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A systematic map of knowledge exchange across the science-policy interface for forest science: How can we improve consistency and effectiveness?

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Keywords:	forest management, forest science, forestry, knowledge exchange, science-policy interface, knowledge transfer
Abstract:	1. Knowledge produced by scientists is essential to the policy and practice of managing natural resources, including forests. However, there has never been systematic mapping of which techniques in knowledge exchange (KE) have been applied in the forest sciences, by whom, and to what effect. We examined KE techniques documented in the forest sciences globally. 2. We used standardized search strings in English and French across two academic search engines (BASE and Scopus) and a specialist website (ResearchGate) to locate relevant items. We screened items, extracted data, conducted qualitative and quantitative analysis, and built a network visualization diagram to demonstrate knowledge flow. 3. Our final map included 122 items published from 1998-2020, with most published after 2010. Items mentioned organizations from 66

	countries as knowledge producers or users. The interactive network visualization diagram displays linkages between organizations, sectors, and countries. We found that most of the KE activity involved the Global North (89%). Governments were the most common knowledge users, and industry was frequently reported as a user but rarely a producer. Academia was both producer and user. Indigenous, local, traditional or community knowledge was included in 24% of items, but these communities were not associated with any coauthor affiliations. Reported funders were universities, governments, non-profits, or foundations. We found 90 unique terms in the items related to KE with less than 25% of terms used in more than one item. 15% of item keywords related to KE. The most commonly identified enabling conditions for KE were trust, funding, and established relationships, while major barriers were challenges for translation of science and lack of time. 4. To improve searchability of information related to KE and encourage a culture of considering KE in scientific research and forest management work, we recommend a common lexicon of 'knowledge exchange'/'échange de connaisances'. We recommend that more effort be given to forest science-related KE connections between the Global North and South as well as a deliberate collection of evidence for the effectiveness of KE techniques. Researchers and practitioners can use our KE typology to identify their goals and design appropriate evaluation measures.

A systematic map of knowledge exchange across the science-policy interface for forest science: How can we improve consistency and effectiveness?

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Abstract

1. Knowledge produced by scientists is essential to the policy and practice of managing natural resources, including forests. However, there has never been systematic mapping of which techniques in knowledge exchange (KE) have been applied in the forest sciences, by whom, and to what effect. We examined KE techniques documented in the forest sciences globally.

2. We used standardized search strings in English and French across two academic search engines (BASE and Scopus) and a specialist website (ResearchGate) to locate relevant items. We screened items, extracted data, conducted qualitative and quantitative analysis, and built a network visualization diagram to demonstrate knowledge flow.

3. Our final map included 122 items published from 1998-2020, with most published after 2010. Items mentioned organizations from 66 countries as knowledge producers or users. The interactive network visualization diagram displays linkages between organizations, sectors, and countries. We found that most of the KE activity involved the Global North (89%). Governments were the most common knowledge users, and industry was frequently reported as a user but rarely a producer. Academia was both producer and user. Indigenous, local, traditional or community knowledge was included in 24% of items, but these communities were not associated with any coauthor affiliations. Reported funders were universities, governments, non-profits, or foundations. We found 90 unique terms in the items related to KE with less than 25% of terms used in more than one item. 15% of item keywords related to KE. The most commonly identified enabling conditions for KE were trust, funding, and established relationships, while major barriers were challenges for translation of science and lack of time.

4. To improve searchability of information related to KE and encourage a culture of considering KE in scientific research and forest management work, we recommend a common lexicon of ‘knowledge exchange’/‘échange de connaisances’. We recommend that more effort be given to forest science-related KE connections between the Global North and South as well as a deliberate collection of evidence for the effectiveness of KE techniques.

Researchers and practitioners can use our KE typology to identify their goals and design appropriate evaluation measures.

Keywords: Forest management, forest science, forestry, knowledge exchange, knowledge transfer, science-policy interface.

Introduction

The management of forests globally includes a complex interplay of resources, values, stakeholders, and governments. Forest management policy and practice is often informed by scientific knowledge (D'Eon and MacAfee, 2016). Scientific knowledge is used to guide tangible outcomes in forest management such as designing silvicultural prescriptions (which determine the approach to harvesting and regeneration of trees) (e.g., MacLean et al., 2021; Achim et al., 2022) and conserving forest biodiversity (e.g., Scullion et al., 2019), among others. A long-standing global format by which scientific knowledge about forests is shared between producers of this knowledge and forestry practitioners and forest managers is the practice of "extension", whereby academic and government knowledge producers provided outreach and education on forest sciences to landowners and forestry professionals (U.S. Department of Agriculture Forest Service, 1976; Kandzior and Rivas, 2015; Association of Natural Resource Extension Professionals, 2022; European Forest Institute, 2022).

One concept that has been used in forest management to understand the nature of how scientific knowledge is shared between its producers and users is "knowledge exchange" (e.g., Hamunen 2013; D'Eon and MacAfee, 2016). For our purposes, knowledge exchange is the multi-directional flow of ideas and information between producers and users of knowledge. Importantly for the forest management science-policy interface, producers and users of knowledge are not unique to either the domains of science, policy, and practice. Actors on all sides of these boundaries incorporate knowledge from the corresponding side of the science-policy interface.

Westwood et al. (2021) introduced a new typology for categorizing knowledge exchange efforts and techniques (Figure 1; French translations of the terms, their definitions, and the figure are given in Appendix 1). This typology

includes four exchange categories: (1) 'one-way exchange', where scientists independently produce a scientific report or paper and deliver it to knowledge users; (2) 'solicited exchange', in which a knowledge user expressly invites knowledge producers to tackle a pre-identified knowledge gap; (3) 'network exchange', where two or more actors come together explicitly to exchange independently generated knowledge ; and (4) 'participatory exchange', where potential users of scientific information are engaged and involved in the process of generating knowledge.

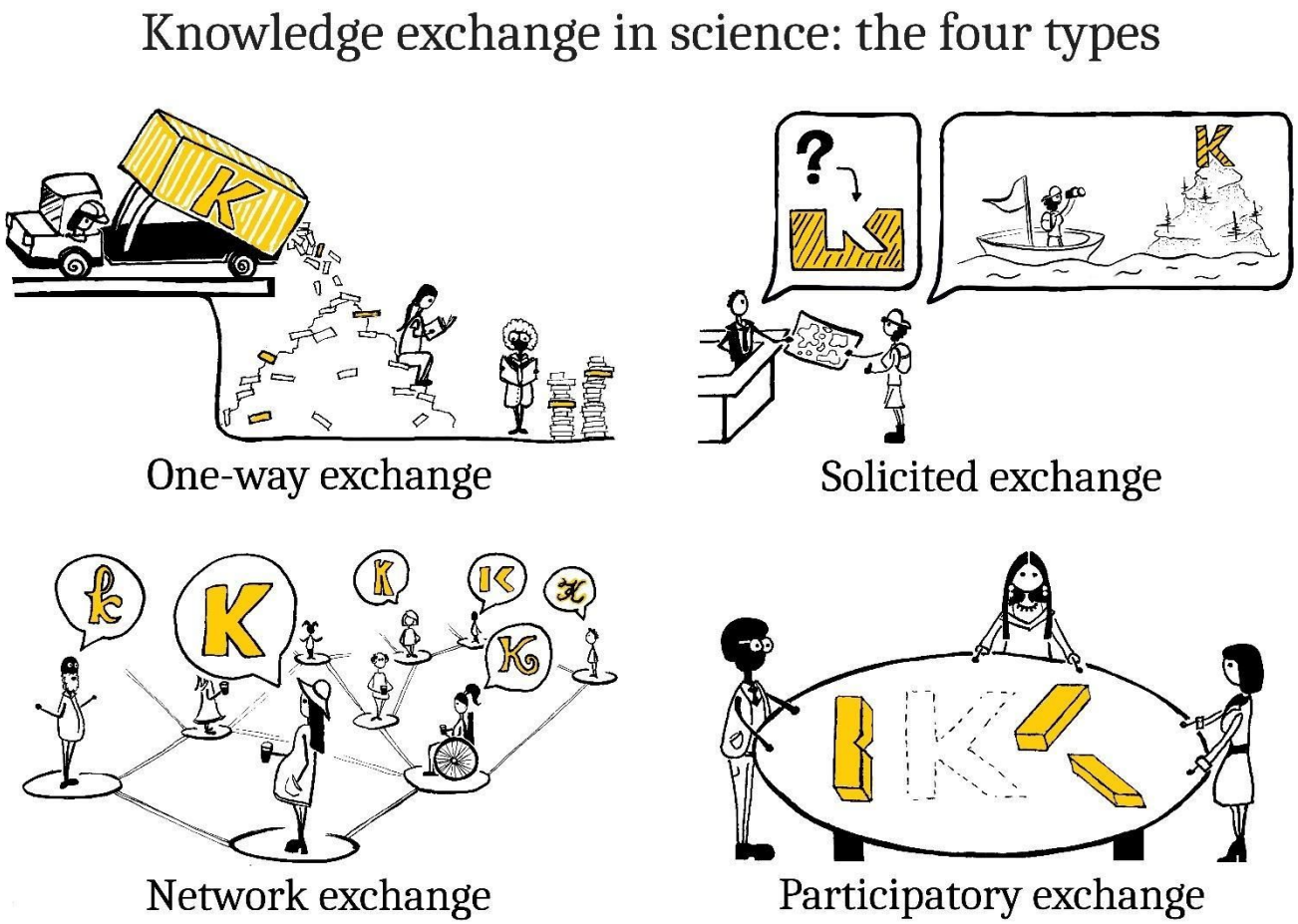

Figure 1: Four types of knowledge exchange in science. Figure by Sarah Perez (see acknowledgements).

Still, in many cases, there is a knowledge-implementation gap (also called the science-policy gap) where knowledge produced is not used or implemented into policies or practices (Ferreira and Klütsch, 2021). There have long been

calls to increase the effectiveness of communication between knowledge producers and prospective knowledge users in order to close this gap and maximize the value of generated scientific knowledge (Bradshaw and Borchers, 2000; Lubchenco, 1998; Snow, 1959). These calls have also been specifically made regarding knowledge about forests (Guldin et al., 2005; Kleine, 2009; Parrotta and Campos Arce, 2003). Previous work on the knowledge-implementation gap has focussed on describing barriers to effective knowledge exchange between knowledge producers and users (e.g., Cvitanovic et al., 2015). More recently, Cvitanovic and Hobday (2018) challenged researchers to focus on solutions for better integrating science into decision making.

