. Many refused to serve outside the boundaries of Quebec at all, and large numbers deserted. Efforts to organize land transport were equally ineffective, as American forces blocked forested roads with improvised barriers of trees. In late June, Burgoyne attributed the campaign's lack of progress to his inability to move effectively along the attenuated corridors of the North American interior:

The combination of land and water carriage, the current always against us in the one, the other often rendered impracticable the effect of a few days rain upon the roads; the want of activity and frequently of obedience in the Canadian corvées, upon which all the transport depends; these circumstances together multiply difficulties and accidents to a degree that disconcerts all arrangement, and that is unknown in other services. We have had also continual rains at St. Johns and up the Lake, with contrary winds, which have prevented the possibility of getting forward the artillery vessels and the great bulk of the provisions.⁶²

Constraints on military operations in the interior imposed by the difficulty of geographic and hydrographic conditions, and by British forces' inadequate preparations to meet these, ultimately proved fatal to British operations on the northern flank during the American Revolutionary War. As problems of transportation and supply worsened Burgoyne's Aboriginal allies withdrew support, leaving a hungry and shrinking British army to face rebel forces. The denouement came at Saratoga, New York, in October 1777, when outnumbered British forces were defeated by a larger and better supplied American army.⁶³ Defending his part in the fiasco, Quebec Governor Guy Carleton bitterly indicted his metropolitan superiors for failing to comprehend northeastern North America's riverine geography, with the incredulous observation that "your Lordships knew there were lakes and rivers to pass...."⁶⁴

The failure of British forces along the Lake Champlain route contributed to France's decision to enter the war on the side of the rebels. Having lost control of local waters across much of eastern North America, Britain would henceforth see its control of transatlantic routes challenged as well. Inability to sustain this control contributed

⁶² LAC, Correspondence between Gov. Carleton, Gen. Burgoyne and Lord George Germain 1777, MG11-CO42Q, John Burgoyne to George Germain, 22 June 1777; see also LAC, Haldimand Papers, MG21, Add. Mss. 21699, Guy Carleton to Brigadier General Maclean, 12 July 1777.

⁶³ R. Arthur Bowler, *Logistics and the Failure of the British Army in America 1775-1783* (Princeton: Princeton University Press, 1975), 212-238.

⁶⁴ LAC, Lt. General Burgoyne's Expedition and Surrender at Saratoga 1777, MG11-CO42Q, Guy Carleton to George Germain, 16 October 1777.

materially to Britain's eventually defeat in the war, as its decisive inability to either supply its troops or evacuate them at Yorktown in 1781 demonstrates. The inability to control the American coastal zone and riverine routes in the interior thus had important and unrecognized implications for Britain's broader loss of control of its former colonial possessions in North America.

Conclusion

In the immediate aftermath of the formal end of hostilities in 1763, imperial concern for the security of northwestern North American waters focused on French threats to security and prosperity, and in particular on the possibility of smuggling into Canada from St. Pierre with *Canadien* collusion. In fact, the enhanced British state presence in the gulf, both in the form of naval patrols and survey activity, permitted a relatively high level of stability there in the decade after 1763. These efforts demonstrated that, with the commitment of sufficient military resources and possession of sufficient local knowledge, colonial inshore waters could be harnessed to the needs of maritime empire. Simultaneous with the establishment of control in the gulf, however, maritime security in the colonies of the Atlantic seaboard came under threat from an unforeseen direction. Along the New England coast in particular, British efforts to tighten imperial administration by means of revenue statutes enforced by the Royal Navy generated widespread and frequently violent opposition. The challenges British military forces faced in maintaining control over American coastal waters during the Revolutionary War were presaged by events beginning soon after 1763, and indeed were in a sense continuous with these challenges. What began as a low-level insurgency against unfavourable and, in the eyes of many, unjust imperial legislation, escalated into

open warfare in the years leading up to 1775. In this intensifying contest of colonial and imperial interests hydrographic knowledge of inshore waters (and of the people who embodied it) was vigorously contested; possession of this knowledge served as the basis of a surprisingly effective challenge to maritime empire. Prior to and during the American Revolutionary War, rebels deployed knowledge of local waters to disrupt imperial control of the coastal zone. Britain had successfully created structures of littoral governance in the gulf, only to see the older maritime American colonies of the Atlantic seaboard assert local control over the hydrographic conduits through which imperial influence was conducted. In the course of responding to this challenge, Britain's naval resources were stretched past their breaking point, and its capacity to maintain order in more northerly waters collapsed as well. The power vacuum that resulted was promptly filled by British American privateers that violently undermined the security of the gulf polities, and that ultimately threatened to cut metropolitan Britain's corridor to the continental interior as well.

This course of events suggests that there were distinct limits to British maritime empire's ability to inventory the physical and cultural landscapes of its littoral possessions and subject them to effective control. The operations of the hydrographic gaze effectively comprehended pilot knowledge of enormous areas of the northwestern Atlantic coastal zone in the 1760s and early 1770s. Very frequently, however, it did not comprehend the pilots, guides, and boatmen who embodied this knowledge, and who were essential to military and administrative control of inshore waters. British army engineers, naval officers, and sailing masters created powerful tools that could be used to direct the exercise of imperial force overseas. The successful northeastern North

American campaigns in the latter years of the Seven Years' War both honed these tools and demonstrated their potency. With the outbreak of the American Revolutionary War, many of the personnel responsible for survey and reconnaissance in the interwar period and many of the maps, charts, views, and profiles they produced were immediately adapted to serve overtly martial roles. Holland returned to active military duty, and his surveys were used to assist siting of fortifications in the New England region, for example.⁶⁵ Henry Mowat's unparalleled knowledge and experience of the American coast north of Cape Cod allowed him to assume the role of highly effective naval enforcer in these areas, destroying the town of Falmouth, Maine in 1775 in retaliation for rebel depredations, and using his superior knowledge of extremely local conditions to allow the Royal Navy to inflict enormous losses on rebel marine forces during 1779's Penobscot Expedition.⁶⁶