Westwood et al. (2021) highlighted the need to conduct, and developed the protocol for, a systematic analysis of the four knowledge exchange techniques in forest science and forestry. In the current study, we seek to identify and capture the flow of knowledge (or multi-directional flow) between producers and users from across sectors. We investigate common knowledge exchange techniques described in relevant articles and we compare them to the previously-described types of knowledge exchange (Figure 1). This novel approach represents the first attempt to characterize knowledge exchange literature in the forest sciences based on a literature review of global scale.

Objectives

The purpose of our study is to map knowledge exchange techniques that have been applied to forest sciences to better understand KE at the interface of forest science and policy. We examine peer-reviewed academic and gray literature relating to knowledge exchange and forest sciences, specifically looking at the knowledge exchange technique and frequency; the distribution of this technique within and among institutions and countries; and any reported evidence of its effectiveness. The study has four primary objectives: (1) provide guidance on the most common English and French lexicon for knowledge exchange, (2) characterize when and where knowledge exchange about forest sciences and forestry has occurred in published written works, (3) highlight limitations in past and present approaches to understanding knowledge exchange in the forest sciences, and (4) summarize recommended best practices for knowledge exchange.

Materials and methods

We used a Registered Report article format (British Ecological Society, 2022) in which the methods and proposed analyses are peer-reviewed and registered prior to the conduct of the research. Details of key background literature and experimental design are given in the Stage 1 report (Westwood et al., 2021), which was developed as a systematic literature map protocol in accordance with the Collaboration for Environmental Evidence's guidelines (CEE, 2018) and the ROSES reporting standards (Haddaway et al., 2018; Appendix 2). With regard to the research question, database searching, and data extraction, we repeat here key aspects of the methods to contextualize the Stage 2 article, with full details of materials and methods Westwood et al., (2021). We also include in this article methods for additional data analysis beyond those registered in the Stage 1 article.

The main research question is: what techniques have been used and/or theorized by those producing new knowledge about forests, forest ecology, forest policy, forestry, and silviculture to engage in knowledge exchange with potential knowledge users? The subject of interest included cases of knowledge exchange in forestry and forest sciences reported in English or French, with emphasis on how knowledge exchange methods are categorized, described, and evaluated.

Database searches

We engaged in preliminary testing of the sensitivity and specificity of searches using 55 individual search terms (24 in English, 31 in French) combined in 36 search strings across five databases. We tested sensitivity and specificity of these searches and counted which terms were returned in relevant articles to determine the final search terms, final four search strings, and final three databases (detailed search strategy is presented the Stage 1 article; Westwood et al., 2021). Based on results from test searches, our final search included four standardized search strings (Appendix 3; two in French, two in English) across three databases (Bielefeld Academic Search Engine (BASE), ResearchGate, and Scopus) from July to August 2020. All four search strings were used in BASE and ResearchGate, whereas Scopus could only be searched in English (two strings).

For each search, one of four screeners (AW, JW, KK, TK) copied the title, author, year, and language of each returned result into a Google Sheet and screened the title and abstract for relevance according to the eligibility criteria, which are given in the Stage 1 article. As described in Westwood et al. (2021), we were unable to use the typical comprehensive literature review approach of downloading the entire list of search results before commencing screening for two reasons. Firstly, the general nature of our search terms meant that returned results ranged up to the thousands, but preliminary testing showed that specificity declined sharply based on the proportion of relevant results (Westwood et al., 2021). Secondly, ResearchGate does not display the total number of returned results nor can it be downloaded in bulk; however, this database is a source of relevant gray literature and showed the highest sensitivity and specificity in preliminary testing (Westwood et al., 2021). We addressed these issues by developing a custom stopping criteria that determined the endpoint of each search. The screener stopped reviewing the title and the abstract of returned results if: (1) all returned hits were screened, or, (2) thirty consecutive hits were deemed not relevant *and* the rolling average of specificity for the last 30 hits was below 20% (Figure 2).

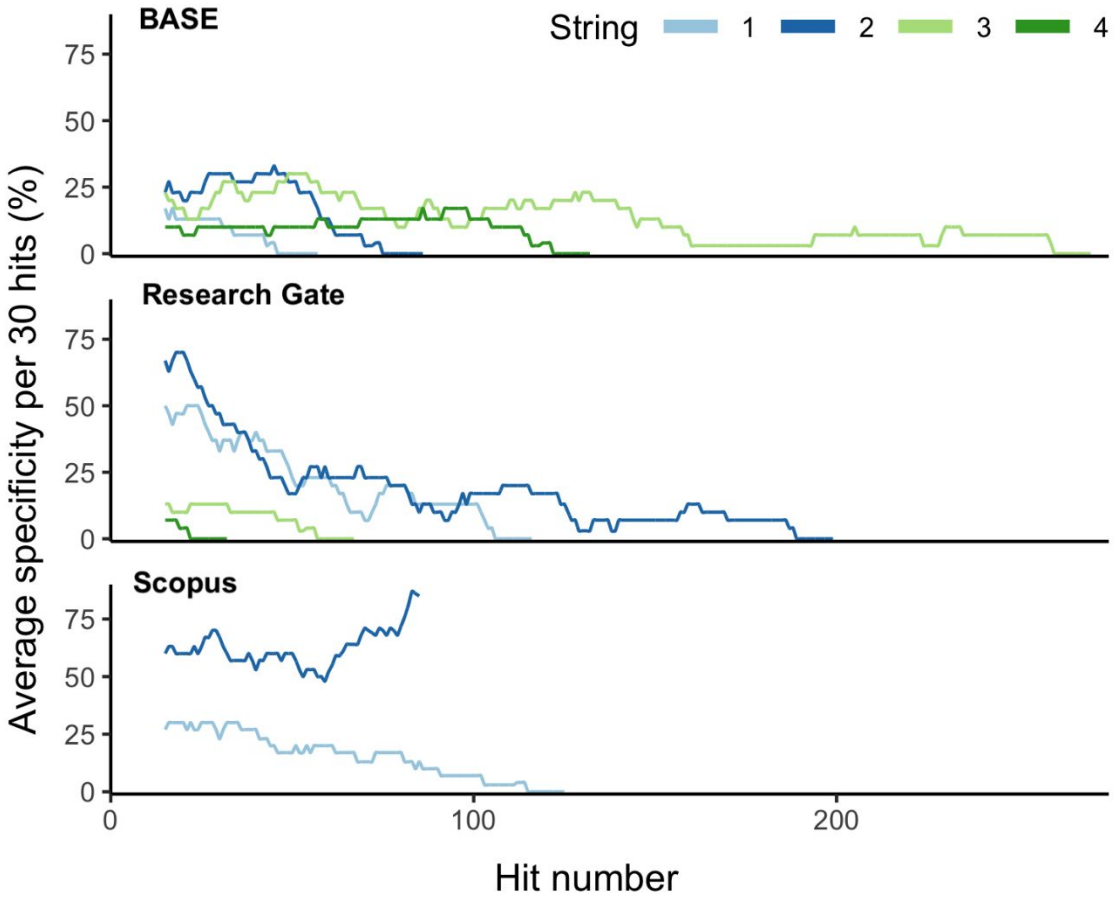

Figure 2: Rolling average specificity (proportion of returned results which pass title and abstract screening) per 30 search database hits for four search strings across three databases.

Of the 10 searches, only one (search string 2 in Scopus) met the first stopping criterion of exhausting all returned results before specificity declined, with the remainder meeting the second stopping criterion. In total, we screened 1166 unique items across 10 searches, of which 230 passed title-abstract screening (Appendix 3). ResearchGate returned the most retained results (84), followed by Scopus (74) and BASE (72). No search string or engine clearly outperformed any others (Table 1), though BASE returned more results in French than ResearchGate.

Table 1: Number of items screened and retained during title-abstract screening across three databases.

Database	Search string #	String language	Number of items screened	Number of items passing the title-abstract screening	Percentage of retained items per string in English
BASE	1	English	57	6	100
	2	English	83	17	100
	3	French	270	36	19
	4	French	132	13	31
ResearchGate	1	English	116	31	100
	2	English	199	44	100
	3	French	67	7	0
	4	French	32	2	50
Scopus	1	English	125	20	100
	2	English	85	52	100

When an item passed title-abstract screening, its full-text document was saved into a Mendeley (Mendeley Ltd., 2019) shared database. Full-text records were not always available in each database, and screeners used Google searches or directly requested records from authors to locate documents. After removing all duplicates, we uploaded the remaining items into the literature review program Covidence (Veritas Health Innovation, n.d.) for full-text eligibility screening. The removal of duplicates function was then applied again in Covidence, and we conducted full-text screening of the remaining 158 items (Figure 3).