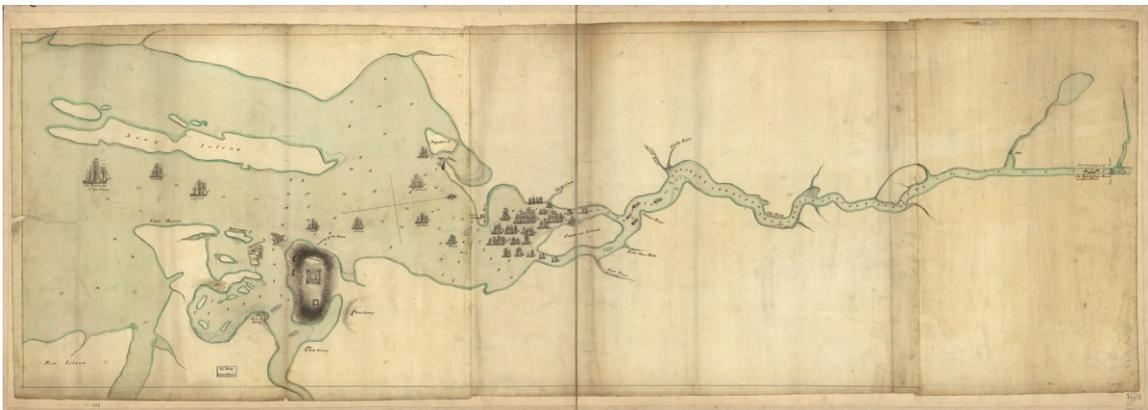


Fig. 7.23. *Penobscot River and Bay, with the Operations of the English Fleet, under Sir George Collyer, Against the Division of Massachusetts Troops Acting Against Fort Castine, August 1779; with Full Soundings up to the Present Site of Bangor [c. 1779], from William Faden's Catalogue of a Curious and Valuable Collection of Original Maps*

⁶⁵ LAC, Haldimand Papers, MG21, Add. Mss., 21797, Friedrich Adolph Riedesel to Frederick Haldimand, 15 April 1782; LAC, Haldimand Papers, MG21, Add. Mss., 21797, Friedrich Adolph Riedesel to Frederick Haldimand, 23 April 1782.

⁶⁶ Louis Arthur Norton, "The Penobscot Expedition: A Tale of Two Indicted Patriots," *Northern Mariner* 16:4 (2006), 1-28; George E. Buker, *The Penobscot Expedition: Commodore Saltonstall and the Massachusetts Conspiracy of 1779* (Annapolis, MD: Naval Institute Press, 2002); James S. Leamon, *Revolution Downeast: The War for American Independence in Maine* (Amherst, MA: University of Massachusetts Press, 1993), 105-134.

and Plans. Library of Congress, Geography and Map Division, G3732.P395S3 1779 .P4 Faden 101. Royal Navy officer Henry Mowat's extensive experience in the northwestern Atlantic, gained largely in support of Samuel Holland's Survey of the Northern District, afforded him knowledge of local conditions that allowed him to exploit the hydrography of the Penobscot River to thwart the efforts of rebel naval forces.

Production of *The American Neptune* was accelerated, with later printings recounting instances when its charts had assisted British warships operating in American waters.

Thomas Davies and John Montresor again deployed their tactical analysis of American landscapes to overtly military purposes, helping to force Washington's army to retreat southward from New York in 1776.

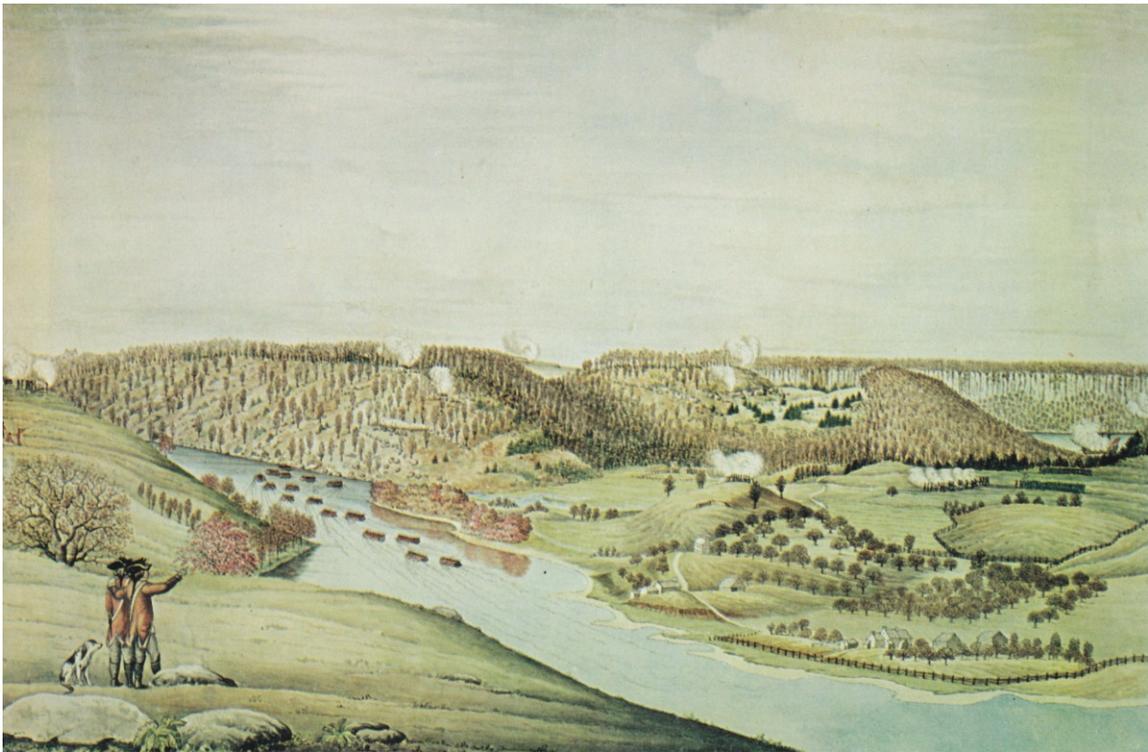


Fig. 7.24. Thomas Davies, "A View of the Attack Against Fort Washington and Rebel Redoubts near New York on 16 November 1776 by the British and Hessian Brigades Drawn on the Spot by Thos. Davies, Capt. R.R. of Artillery [1776]." Winterthur Museum, M53.189.2. With the outbreak of the American Revolutionary War, army engineers turned survey skills to their most basic function: spatial analysis of tactically important landscapes.

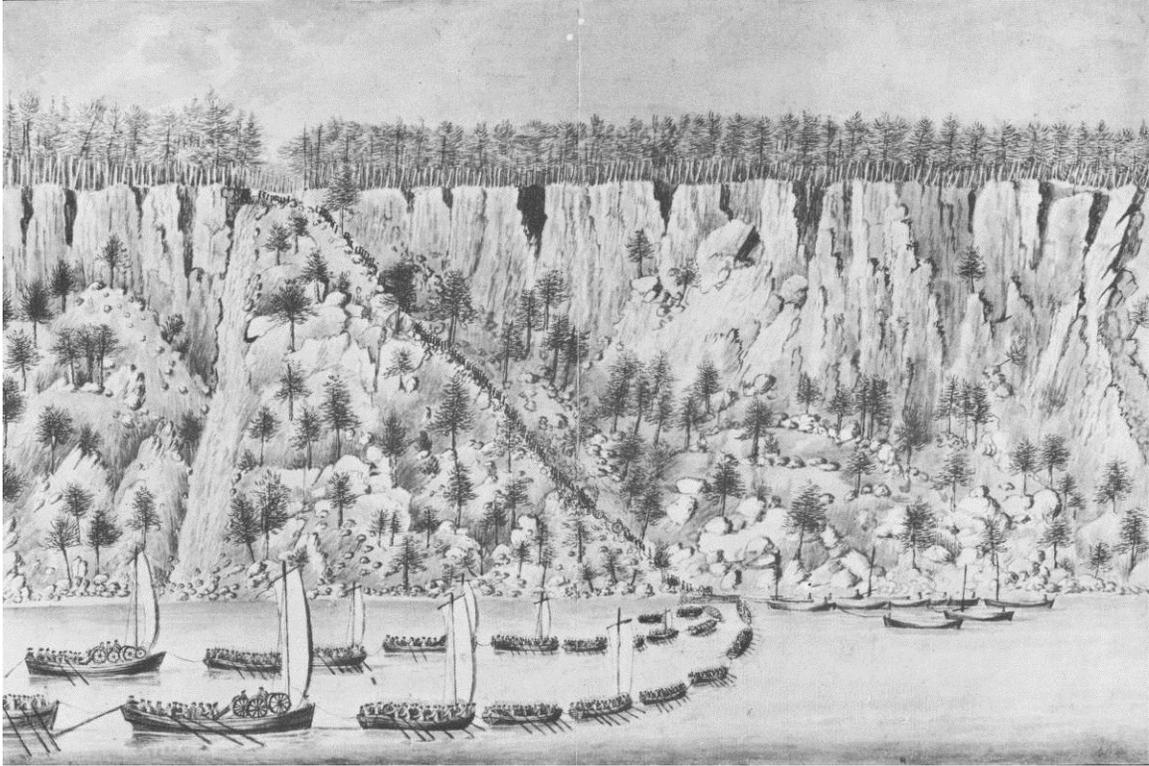


Fig. 7.25. Attributed to Thomas Davies, “The Landing of the British Forces in the Jerseys on the 20th of November 1776 under the Command of the Rt. Hon. Lieut. Genl. Earl of Cornwallis [1776].” New York Public Library, Miriam and Ira D. Wallach Division of Art, Prints and Photographs, 118264. British military forces’ experience of amphibious warfare in North American landscapes was successfully employed in the early stages of the American Revolutionary War. The logistical challenge of extending amphibious operations on a continental scale ultimately overtaxed the resources of British military capacity. Compare with fig. 5.12.

These late successes of the hydrographic gaze in North America suggest that the loss of control of British American inshore waters prior to and during the American Revolutionary War was by no means inevitable. Had British military planners and naval officers more thoroughly assimilated the tactical lessons evident in British successes during the Seven Years’ War, it is quite possible that a higher degree of naval control could have been sustained. Employment of the techniques of *petite guerre navale*, for example—the use of small craft appropriate to local waters, the employment of personnel intimately familiar with local conditions, the close coordination of naval and land forces, intensive engagement in armed reconnaissance and irregular warfare—offered a proven

template for the successful projection of imperial military force under hostile American conditions. But political events in the twenty years following the end of the Seven Years' War highlight the fact that the hydrographic gaze's potency was inseparable from the loyalties of those who wielded it, and of the local peoples on whom it often depended. Despite the universalizing claims of hydrographic and cartographic survey, commerce, administration, and military action in northeastern North America could never dispense entirely with the embodied knowledge and skill of local peoples. Effective mastery of the region's littoral geography remained subject to the political choices of the people who inhabited it. This was crucial in formerly French-occupied areas where, as one observer noted, the population was "only conquered in part."⁶⁷ But it was equally true of the longer-settled areas of British North America where, in the years after 1763, local hydrographic knowledge was militantly directed against imperial interests. In the rebellious colonies of the Atlantic seaboard the same processes of reform that had instigated hydrographic surveys of unprecedented detail and extent, and that had turned the gulf region into a laboratory of imperial governance, brought into question the established loyalties of a critical mass of British Americans. Control of the colonial coastal zone, of the corridors of imperial influence, was the issue over which British American loyalties were contested first and most fiercely. Britain's inability to effectively marshal its American subjects' embodied hydrographical knowledge was thus central to its loss of empire in much of North America.