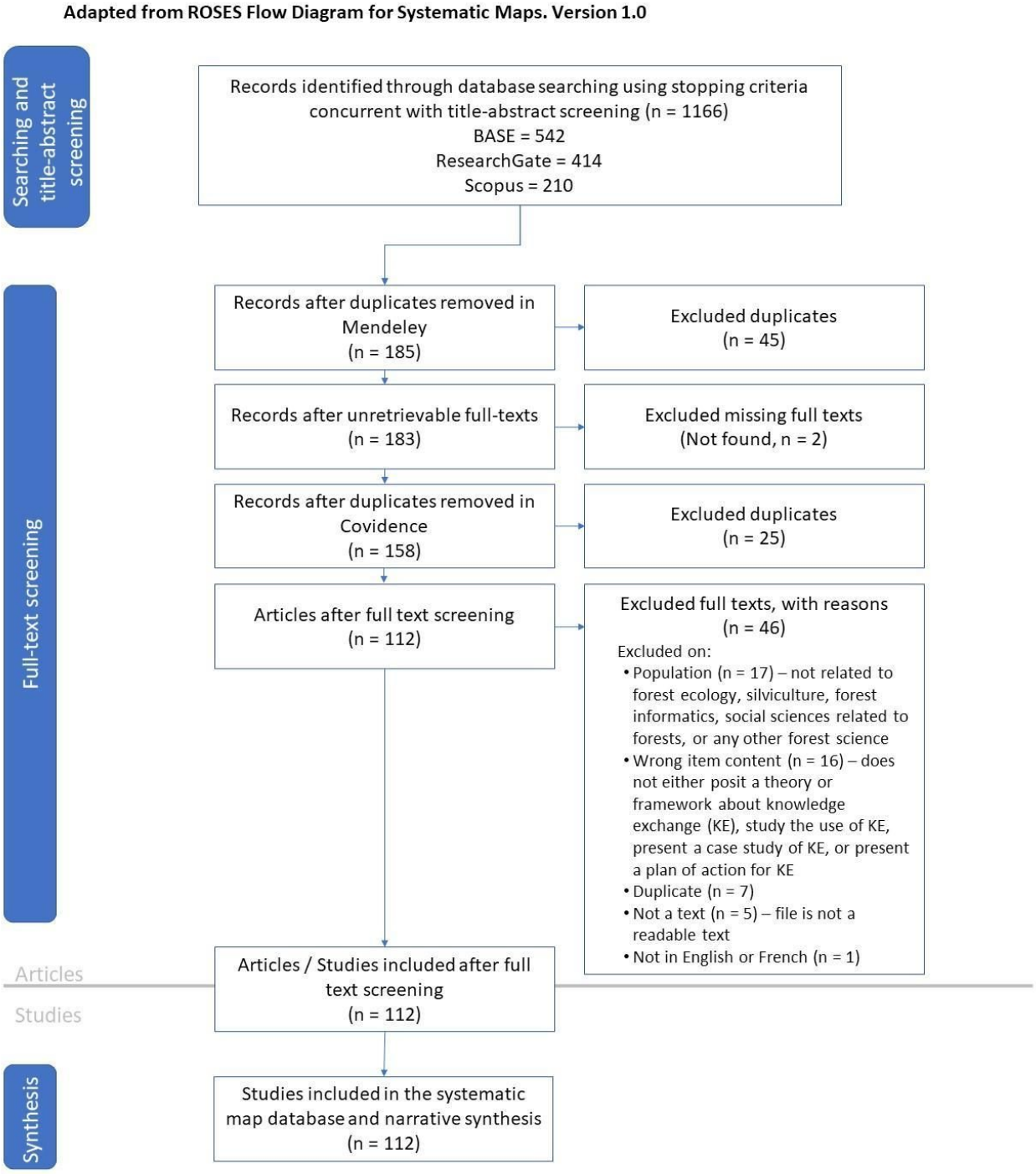

Figure 3: Flow diagram detailing stages for searching and screening items for the systematic literature review of knowledge exchange/échange de connaissances in forest sciences. Diagram follows in the ROSES reporting format (Haddaway et al., 2018).

At the full-text screening stage, one reviewer screened each item. If a reviewer was unsure about whether the item met the eligibility criteria, they discussed it with the project team during bimonthly team meetings. The study lead (AW) validated a random subset of 15% of full-text screening decisions (24 items) and consistency was observed in 96% of cases (Appendix 4).

Data extraction

Data extraction was completed in Covidence by nine reviewers by answering a standardized 18-question form, which was designed to structure data related to the outcomes of interest (Westwood et al., 2021). All reviewers received training on data extraction led by AW and validation was performed on the extractions in accordance with the parameters (Westwood et al., 2021). A minimum of three items were validated per reviewer, with more validations occurring if any validations were rated as 'fair' or 'poor'. If an item was rated as 'fair' or 'poor', the study lead discussed the discrepancy with the reviewer and corrected the recorded data. In total, 32 items were validated, with 84% scoring 'full' or 'good' agreement (Figure 4; Appendix 4). The data we extracted from full-text items were downloaded as a .csv file from Covidence (raw download given in Appendix 5), exported to a Microsoft Excel file, organized, and cleaned to ensure standard spellings and to correct any typos or obvious data entry errors (Appendix 6).

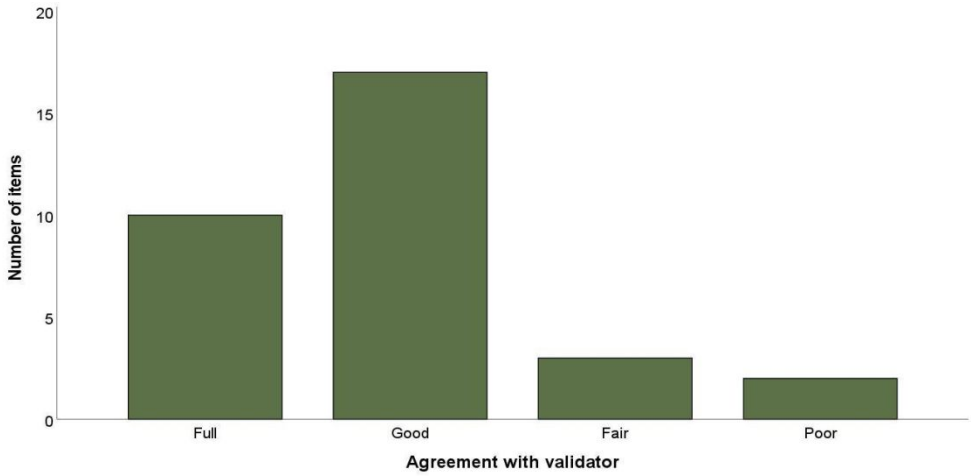

Figure 4: Number of validated full-text extractions and their corresponding level of agreement with the validator's assessment.

Data analysis

Following other systematic map examples (e.g., McKinnon et al., 2016; Alexander et al., 2019), we used a framework-based synthesis (Carroll et al., 2011) to structure the categorization of knowledge exchange techniques and identify trends through the use of descriptive statistics.

Descriptive statistics

Data included nominal categorical variables (e.g., country, keyword) and scale variables (e.g., year). We did not test for statistical significance due to low sample sizes for the majority of the categories. We reported and described observed trends through numerical reports (counts and percentages) and graph summaries. We completed analysis and graphing using Excel (Microsoft, 2021), SPSS (IBM Corporation, 2020), and R (R Core Team, 2021).

Network visualization diagram

We built a network visualization diagram using an open software, Gephi (ver. 0.9.2) (Bastian et al., 2009), to visualize the flow of knowledge between producers and users in relation to institution type. The network diagram includes 'nodes' representing organizations that are connected to one another by a series of links called 'edges' (Heyman, 2018). We assigned each organization with an identification number to build the network diagram in an .xlsx file (Appendix 7). We categorized the organizations by type of institution. These included government, academia, NGO, industry, or international organization (which has countries as members, such as UNESCO World Heritage Committee and the European Union). We also recorded geographical location (i.e., latitude and longitude). Connections were made between the 'knowledge producer' organizations and 'knowledge user' organizations when the article was explicit that knowledge moved from the organization that produced it to one that would use it. The relationships between knowledge producers and users were represented in Gephi using an arrow, and we used the plugin 'GeoLayout' to display the network diagram atop a Mercator projection. We also tabulated the proportions of each institution type classified as knowledge producers and/or users.

Qualitative text analysis

The data extraction process required reviewers to record long-form qualitative data including a restatement of the major findings of each publication (Westwood et al., 2021). The major findings were screened and compiled into a document that allowed for the qualitative data analysis team (TK, KK, MR, SL) to process this information. The qualitative analysis aimed to determine: (1) what knowledge exchange techniques the items recommended, (2) if the items noted a successful instance of knowledge exchange, how they described that success, and (3) what conditions, according to the authors, enabled knowledge exchange to be successful (or were barriers to its success).

We used deductive coding based on the knowledge exchange typology (Westwood et al., 2021) to classify described knowledge exchange activities into the four *a priori* codes. For the remainder of the qualitative analysis, an inductive coding approach (Saldana, 2016) was employed by the coders (TK, KK, MR, SL) whereby each 'code' served as a label for a theme present in the qualitative data. The codes were not determined in advance as this could misrepresent the data (Van Den Hoonard, 2019). Consensus-driven coding was applied to 30 items, where two coders (TK, KK) separately assigned codes following an inductive coding approach and then met with the coding team to determine a collective interpretation of the data (Van Den Hoonard, 2019) and develop a codebook (Appendix 8). Codes were grouped into four categories: knowledge exchange techniques used, enabling conditions for knowledge exchange, barriers to knowledge exchange, and evidence of successful knowledge exchange. Once the codebook was established, three coders (TK, KK, MR) coded the rest of the data. Four coders (TK, KK, MR, SL) were involved in the verification process where 15% (approximately 6 findings) of each coder's work was verified by another coder.

Results

Raw data extracted from Covidence is given in Appendix 5, and the cleaned database which includes the full list of included items is given in Appendix 6.

Item type and bibliometric characteristics

Of the 112 included items, 30% (n = 34) presented a case study of knowledge exchange within or between institutions, 30% (n = 33) presented recommendations for (or an evaluation of) knowledge exchange based on original research, 22% (n = 25) presented a theoretical framework for how knowledge exchange does or might operate, and 18% (n = 20) did not fit into any of these categories ('other'). All included items that were categorized as editorials (n = 4) were included in the 'other' category, and these predominantly described the history, purpose, objectives, and/or plans of organizations which engage in knowledge exchange (e.g., de Arano et al. 2014, which summarizes the European Forest Institute's approach to the science-policy interface). Also included were proceedings from workshops that summarized discussions related to forest science or science policy but did not present a case study, recommendations, or a theoretical framework related to knowledge exchange (e.g., Elliot, 2018). Several were empirical studies which solicited knowledge from communities and then reported it, but were not themselves examples of knowledge exchange (e.g., Nautiyal and Nidamanuri, 2012).

Most of the items were published after 2010 (64%, N = 72; Figure 5). The majority of the items were peer-reviewed articles (63%, N = 70), followed by conference proceedings (11%, N = 12) and theses (6%, N = 7).

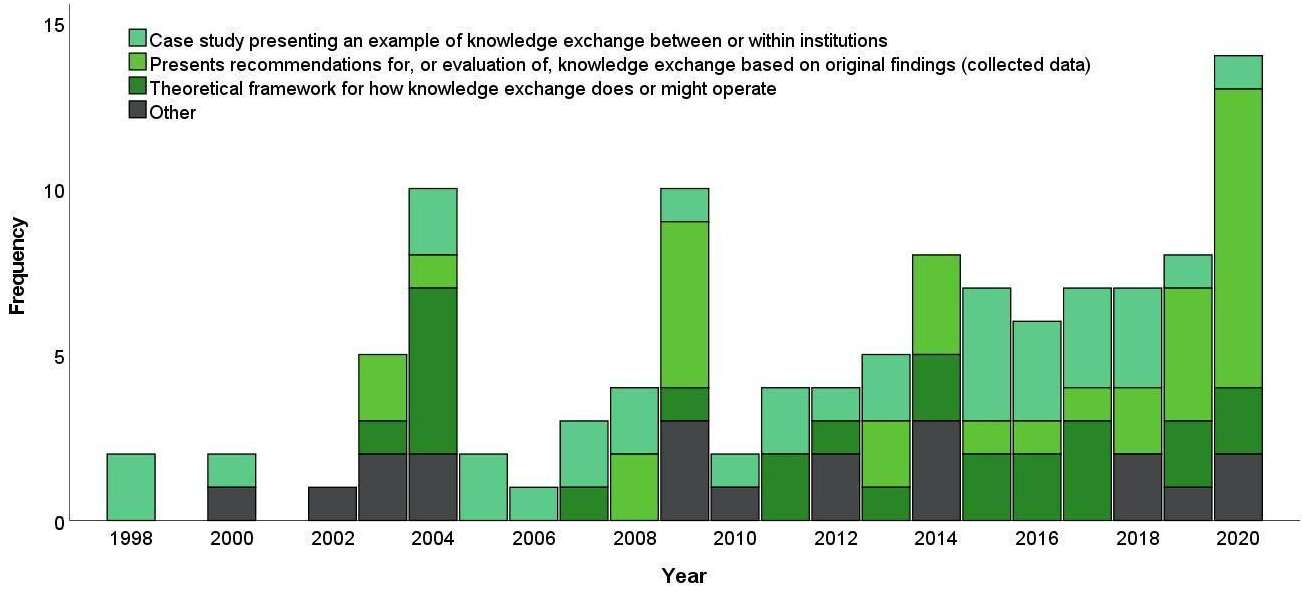

Figure 5: Items related to knowledge exchange in the forest sciences by publication year and item type.

We found 24% of items (N = 27) discussed Indigenous, local, community, or traditional knowledge (henceforth shortened as "IK"), with most of these being peer-reviewed articles (67%, N = 18) that presented theoretical frameworks (41%, N = 11) rather than case studies or empirical research. None of the items including IK had any of their authoring individuals or associations affiliated with Indigenous, local, community, or traditional knowledge-related institutions. When IK was associated with one of the four types of knowledge exchange, collaborative was the most frequent (48%, N = 13) followed by network (15%, N = 4) and solicited (11%, N = 3) exchange, or multiple types of exchange (7%, N = 2). The frequency of items including IK appears to be increasing with time, with 2020 having the most items in this category (Figure 6). Fifty-four (48%) items reported one or more funding sources, and all funding sources were from governments, academic units, or non-profits (including foundations). There were no reported industrial or private funders.

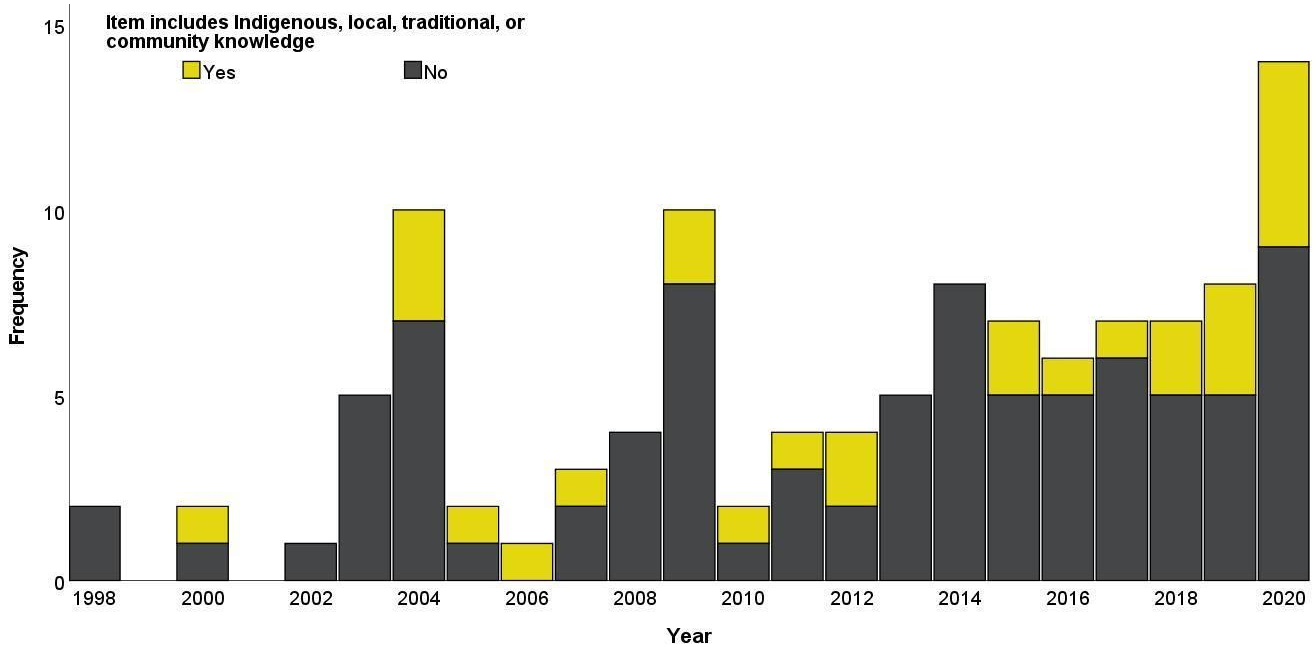

Figure 6: Items related to knowledge exchange in the forest sciences by year and whether they include elements related to Indigenous, local, community, and/or traditional knowledge.

Keywords and terms used to describe knowledge exchange

After combining redundant terminologies used to describe knowledge exchange (e.g., in French, combining 'communication' and 'communication des résultats' into 'communication'; combining 'co-production' and 'coproduction of knowledge' to 'coproduction'; aligning plural articles in French; Appendix 6), there were a total of 90 unique terms in English and 14 in French. Of these, only 20 English terms and 5 French terms were used by more than one study. The four most frequently used terms in English (accounting for 38% of all English terms used) were 'knowledge transfer' (n = 28), 'knowledge exchange (n = 20), 'science-policy interface' (n = 15), and 'coproduction' (n = 8). The four most frequently used terms in French (accounting for 58% of all French terms used) were 'transfert des connaissances' (n = 6), 'partage de connaissances' (n = 3), 'intégration des savoirs' (n = 3), and 'échange de connaissances' (n = 3). Terms used in at least five items were observed more frequently after the year 2010, with only 'science-policy interface', and 'communication' being common prior to this date (Figure 7).

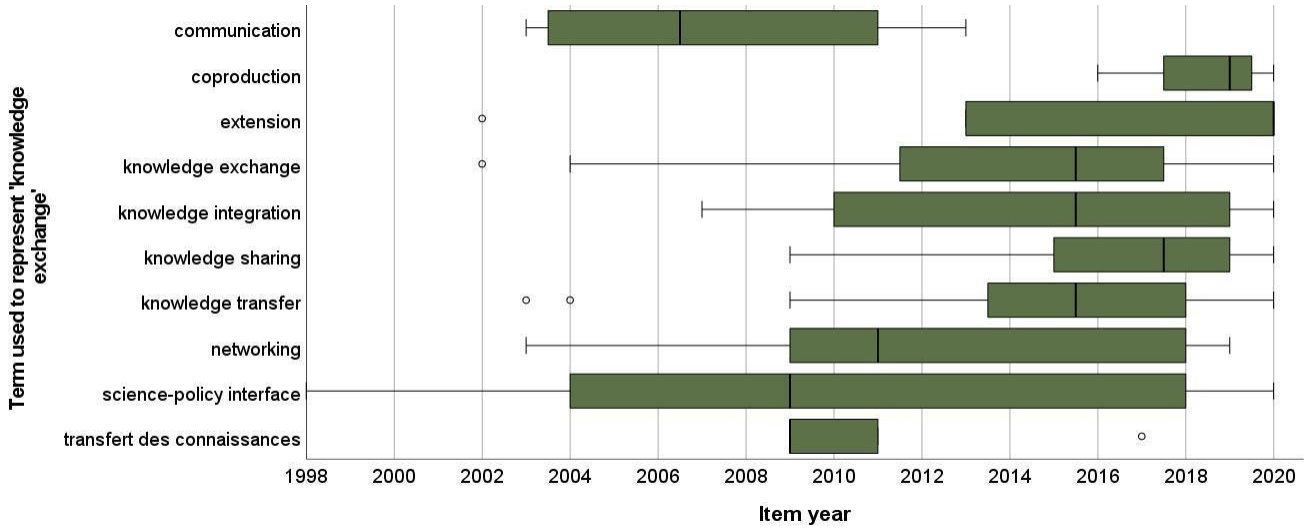

Figure 7: Distribution of terms used in at least five items to represent or approximate 'knowledge exchange' by publication year of item.

Of the 301 unique keywords recorded from the items themselves (e.g., identified in a 'keywords' section in a peer-reviewed article), only 7 were in French, and as such we analyzed both languages together. Of these, we deemed 44 keywords in some way indicative of knowledge exchange (Appendix 6). Only 46 of 301 unique keywords (15%) were used in more than one item, with the three most common keywords related to knowledge exchange being 'science-policy interface' (n = 18), forest policy (n = 12), and knowledge exchange (n = 6).

Knowledge exchange type, technique and evidence of effectiveness

We categorized the knowledge exchange techniques, qualitatively analysed the individual knowledge exchange techniques used, and examined for evidence of whether knowledge exchange was effective. When comparing to our typology of knowledge exchange in science (Figure 1), 3% of items were categorized as one-way exchange (n = 3), 10% solicited exchange (n = 11), 29% network exchange (n = 32), and 40% participatory exchange (n = 45). This was supported by the qualitative analysis results, which showed that of the 14 items whose major findings included mention of a knowledge exchange type, most (n = 10) were coded as participatory exchange.

Two items (2%) were case studies which included multiple types of knowledge exchange, and the typology was not applicable to 17% of items (n = 19). Of the items which did not fit the typology, most did not describe any instances of knowledge exchange between or among producers or users of knowledge (n = 14). Many (n = 5) proposed new software and technology tools (e.g., Innis, 2002; Regolini et al., 2010), but these were focused on addressing management and governance issues rather than knowledge exchange. Other items which did not fit the typology described local or Indigenous peoples' knowledge or knowledge systems but did not address knowledge exchange (e.g., Gonzalez and Kroger, 2020; Savari et al., 2020). There was no clear trend in knowledge exchange type as compared to publication year (Figure 8).