⁶⁷ LAC, James Murray Papers, Correspondence, 1760-1761, James Murray to the Secretary of the Commissioners of the Treasury, 28 August 1761.

Chapter Eight

Conclusion

The American Revolutionary War demonstrated that even the most sophisticated means of comprehending maritime space—directed hydrographic survey—was of limited utility if it was not rooted in and accompanied by its more fundamental counterpart—embodied knowledge of local navigations. In the 1760s and early 1770s, unprecedentedly thorough surveys undertaken by the Admiralty, the army, the Board of Trade and Plantations, and colonial governors delineated conduits of colonial commerce and imperial power, tracking them deep into the continental interior. At the same time, metropolitan efforts to reform imperial governance through the enforcement of revenue statutes systematically alienated large numbers of British American people, most of who continued to reside along the broken coasts and attenuated watercourses of North America's local Atlantic. Localized resistance to revenue enforcement metastasized, as subjects whose loyalty had been eroded turned on those whose loyalty endured, making it increasingly difficult—and ultimately impossible—to sustain the routine application of local hydrographic knowledge on which British North American commerce and governance relied. Localized acts of intimidation against customs officials and pilots in Rhode Island, New York and elsewhere in the 1760s prefigured a collapse of British control in the littoral zone, which spread during the 1770s along attenuating routes of riverine communication deep into the North American interior. By 1778, rebel privateers swarmed the western Atlantic and its tributaries, attacking the Labrador fisheries with impunity; rebel smugglers carried arms into the Ohio country via the Mississippi River.

Maritime empire's reliance on the hydrographic knowledge and skill of peoples resident in littoral spaces within its ambit thus represented a potentially fatal weakness, one which contributed materially to the collapse of imperial control in the long-established British American colonies of the Atlantic seaboard in the decade after the Seven Years' War. But in much of coastal and riverine America north of New England, this same reliance on local knowledge and local peoples during this period underpinned the rapid extension of British maritime empire, and of the commercial activities and structures of governance that it comprised. Local knowledge was central to Britain's overcoming martial and material impediments during the conquest of New France. The ability of surveyors including Samuel Holland, J.F.W. Des Barres, James Cook, and Michael Lane to analyze and abstract the coastal geography and hydrography of eastern Canada's colonial antecedents supported the establishment of new British economies and governing regimes in Quebec, St. John's Island, and Cape Breton, and strengthened those already established in Newfoundland and Nova Scotia. Survey activity and regulation of pilotage linked imperial agents to colonial and aboriginal peoples with embodied local knowledge, who acted as vital intermediaries between British settlers, merchants, administrators, military officers, and the intractable boreal landscapes of the northeast. The same local intermediaries assisted early natural history reconnaissance in the region, bringing northeastern geography, flora and fauna into close relation with European scientific networks and universalizing Enlightenment conceptions of material reality they promulgated. While these changes, undergirded by local knowledges, were challenged by the crisis of the American Revolutionary War they were not overturned by it, either at the time or thereafter.

The tools that permitted the conquest and reordering of large areas of northeastern North America in the 1750s and 1760s were developed by the British state and British civil society in the preceding half century, largely in response to the epistemological puzzle that had confronted Hovenden Walker's Quebec Expedition in 1711. Walker was charged with the task of making an unknown navigation known, and of using that knowledge to bring force to bear against local peoples and imperial rivals transoceanically. This was, in fact, the fundamental challenge of maritime imperial expansion in the early modern period. Portugal and Spain confronted this challenge first, identifying patterns of oceanic circulation that facilitated incursions into the offshore islands of the eastern Atlantic, the Indian Ocean, the West Indies, and adjacent areas of mainland Central and South America. Portuguese and Spanish pilots and cartographers pioneered the work of smoothing geographically and politically "lumpy" extra-European littoral space. The littoral landscapes of northeastern North America were geographically and climatically resistant to imperial penetration, and this resistance—the sheer difficulty of operating, under sail, in sparsely inhabited coastal and riverine areas of great geographical complexity—demanded mobilization of local knowledge and of local peoples in the service of imperial aims. By 1711, Britain had overcome the strategic Eurocentrism that had inhibited commitment of large-scale military resources transatlantically, a commitment that was the necessary precondition of direct imperial intervention in North America. As the Walker expedition's failure showed, however, it had not yet overcome the technical and epistemological constraints that could make such interventions effective.

A crucial means of overcoming these constraints was through enhanced knowledge of North American geography. Walker attributed the 1711 failure to his inability to marshal pilots and charts that could reliably direct his large amphibious forces through the unknown hazards of the St. Lawrence navigation. In the decades immediately prior to and during the Seven Years' War, Britain's map trade emerged as the most extensive and innovative in the world, offering important resources to support the nation's simultaneous emergence as a global imperial power. While cartography in Portugal, Spain, and France developed under state auspices—through the establishment of government hydrographic offices, for example—Britain followed the pattern set by Holland's unrestrained and exuberantly commercial map trade. Commercially produced British charts drew on whatever materials were relevant and available, regardless of the origin of these materials. The copying and adaptation of Jean Deshayes' St. Lawrence charts, first by Dutch and later by British mapmakers, illustrate the nature of this process; the instrumentality of Thomas Jefferys' 1757 St. Lawrence chart to the planning and execution of Britain's 1759 campaign against New France illustrates its efficacy.