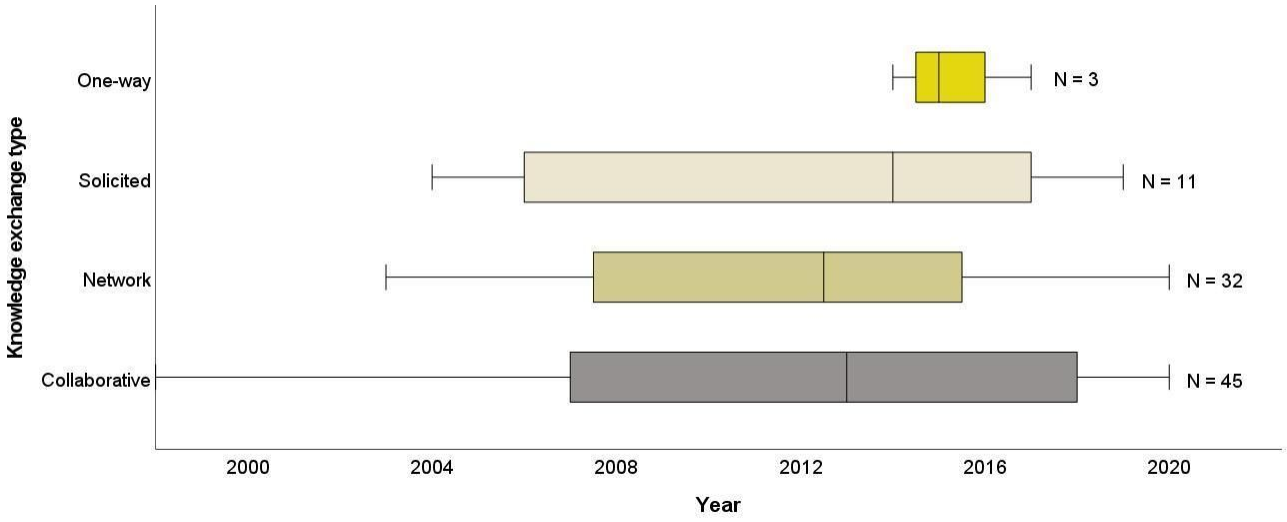

Figure 8: Distribution of retained items categorized by the four types of knowledge exchange as compared to year of publication.

From the qualitative analysis, we inductively coded 13 unique techniques for knowledge exchange with 215 instances of these in the items. The most common technique was 'collaboration' (n = 44) followed by 'multidisciplinary' (n = 31), 'targeted research' (n = 23), and 'relationship building' (n = 21) (Appendix 8).

Some measure of effectiveness (qualitative or quantitative) of the knowledge exchange was present in 20% (n = 22) of items. Of the studies that measured the effectiveness of knowledge exchange, 73% (n = 16) were published after 2010. We qualitatively examined the major findings of all items to identify codes describing enabling conditions

for knowledge exchange, barriers to knowledge exchange, and markers of success (Appendix 8). We identified eight codes for enabling conditions which were observed 43 times in the major findings, with the most frequent being 'trust' (n = 12), 'funding' (n = 9), and 'established relationships' (N = 8). We only identified three barriers ('science translation', n = 8; 'time', n = 2; competing terminology, n = 1) which were coded a total of nine times. We identified six markers of success, and these were coded 16 times across all items. The most commonly-identified markers of success were 'influence human behaviour' (n = 4), 'influence research' (n = 3), and 'increased knowledge exchange' (n = 3).

Geographic distribution and knowledge flow between producers and users

We found 77% (n = 86) of the items explicitly listed organizations from at least one country as a knowledge producer or user. Of the items that included information linked to the country, 25% (n = 22) were multinational with institutions in more than one country. In total, institutions from 66 countries were mentioned. The most frequently included countries were Canada, the USA, France, Finland, and the UK; most countries were mentioned in only one item (Figure 9). Of the 66 countries, 27% (n = 18) were included in items that also included IK in some capacity.

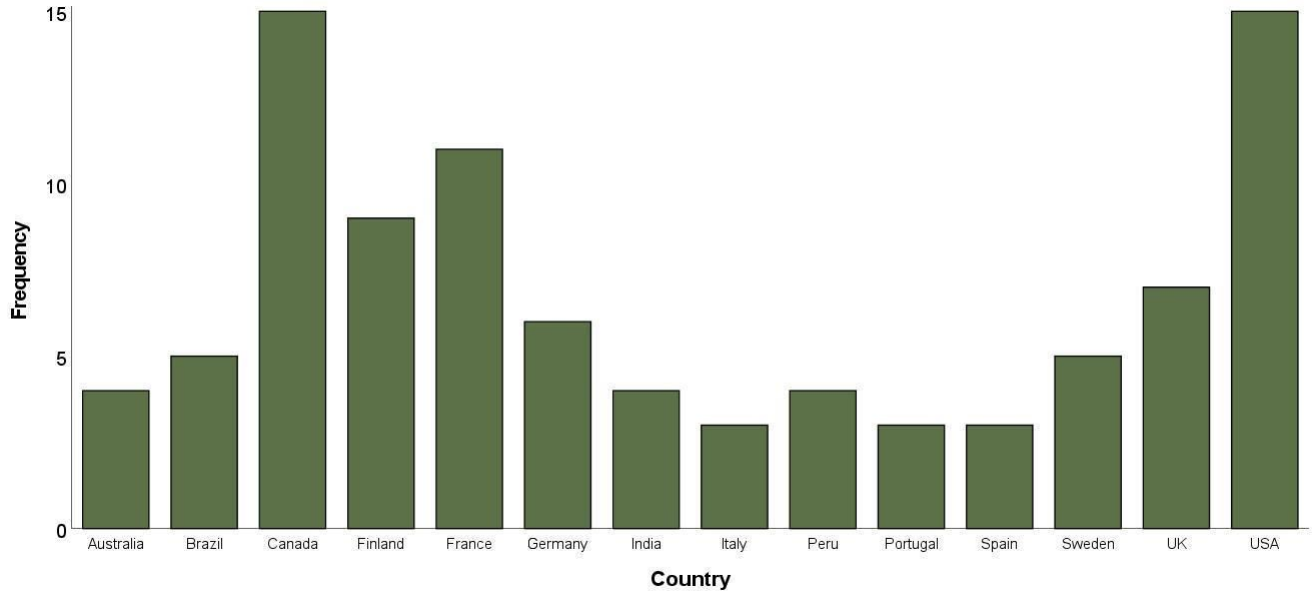

Figure 9: Count of countries whose organizations were named as knowledge producers and/or users in at least three items.

Twenty-six countries from five continents had organizations that are actively participating in knowledge exchange with other organizations, whether producing and/or using knowledge. Of the 82 organizations documented exchanging knowledge between each other, 43% were from Europe (n = 34), 44% were from North America (n = 35), 5% were from Asia (n = 4), 4% were from Africa (n = 3), and 3% were from South America (n = 2). The United States had the largest number of organizations of any individual country (30%, n = 24) and the greatest number of connections between organizations (38%, n = 176) actively participating in knowledge exchange. The most highly-connected individual organizations (≥10 connections) are listed in Table 2. In our analysis, most of the English and French-language knowledge exchange in forest science is occurring within North America and Europe (Figure 10), with strong collaborations between north-north countries and less north-south collaborations.

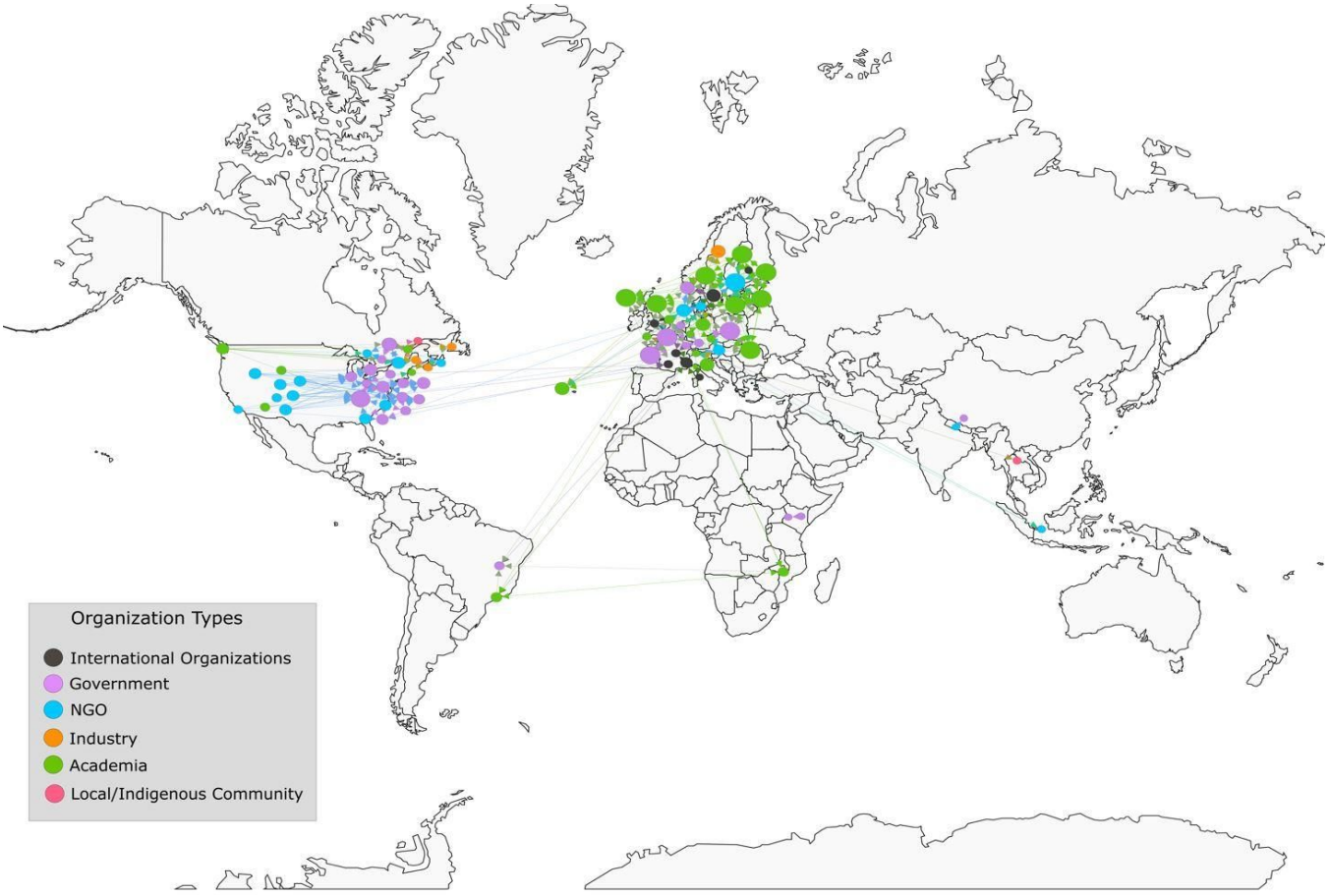

Figure 10: Network diagram visualizing the flow of knowledge between producers and users based on their institution type. Arrows indicate the direction of knowledge transfer from producer to user. An interactive online version of the network diagram can be found at https://westwoodlab.github.io/KE_NetworkDiagram_2022/network/