Just as importantly, in the 1750s British ministries extended material and organizational support for overseas intervention—precociously evident in the 1711 Quebec Expedition—to the field of geographic knowledge gathering. One element of this support was a belated (by continental European standards) commitment to the training and recruitment of a corps of professional military engineers, with the capacity to rapidly comprehend and represent tactical geography. The ability of army engineers—including Samuel Holland, J.F.W. Des Barres, and John Montresor—to undertake on-the-spot reconnaissance mapping contributed materially to the success of British military

operations in the northeast during the Seven Years' War, and to the successful implantation of British governance in the region thereafter. In this they were assisted by Royal Navy sailing masters, whose spatial analysis of local marine environments—rooted in traditions of pilotage conserved and promulgated by Trinity House, Deptford—became an increasingly important element of a sophisticated amphibious practice, particularly from the 1740s onward. Perhaps the most potent products of this cross-pollination of naval pilotage and army engineering were the unprecedentedly sophisticated nautical charts that emerged following the 1759 Quebec campaign, and from the state surveys of the northeastern region undertaken in the post-war period, charts that employed a tactical gaze to delineate littoral space with previously unknown accuracy and rigour.

Finally, British state agencies' ability to access and to organize the intensively local maritime knowledge of North American Aboriginal and colonial peoples was essential to its military and administrative successes in the region during and after the Seven Years' War. Lack of such knowledge ensured that Walker had no informational basis upon which to make decisions when his forces became disoriented on the threshold of the St. Lawrence River in 1711. Informed by the consequences of this ignorance, personnel who organized Britain's North American military operations in the 1750s made extraordinary efforts to ensure amphibious forces were guided by persons expert in the region's geography and hydrography. In doing so, they frequently blurred the boundaries of behaviour deemed legitimate under contemporary European laws of war, coercing non-British civilian mariners and, in many cases, depriving them of their liberty for years at a time in anticipation of future campaigns. The questionable legality of practices designed to master the physical and human geographies of the northeast extended to the

widespread employment of irregular warfare and scorched-earth tactics, tactics which proved essential to the extension of British imperial power along narrow watercourses and through forested landscapes to which Aboriginal and French colonial fighters were more fully adapted. Coercion of local peoples and the use of terror to render local areas uninhabitable were not anomalous departures from legitimate British military practice: they were vital elements of Britain's modus operandi in North America, precisely because they potently adapted martial practices to boreal landscapes.

In the course of the eighteenth century, then, Britons, British Americans, and their Aboriginal allies working in northeastern North America developed technologies, forms of knowledge, regulations, and structures of governance that systematically stitched together a coherent local Atlantic and linked it to metropolitan imperial aspirations operating transoceanically. This thesis accordingly shifts the prevailing emphasis of Atlantic world historiography, away from the "blue-water", circum-Atlantic focus on broad patterns of circulation around the ocean basin, and towards a "brown-water", cis-Atlantic focus on efforts to overcome material impediments to maritime imperial activities in specific littoral areas of the ocean basin. It demonstrates how British state agents acting in riverine gateways to the North American continent during the eighteenth century developed new means of harnessing indigenous environmental knowledge to the purposes of empire, creating effective tools that materially assisted the amphibious extension Britain's imperial power and influence in the eighteenth and nineteenth centuries. That they did so complicates Ian K. Steele's classic formulation of the increasingly routine navigability of the English Atlantic in the century before 1740.¹ If, as

¹ Ian K. Steele, *The English Atlantic, 1675-1740: An Exploration of Communication and Community* (New York: Oxford University Press, 1986).

Steele convincingly argues, the open Atlantic became a maritime highway in this period, traversed with increasing frequency and facility, inshore waters remained dangerous bypaths, subject to geographical and meteorological hazards that acted as checks on overseas commercial exploitation, and on the military and administrative processes that constituted maritime empire. Indigenous knowledge was an indispensable means of overcoming these hazards, and so of combining the geographies of discrete local Atlantics into an Atlantic world.

These arguments also offer novel and potentially fertile perspectives on Canada's historical development as a nation state, and on how that development has been conceived historiographically. Implicit throughout this thesis is the integral connection of modern Canada's historical antecedents to the broader Atlantic and maritime worlds. On the eve of the confederation of Britain's North American colonies in 1867, Thomas D'Arcy McGee expressed his joy that, in his words, "we men of insular origin are about to recover one of our lost senses—the sense that comprehends the sea...that we are not about to subside into a character so foreign to all our antecedents, that of a mere inland people. The union of the provinces restores us to the ocean, takes us back to the Atlantic, and launches us once more on the modern Mediterranean, the true central sea of the western world."² Viewed in the context of the local Atlantic and its connections to the broader maritime world, McGee's rhetoric is doubly ironic: because historically, Canada's connection to the sea was never really lost, before 1867 or thereafter; and because historiographically, Canada's connection to the sea has never really been recovered.

² Thomas D'Arcy McGee, *Two Speeches on the Union of the Provinces* (Quebec: Hunter and Rose, 1865), 10.

The rise of continentalist national narratives in the early decades of the twentieth century, and their subsequent eclipse by the more focused concerns of social history in its last decades, has obscured the contribution of maritime experience to Canada's development historically and in the present-day. Looking back from 1867, Canada's non-aboriginal history was that of an Atlantic province of Europe. In its various incarnations—New France, Quebec, Lower and Upper Canada, Canada East and Canada West—it was dependent on regular maritime communication with France, Britain and the broader Atlantic world for economic and cultural sustenance. Its staple products were sold in overseas markets, exchanged for manufactured goods on which its material culture depended; its libraries were stocked with European literature; its governments staffed with transatlantic functionaries. In the nineteenth and early twentieth centuries, Canada remained a constituent part of maritime empire, and its economic, political, and cultural development continued to be shaped, to a significant extent, by the exigencies of marine transportation across the attenuated channels of the Atlantic world. Viewed from this perspective, the creation of a Canadian local Atlantic—through hydrographic survey, the organization of pilotage, and the maintenance of naval force—was as necessary to national development as was railway construction in the post-Confederation period. Canada's "national dream" was as much transatlantic as it was transcontinental.