Table 2: List of organizations showing at least ten connections with other entities in peer-reviewed and gray literature showing case studies of, or theories about, knowledge exchange in the forest sciences in English and/or French. NA = North America

Continent	Country	Organization name	Number of connected organizations
NA	United States	US Forest Service	20
Europe	Scotland	University of the Highlands and Islands	11
Europe	France	National Research Institute for Agriculture, Food and Environment	11
Europe	Finland	University of Eastern Finland	11
Europe	Finland	Natural Resources Institute Finland	11
Europe	Romania	University “Stefan cel Mare” Suceava	11
Europe	Scotland	University of Aberdeen	11
Europe	Poland	Forest Research Institute	11
Europe	Sweden	Swedish University of Agricultural Sciences	11
Europe	Belgium	Wildlife and Forestry Department	11
Europe	Finland	Karelia University of Applied Sciences	11
Europe	Estonia	Estonian University of Life Sciences	11
Europe	Latvia	Latvia University of Life Sciences and Technologies	11
NA	Canada	Natural Resources Canada	10
NA	United States	National Park Service	10
NA	United States	Bureau of Land Management	10
NA	United States	US Fish and Wildlife Service	10

When looking at the organization types identified as producers of knowledge, users of knowledge, or both (Figure 11), academic institutions and NGOs emerged as sole producers of knowledge or both producers and users. Governments were the most common knowledge users, and industry was identified as a knowledge user but rarely a producer. Funding agencies were never defined as producers of knowledge and occasionally as users.

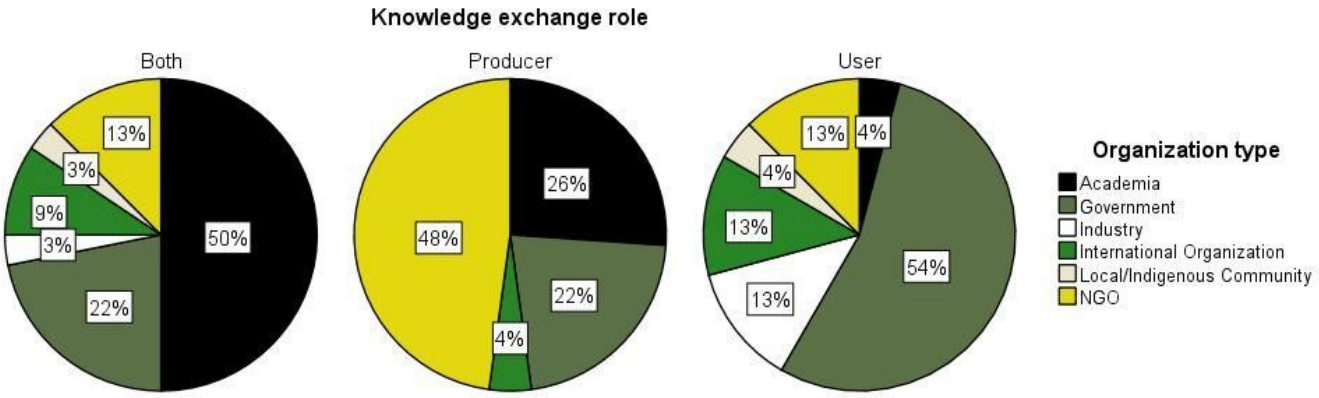

Figure 11: Of items where knowledge exchange was documented between producers and users, we report the proportions of organization types identified as both producers and users of knowledge in the same item (left), only producers of knowledge (middle), or only a user of knowledge (right).

Discussion

Our study examined the nature of peer-reviewed academic and gray literature related to knowledge exchange, the terminology used therein, the types of knowledge exchange, the relationships between knowledge producers and knowledge users, and whether the items qualified themselves as providing evidence of the effectiveness of knowledge exchange examples or techniques described therein.

Moving towards a shared language

We identified 90 unique terms to describe knowledge exchange across 112 items (with many items using multiple terms). While the published items had a high diversity of unique article keywords, only 15% of those keywords were indicative of knowledge exchange. Based on our findings, searches based on article keywords alone would not have been sufficient to identify the items related to knowledge exchange.

To maximize the discovery of information related to knowledge exchange and encourage a culture of reflection relating to knowledge exchange and its effectiveness when engaging in scientific work, we encourage both researchers and practitioners to be mindful of their choice of words and move towards a shared language. When publishing peer-reviewed academic or gray literature, researchers should select a single term for knowledge

exchange and also include it as an article keyword. Though ‘knowledge translation’, ‘knowledge transfer’, and ‘knowledge synthesis’ have recently been adopted by major influencers of research such as granting agencies, these terms should only be used if they intend to describe a unidirectional model whereby knowledge producers and users are separated.

We encourage researchers to consider a multi-directional underpinning for how knowledge moves between users and producers. For those working in the forest sciences, we encourage English speakers to use ‘knowledge exchange’ and French speakers to use ‘échange de connaissances’ to describe the movement of scientific knowledge between producers and users, as these terms allow for bi- or multi-directional movement of knowledge, and thus are inclusive of all four knowledge exchange types we have identified (see figure 1).

Although there are certain schools of pedagogy which use the term ‘transdisciplinary’ to describe participatory knowledge exchange, particularly in German-speaking and Nordic countries (Pohl, 2008), ‘transdisciplinary research’ is also a term used in sciences to describe work beyond and between disciplines. Research which crosses disciplines, and research where producers and users of knowledge participate in a collaborative research process, are not mutually exclusive definitions. Pohl (2008) studied research projects self-described as transdisciplinary and found that some, but not all, included elements of collaborative exchange. The Oxford English Dictionary defines ‘transdisciplinary’ as “of or pertaining to more than one discipline or branch of learning; interdisciplinary”, and other recognized definitions of the word do not mention, imply, or include knowledge exchange between producers and users of knowledge (Cambridge University Press, 2022; Harvard School of Public Health, 2022). Rigolot (2020) characterizes transdisciplinarity in several different ways—some of which include elements of collaborative exchange, and most of which do not. Thus, though ’transdisciplinary’ as a term may sometimes infer or describe collaborative exchange, it does not necessarily include it. Given this lack of precision, we do not recommend the use of this term, and encourage researchers to use the term ‘participatory knowledge exchange’ to describe deliberate, collaborative knowledge exchange efforts between knowledge producers and knowledge users.

Determining best practices for effective knowledge exchange in forest science

Few of the items in our study drew conclusions about whether the knowledge exchange approaches they described were effective. Based on qualitative data analysis, we found that items categorized success as influencing human behaviour, influencing research, increasing knowledge exchange, improving relationships between actors, influencing products or policy (which includes perceptions that human or environmental welfare were improved), and when knowledge users felt a sense of ownership over the project or process.

We also identified enabling conditions, barriers, and markers of success. Enabling conditions we identified most often related to trust, collaboration, access to dialogues which bridge science and policy, and interpersonal relationships. For example, Bayne et al. (2016) state that "it appears that the key success factor in enhancing uptake and learning may require an environment that encourages relationship building, particularly trust building between parties in developing informal and formal relationships. Informal interactions, though not often acknowledged in business, foster the conditions conducive to good knowledge exchange co-ordination, co-operation and communication."

These are consistent with methods of science production that recognize that knowledge is embedded in social relations and embrace participatory and interdisciplinary approaches to problem-solving and knowledge generation (Kirchhoff et al., 2013). Informal communication was noted as an important enabling condition (n = 15; Appendix 8). This is consistent with Klenk and Hickey (2011), who interviewed staff in government forestry departments and found that participants felt face-to-face conversations were most effective for knowledge exchange. Ongoing relationships between managers and policymakers have also been cited as a key necessity for knowledge exchange to bridge the science-policy divide within government institutions specifically (Bradshaw and Borchers, 2000; Girling and Gibbs, 2019; Natural Resources Canada, 2019, 2015). We identified difficulty in translating science to policy as the most common barrier, which is thought to be a pernicious difficulty for researchers and policymakers to reconcile or translate their differing conceptual frameworks (Kimmins et al., 2005; Pennington, 2008).

Participatory models of knowledge exchange have often been presumed to be superior to one-way models (Beier et al., 2017; Ferreira and Klütsch, 2021; Westwood et al., 2020). By improving the relevance, salience, and

legitimacy of the knowledge, participatory models increase the likelihood of uptake into policy and practice (Cash et al., 2003; Cvitanovic et al., 2015). Increasingly, there have been calls for researchers and decision-makers tackling environmental problems to consider multiple ways of knowing, including Indigenous and local knowledge (Council of Canadian Academies, 2019; Schang et al., 2020). Both to improve the quality and applicability of environmental research, as well as to pursue goals of reconciliation between colonial institutions and marginalized peoples, co-production of research (a type of collaborative exchange) with Western-trained scientists and Indigenous and other local peoples is increasingly seen as a way forward (Ban et al., 2018; Popp et al., 2020; Schang et al., 2020). Although nearly a quarter of our retained items mentioned Indigenous, local, or community knowledge, none clearly attributed members or organizations from those communities at the level of item authorship. Alexander et al. (2019) conducted a systematic map of studies in the discipline of freshwater research that included Indigenous knowledge, and found that 44% of included publications had authors whose attributions indicated they were Indigenous or represented Indigenous communities, organizations, and/or governments. Since items concerning knowledge exchange in the forest sciences are increasingly including local and Indigenous knowledge in recent years, and yet we observed no author attribution, we urge researchers in the forest sciences to use best practices when working with Indigenous and local communities, including recognizing and crediting the contributions made by communities, representatives, and participants (Théberge et al., 2019).

Based on our analysis of funding sources, the forest industry has not yet been engaged in contributing towards research and theory about knowledge exchange. However, the forest industry including companies, woodlot owners, and forestry practitioners may be interested in obtaining the products of scientific knowledge that can help them achieve their own goals. These goals may be tied to a variety of values that include efficiency, stewardship, optimization, conservation, profit, or others. Industry is sometimes required to adopt methods informed by scientific knowledge to achieve forest certification (e.g., Sustainable Forestry International, 2022) or to meet government mandates for employing science-informed forestry techniques (e.g., McGrath et al., 2021). Although our findings suggest industry has been under involved in knowledge production to date, we note that it may benefit from

supporting or participating in research aimed at enhancing the exchange of forest knowledge between users and producers.