The great conduit of Canada's local Atlantic, the St. Lawrence River, is both a central and a peripheral presence in Canadian national historiography. This reflects the nature of the river itself, which is at once a fresh-water stream and a salt-water sea. As a stream it is a vital and much-studied gateway leading deep into the heart of the staples-rich continental interior; as a sea it is an obscure and neglected branch of an ocean whose

determinative role in Canada's post-1759 history is less well understood. This bifurcated understanding of the river's significance has a long pedigree stretching back at least to Lord Durham's sojourn in British North America, and is a central feature of both French-Canadian and English-Canadian nationalist historiographies developed in the nineteenth and twentieth centuries. In the 1960s it was restated in the terms both of *Annales*-derived social and economic history and of historical geography, and was thereby accorded the prestige of the social sciences.

Recognition that the St. Lawrence is an outlet to the sea, and that Canada was an integral part of maritime empires mediated by it, is commonplace in English-language histories written before the rise of a professional historical discipline in Canada. The now-neglected themes that dominated these works—particularly those of imperial warfare, derived from Francis Parkman's epic *France and England in North America*—were profoundly connected to the North Atlantic world and cognizant of the vital determinative role played by sea power in that world. Parkman himself may have been unclear as to who piloted the Royal Navy's ships through the Traverse and past Cape Diamond in June of 1759, but he was fully aware of the momentous consequences, in terms of the altered relations between Europe and America, that attended this hydrographical feat.³

The subsequent flowering of professional English-Canadian history in the works of Harold Innis, Donald Creighton, and Arthur Lower—the development of the Staples Thesis and its Laurentian refinement—was focused on the exchange of colonial raw materials for metropolitan manufactures, and so almost by definition oriented to the

³ For Parkman's appreciation of the role of sea power generally and pilotage in particular in the conquest of Canada, see *France and England in North America Volume II: Montcalm and Wolfe* (New York: Literary Classics of the United States, 1983), 1337-1340.

Atlantic world.⁴ In practice, however, these influential and remarkably durable readings of Canadian history proved distinctly continental in emphasis. Strongly influenced by the geographically determined reading of Canadian history offered by Scottish geographer Marion Newbigin, in which Canada's national destiny is worked out in the narrow corridor between the St. Lawrence and the Canadian Shield, Innis and Creighton focused on the river as a route into the continental interior rather than as a highway to the Atlantic.⁵ In his 1937 mercantile epic, *The Commercial Empire of the St. Lawrence, 1760-1850*, Creighton opposes the continental orientation of the Laurentian settlement to the Atlantic outlook of New England, asserting that the "trend of expansion from the St. Lawrence valley was towards the west; and the commercial empire of the north, in sharp contrast with that of the Atlantic seaboard, was inland and not oceanic."⁶ The role of deep-water navigation in the exchange of continental staples is largely outside Creighton's purview; applied to an age of mercantilist transatlantic trade, this oversight seems especially glaring.

The distinctly continental orientation of Canadian national histories written in the Staples tradition is likewise evident in Innis' 1930 *The Fur Trade in Canada* and in Lower's 1938 *The North American Assault on the Canadian Forest*, where the dynamic forces of Canadian history are shown to tend westward, and communications from the

⁴ For examination of the assumptions underlying this generation's historiographical practice and how it differed from that of "amateur" historians preceding and following it, see Donald Wright, *The Professionalization of History in English Canada* (Toronto: University of Toronto Press, 2005).

⁵ Marion I. Newbigin, *Canada: The Great River, the Lands and the Men* (London: Christophers, 1927). Newbigin's influence on Innis and Creighton has been a subject of some controversy: Carl Berger argues that the influence was strong, while Gary Dunbar and Creighton himself minimize its importance. See Berger, *The Writing of Canadian History: Aspects of English-Canadian Historical Writing since 1900* (Toronto: University of Toronto Press, 1986), 92-93; Gary S. Dunbar, "Harold Innis and Canadian Geography," *The Canadian Geographer* 29: 2 (1985), 160.

⁶ Donald Creighton, *The Empire of the St. Lawrence* (Toronto: Macmillan, 1956), 12.

head of deep-water navigation are presented as largely unproblematical.⁷ As this thesis has shown, however, they were not. Canada's connection to the burgeoning international commerce of the Atlantic world, the techniques through which that connection was established and maintained, and the political and cultural demands this entailed remain largely unexamined in these accounts. Key works of English-Canadian nationalist historiography stress the role of transportation and exchange in the development of British North American colonies; by focusing exclusively on the continental dimension of this exchange, however, the St. Lawrence system is presented as an obstruction to Canada's continental destiny, rather than a vital link to the Atlantic world.