The next step: Setting goals and measuring outcomes

Although there has been an abundance of theoretical articulations regarding knowledge exchange, Chilvers and Evans (2009) noted a lack of clear methodologies for attempting and measuring these activities. In our retained items, we did not find methodologies for empirically measuring knowledge exchange success, rather, assessments of effectiveness were subjective. Our common lexicon and typology for knowledge exchange presents a starting place for identifying and, in future, measuring knowledge exchange efforts. We suggest that research teams determine their knowledge exchange goal, select a knowledge exchange type and associated techniques likely to achieve their goal, and develop metrics to measure their success (see Fazey et al. (2014) for a discussion of knowledge exchange evaluation approaches, and see Belcher et al. (2016) for an overview of evaluating the quality of research done in a collaborative fashion). Communication tools and techniques, as well as evaluation methods, will vary depending on the knowledge exchange goals of the research team and the context in which the knowledge is being generated, including cultural context, norms, cultural values, and the hierarchy of actors (both producers and users) involved in forest management (Elliott, 2018).

No matter what form of knowledge exchange is used, findings and information should be disseminated in a way that meets the needs of researchers, practitioners, and policymakers alike and should be tailored to the correct audiences (Mouradian et al., 2001). When engaging in collaborative exchange, all parties should be engaged in planning knowledge exchange and should be credited appropriately (Sobell, 2016). We recommend research teams engage practitioners and academics in the domains of evaluation to develop specific communications and knowledge exchange experiments, as well as engage boundary spanners/knowledge brokers (Driscoll et al., 2011; Rose et al., 2017) to maximize the utility of their knowledge exchange efforts.

Limitations

A hallmark of systematic maps conducted using the CEE approach is that they are transparent, repeatable, and comprehensive (Haddaway, 2017). Our approach is transparent and repeatable. Although the protocol for the present study was approved by peer-review (Westwood et al., 2021), our search may have had limitations to comprehensiveness. Overall, we have attempted to define an undefined field, and used general search terms which yielded very large numbers of returned results from search engines (see appendices of Westwood et al., 2021). One search engine (ResearchGate, which was important in identifying gray literature) does not indicate the number of search results and cannot be searched comprehensively. To feasibly screen these, we developed stopping criteria whereby the search was ceased when one of the following conditions was met: (1) all returned results were screened or (2) a moving window of average relevance declined below a given threshold. It is likely that we have missed some relevant items and not captured the entire body of items related to knowledge exchange in forest sciences.

We did not include Web of Science because of its high rate of cross-indexing with Scopus (Martín-Martín et al., 2021), however, the addition of this or other databases may have increased the number of retained peer-reviewed items. We did not include general terms in our searches such as ‘research’ and ‘evidence’ because we expected these to greatly inflate the returned number of hits while not improving their overall relevance. However, we recognize that terms like ‘evidence use’ and ‘knowledge uptake’ may be related to knowledge exchange concepts, and recommend these terms be tested in future knowledge synthesis efforts on this subject.

In addition, we were unable to screen returned results in languages other than English or French. We also made no effort to assess the validity of the retained items. This would likely not be possible for many items, particularly those reporting on conference proceedings or consisting of reports. Relatively few of the retained items were original research papers. We hope that studies of knowledge exchange in forest sciences become more prominent, and in future, it will be useful for those conducting systematic reviews to assess the internal validity of such studies. Finally, we reported on findings related to knowledge exchange specifically, but did not report on the retained items’ implications for the science policy studies more generally. Our database of retained items could be used as a resource

for future characterization of the science-policy boundary in forestry and forest sciences, including its actors and governance.

Conclusions

Historically, forest management has been dependent on personal (e.g., forest professionals) and institutional (e.g., research organization) experience for guidance (Kimmins et al., 2005). Calls have been to improve the uptake of knowledge about forest science in forest management and policy (Guldin et al., 2005; Kleine, 2009; Parrotta and Campos Arce, 2003). We have provided the first-known characterization of the knowledge exchange process in forest science based on a comprehensive analysis of the available literature.

Our findings characterize the approaches by which forest science has been shared among producers and users. In reviewing the wide diversity of approaches, we have distilled the various concepts into a digestible, evidence-based typology that can be used by forest scientists to strategize based on the audience how to effectively exchange knowledge.

The novel approach presented in this study may be applied to knowledge exchange work landscapes in other domains. We highlighted the importance of developing research projects that carefully assess and select the most effective knowledge exchange type. In doing so, we emphasized the importance of using a shared language, building trust, and maintaining open communication with all parties involved when trying to overcome the science-policy gap. In particular, we encourage the international community of forest scientists, managers, and policymakers to establish a common terminology for describing the ways we approach knowledge exchange.

Authors' contributions

The study was conceived by AW, VN, and MF. Preliminary searching and database testing were conducted by AW, TK, JW, and KK. AW facilitated bi-monthly project guidance meetings with MF, TK, JW, KK, JS, VN, and JH attending and providing direction. Data collection was conducted by AW, FE, FC, JS, JH, JW, KK, MR, MF, and SL, and data analysis by AW, EA, JS, KK, MR, SL, and TK. AW and JS developed figures and tables. The manuscript was drafted by AW and all authors provided comments and revisions on all manuscript drafts. Author order is as follows: (1) study lead and co-principal investigator, (2) core research team, arranged alphabetically by last name, (3) additional research team, arranged alphabetically by last name, and (4) co-principal investigators. All authors have read and approved the final manuscript.

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Data availability statement

The article will be open access, and accompanied by appendices including all retained results, extracted data, and summary statistics. All of these materials will be archived through Dalhousie University's data repository.

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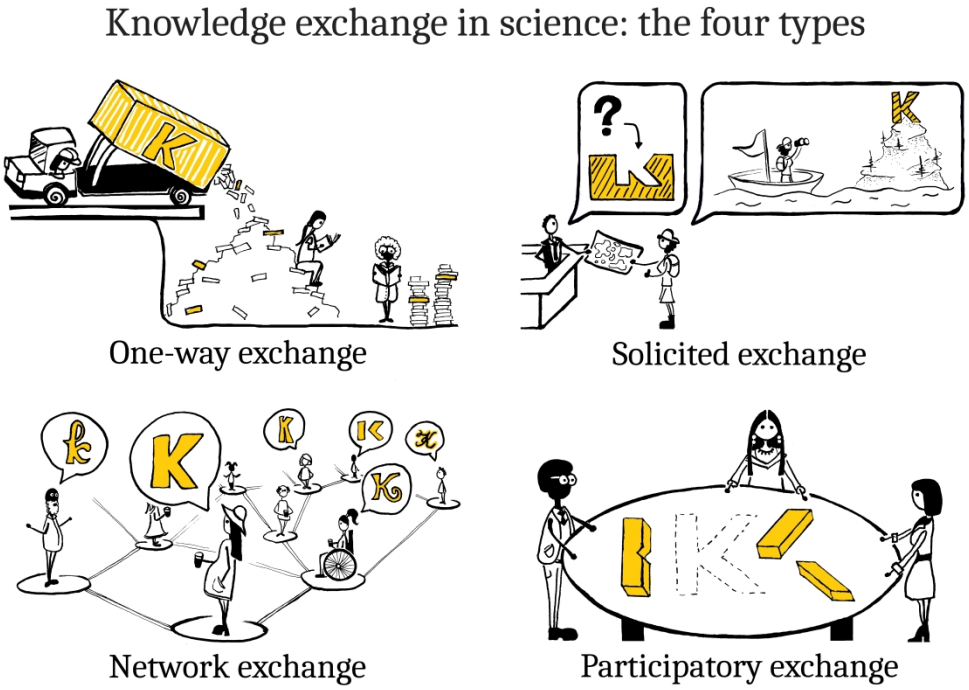

Figure 1: Four types of knowledge exchange in science. Figure by Sarah Perez (see acknowledgements).

279x198mm (600 x 600 DPI)

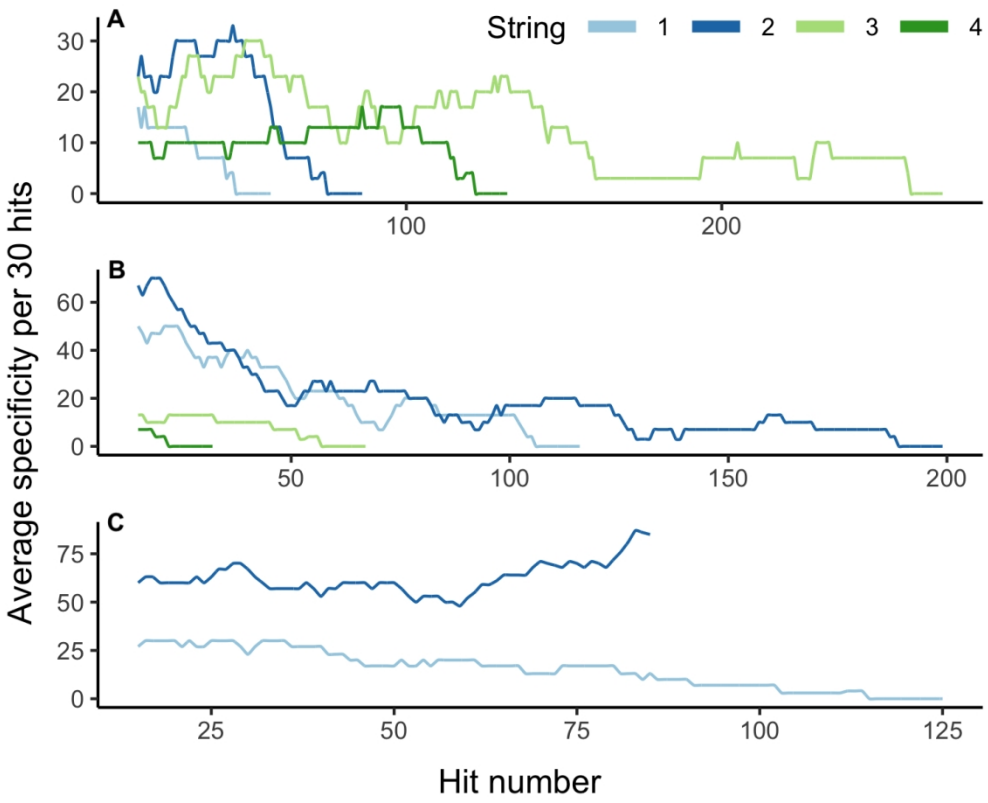

Figure 2: Rolling average specificity (proportion of returned results which pass title and abstract screening) per 30 search database hits for four search strings across three databases.