Histories of French-Canadian use of the St. Lawrence in the British North American period similarly eschew Canada's maritime connections, presenting a picture of an insular people cut off from participation in the Atlantic economy. This view was expressed powerfully in Lord Durham's *Report* and has subsequently become a staple of both English- and French-Canadian analyses of the period, nationalist and post-nationalist alike. In Durham's view, the economic activity pursued by French Canadians living on the banks of the St. Lawrence was primitive, and their connection to the river minimal:

Along the alluvial banks of the St. Lawrence, and its tributaries, they have cleared two or three strips of land, cultivated them in the worst method of small farming, and established a series of continuous villages, which give the country of the seigniories the appearance of a never ending street. Besides the cities which were the seats of government, no towns were established; the rude manufactures of the country were, and still are, carried on in the cottage by the family of the habitant; and an insignificant proportion of the population derived their subsistence from the scarcely

⁷ Harold A. Innis, *The Fur Trade in Canada* (New Haven: Yale University Press, 1930); A.R.M. Lower, *The North American Assault on the Canadian Forest: A History of the Lumber Trade between Canada and the United States* (New Haven: Yale University Press, 1938).

discernible commerce of the Province.⁸

For Durham, economic activity meant the exchange of colonial staples for metropolitan manufactures. Viewed in this light the French Canadian economy was not merely inferior to the British imperial economy, it was antithetical to it. Assimilation was thus deemed imperative if Britain was to derive full benefit from her North American possessions; “unless,” Durham stated, “the British Government were prepared to abandon to the scanty population of French whom it found in Lower Canada, not merely the possession of the vast extent of rich soil which that province contains, but also the mouth of the St. Lawrence, and all the facilities for trade which the entrance of that great river commands.”⁹ The British Government was not prepared to do so, and its decades-long support for Royal Navy hydrography in the gulf and river testifies to its intention to assimilate this continental gateway to its own purposes.

One tendency in French-Canadian nationalist historiography, evident from the mid-nineteenth century forward, presents a mirror image of Durham’s view of an insular people cut off from contact with the outside world. In this view, the presumed post-conquest isolation of French Canada is deemed providential, protecting the faithful habitant from the demoralizing currents of the revolutionary and commercial Atlantic and permitting the cultivation of a Roman Catholic, subsistence-oriented community in the St. Lawrence Valley. In a judgement that risks reifying a long-established historiographical perspective, historical geographer Cole Harris argued that by “rejecting

⁸ C.P. Lucas ed., *Lord Durham's Report on the Affairs of British North America* (Oxford: Clarendon Press, 1912), II : 29, as quoted in Serge Courville, Jean-Claude Robert, and Normand Séguin, “La Vallée du Saint-Laurent à l'époque du rapport Durham: économie et société,” *Journal of Canadian Studies* 25: 1 (1990), 85.

⁹ Lucas, ed., *Lord Durham's Report*, II: 64, quoted in Courville, Robert, and Séguin, “La Vallée du Saint-Laurent à l'époque du rapport Durham,” 82.

commerce and the river for a simple life on the land, French Canadian nationalism made a virtue of what had become a fact.”¹⁰ Such views of French Canada’s non-relation to the river have also featured in English-Canadian nationalist historiography, mostly evidently in Creighton, where backward, subsistence-oriented French Canadians seek to thwart progressive, ambitious anglophone merchants from achieving their continental destiny.¹¹ Stripped of Creighton’s racialized assumptions, a similar explanation of Canadians’ relation to the St. Lawrence reappeared in Fernand Ouellet’s *Histoire économique et sociale du Québec, 1760-1850*, where profound agricultural crisis in the early nineteenth century is posited as the agent separating French-Canadian society from the Atlantic world.¹² This view reached its apogee when Harris endorsed Ouellet’s interpretation and projected it backward into the pre-conquest period, asserting that for most Canadians, even under the French regime, the river took the character of an “inland sea” largely cut off from the outside world. In his estimation, for “most French Canadians the St. Lawrence led nowhere.”¹³

Recent work by scholars working in French and English languages alike forcefully refutes this picture of Canada as a place unconnected to the currents of the Atlantic world. James Pritchard’s studies of eighteenth-century French naval capacity and its deployment in American waters—including an early examination of French state

¹⁰ R. Cole Harris, “The Saint Lawrence: River and Sea,” *Cahiers de Géographie du Québec* 23 (1967), 176. Harris’ conclusions are informed by a view of comparative colonial development that takes New England as normative and other colonial forms as declensions from this norm: “Whereas New Englanders looked to the North Atlantic, almost every corner of which was known to merchants operating out of Boston, Salem or Newport, French Canadians knew little of this world. Lacking a broad eastern outlook, they were out of touch with the changing social and intellectual currents of the North Atlantic world and, partly because they were out of touch, they tended to rely on institutions and ideals from their past.” For a powerful critique of this view, see Jack P. Greene, *Pursuits of Happiness: The Social Development of Early Modern British Colonies and the Formation of American Culture* (Chapel Hill: University of North Carolina Press, 1988).

¹¹ Creighton, *Empire of the St. Lawrence*, 154.

¹² Fernand Ouellet, *Histoire économique et sociale du Québec, 1760-1850: structures et conjoncture*. (Montreal: Fides, 1966).

¹³ Cole Harris, “The Saint Lawrence: River and Sea,” 172, 176.

hydrographic surveys of the gulf and river St. Lawrence—insist on the vital nature of early modern Canada’s oceanic links.¹⁴ Others have re-examined the supposed failure of the French Atlantic colonial system, finding stronger and more durable maritime links than formerly assumed. Jacques Mathieu has traced the extent of Canada’s trade with the French West Indies, and Christopher Moore has asserted the importance of Louisbourg as a commercial entrepôt.¹⁵ J.F. Boshier’s studies of French colonial trade with Canada offer detailed examination both of its metropolitan mercantile context and of the seafarers employed in it, as well as of the routes they followed.¹⁶ Dale Miquelon’s comparative studies of French Atlantic are mindful throughout of the vital nature of the Atlantic passage to the establishment and maintenance of France’s St. Lawrence colony.¹⁷ Gilles Proulx has described the physical infrastructure of the Atlantic crossing in the eighteenth century.¹⁸ Kenneth Banks’ study of communications and state power in the French colonial system is set explicitly in an Atlantic World framework.¹⁹

¹⁴ James S. Pritchard, *In Search of Empire: The French in the Americas, 1670-1730* (Cambridge: Cambridge University Press, 2004); *idem*, *Anatomy of a Naval Disaster: The 1746 French Naval Expedition to North America* (Montreal and Kingston: McGill-Queen’s University Press, 1995); *idem*, “Early French Hydrographic Surveys in the St. Lawrence River,” *International Hydrographic Review* 56: 1 (1979); *idem*, “The Pattern of French Colonial Shipping to Canada before 1760,” *Revue française d’histoire d’Outre-Mer* 43: 231 (1976), 189-210; *idem*, “Ships, Men and Commerce: A Study of Maritime Activity in New France” (PhD Thesis, University of Toronto, 1971); *idem*, “French Developments in Hydrography, with Particular Reference to the St. Lawrence River during the Reign of Louis XIV, 1665-1709” (MA Thesis, University of Western Ontario, 1965).

¹⁵ Jacques Mathieu, *Le commerce entre la Nouvelle-France et les Antilles au XVIIIe siècle* (Montreal: Fides, 1981); Christopher Moore, “The Other Louisbourg: Trade and Merchant Enterprise in Ile Royale, 1713-1758,” *Social History/Histoire Sociale* 12: 23 (1979), 79-96.

¹⁶ J.F. Boshier, *Men and Ships in the Canada Trade, 1660-1760: A Biographical Dictionary* (Ottawa: Environment Canada, 1992); *The Canada Merchants, 1713-1763* (Oxford: Clarendon Press, 1987).

¹⁷ Dale Miquelon, *New France, 1701-1744: A Supplement to Europe* (Toronto: McClelland and Stewart, 1987); *idem*, *Dugard of Rouen: French Trade to Canada and the West Indies, 1724-1770* (Montreal: McGill-Queen’s University Press, 1978).

¹⁸ Gilles Proulx, *Entre France et Nouvelle-France* (Montreal: Broquet, 1984).

¹⁹ Kenneth J. Banks, *Chasing Empire across the Sea: Communications and the State in the French Atlantic, 1713-1763* (Montreal and Kingston: McGill-Queen’s University Press, 2002).

Recent work on the British Atlantic world likewise demonstrates the intensely maritime nature of Canada's colonial antecedents, and their strong connection to early modern influences circulating oceanically. Jerry Bannister's *The Rule of the Admirals: Law, Custom, and Naval Government in Newfoundland, 1699–1832*, for example, challenges the orthodox view of Newfoundland exceptionalism in the eighteenth century, examining the colony's well-adapted customary forms of maritime governance alongside those prevailing in contemporary British colonies and plantations.²⁰ Peter Pope's *Fish into Wine: The Newfoundland Plantation in the Seventeenth Century* undermines arguments that this colony was undeveloped and isolated, demonstrating that it was in fact deeply embedded in patterns of international trade in the North Atlantic and was the site of a precocious and wide-ranging consumer economy.²¹ These studies examine the most obviously maritime of Canada's British American antecedents; it bears repeating, though, that throughout its colonial history central Canada was itself an Atlantic province, its economic sustenance and forms of civil society dependent in large measure on regular communications with successive European metropolises. Seen in this light, the paucity of Atlanticist readings of central Canadian history is glaring. Stephen J. Hornsby's *British Atlantic, American Frontier: Spaces of Power in Early Modern British America* offers a rare and enlightening exception to this rule.²² Hornsby presents a comparative taxonomy of British America that differentiates colonies according to their ease of access by sea, and according to whether they produced staples for export or non-staple agricultural products for local exchange. Seen in these terms, Canada in the wake

²⁰ Jerry Bannister, *The Rule of the Admirals: Law, Custom, and Naval Government in Newfoundland, 1699–1832* (Toronto: Osgoode Society and University of Toronto Press, 2003).

²¹ Peter Pope, *Fish into Wine: The Newfoundland Plantation in the Seventeenth Century* (Chapel Hill: University of North Carolina Press, 2004).

²² Stephen J. Hornsby, *British Atlantic, American Frontier: Spaces of Power in Early Modern British America* (Lebanon, NH: University Press of New England, 2005).

of British conquest (defined as a broad territorial arc stretching from the Gulf of St. Lawrence to the Gulf of Mexico) is best viewed not as a continental entity, but as one of a series of “littoral” staples-producing regions including Hudson Bay and Newfoundland, where the apparatus of European settlement was minimal and largely dedicated to staples production. This insight—Canada as littoral space, extending the influence of the Atlantic world into the glaciated, boreal landscapes of northeastern North America—is a vital one.

As this thesis demonstrates, Canada’s littoral spaces were cultural facts rooted in adaptations to specific physical landscapes. These adaptations were, fundamentally, Aboriginal in origin, rooted in the experience of transhumant societies that were among the most thoroughly maritime on earth. This maritime knowledge was in turn adopted by the successive European colonial societies that exploited northeastern coastal and riverine landscapes, thereby bringing North American littoral spaces into closer interrelation and linking them to burgeoning circuits of trade and communication in the early modern Atlantic Basin. Demands resulting from imperial warfare accelerated the systematization of this embodied knowledge of local environments, and introduced new technologies of marine reconnaissance—most importantly, directed hydrographic survey—that made these environments as fully known as any comparably sized region in the maritime world. This knowledge offered powerful tools for the extension of transoceanic commerce and maritime empire, as demonstrated most spectacularly by Britain’s experience during the Seven Years’ War. In the post-war world this knowledge was used to strengthen existing colonial polities of northern British North America, and to assist the implantation of new ones. In the nineteenth century this knowledge sustained the staples-based maritime trades of Canada’s colonial antecedents, and finally of the Canadian nation state itself.

Founded on littoral societies sustained by deep cognizance of the marine environment,
Canada was—and is—a profoundly maritime nation.

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Chart of the Gulf and River St. Lawrence drawn by Cyprian Southack

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