529x423mm (72 x 72 DPI)

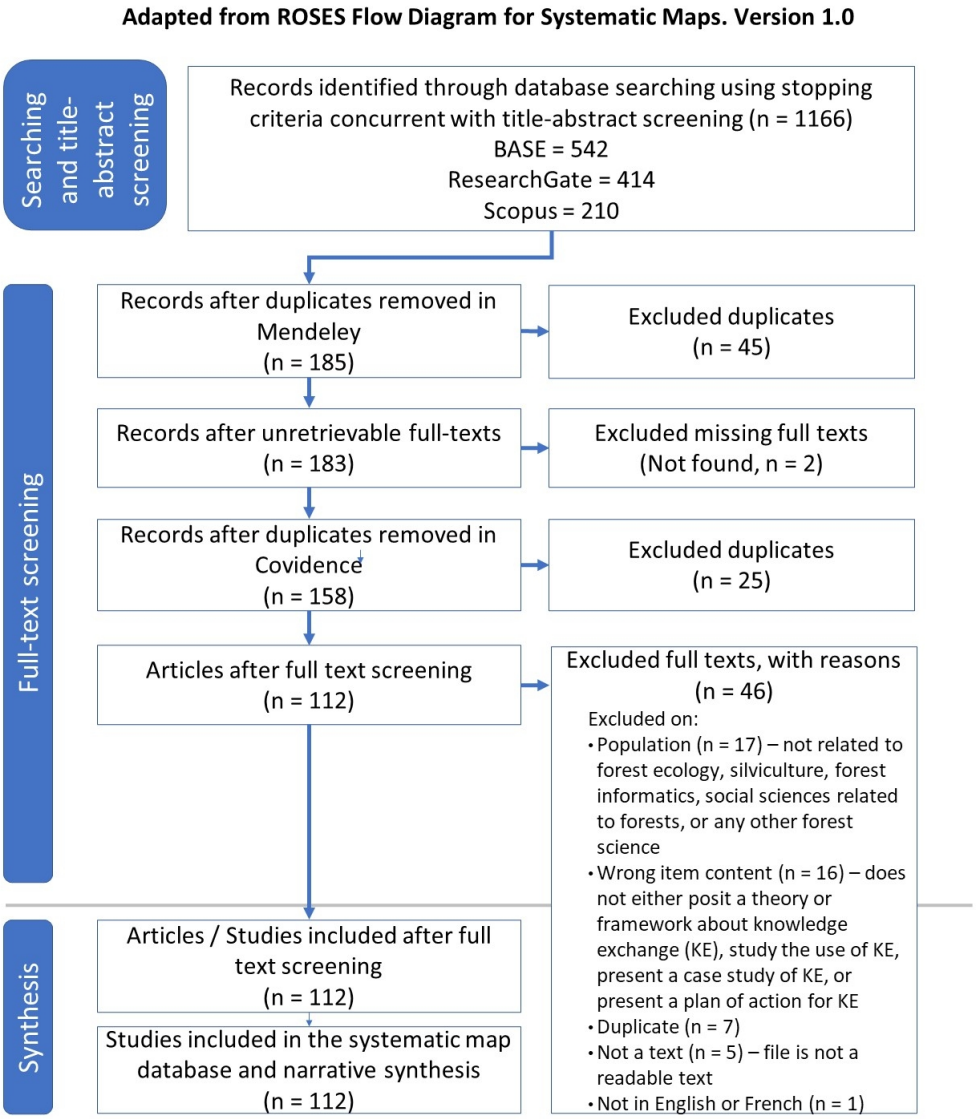

Figure 3: Flow diagram detailing stages for searching and screening items for the systematic literature review of knowledge exchange/échange de connaissances in forest sciences. Diagram follows in the ROSES reporting format (Haddaway et al., 2018).

329x379mm (96 x 96 DPI)

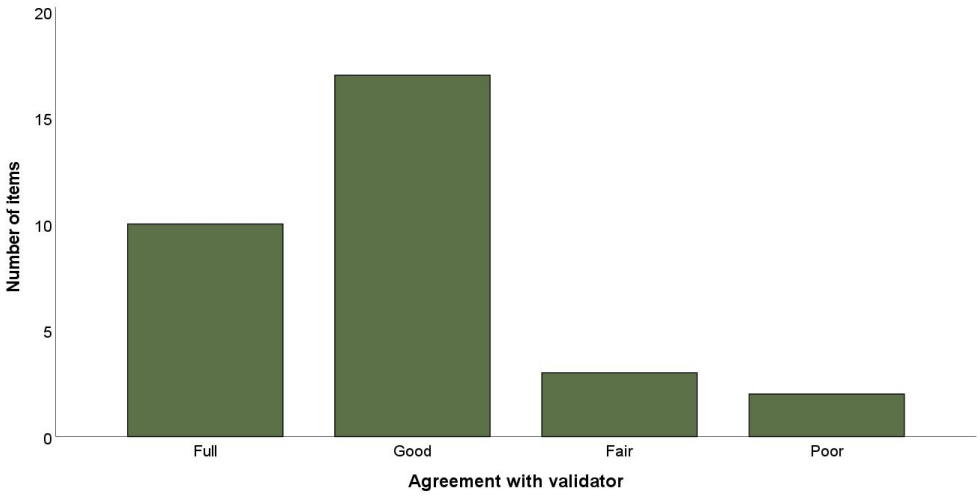

Figure 4: Number of validated full-text extractions and their corresponding level of agreement with the validator's assessment.

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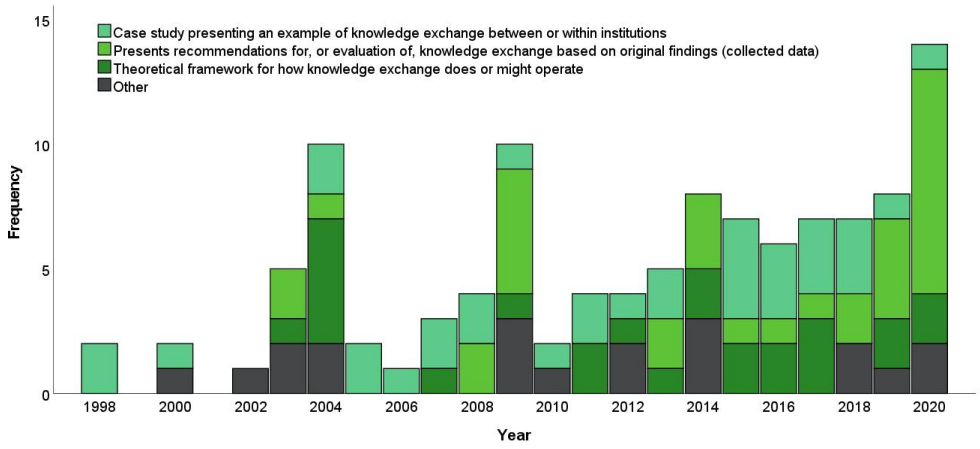

Figure 5: Items related to knowledge exchange in the forest sciences by publication year and item type.

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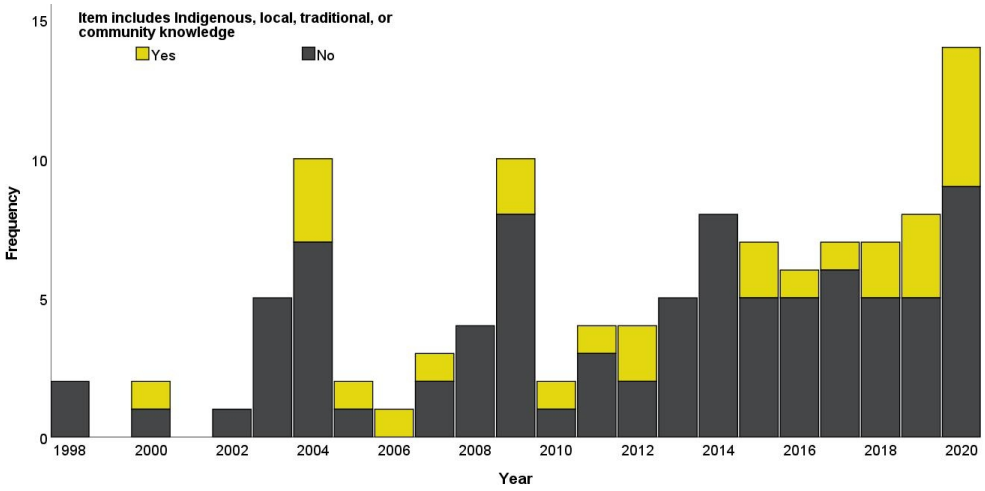

Figure 6: Items related to knowledge exchange in the forest sciences by year and whether they include elements related to Indigenous, local, community, and/or traditional knowledge.

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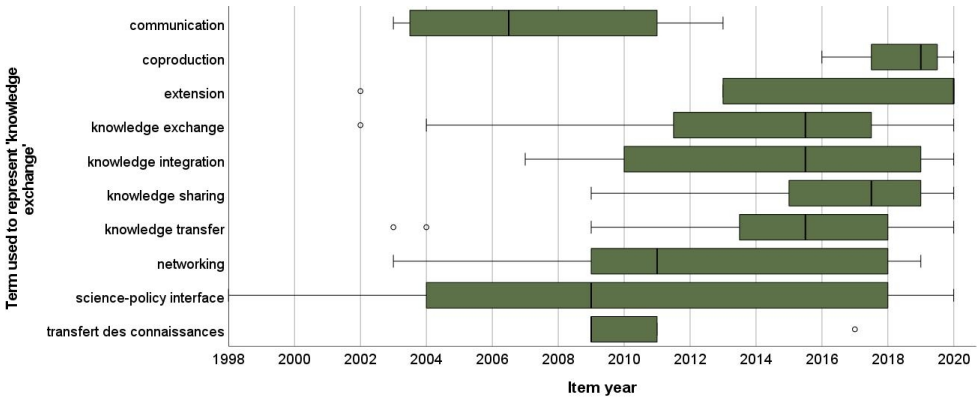

Figure 7: Distribution of terms used in at least five items to represent or approximate 'knowledge exchange' by publication year of item.

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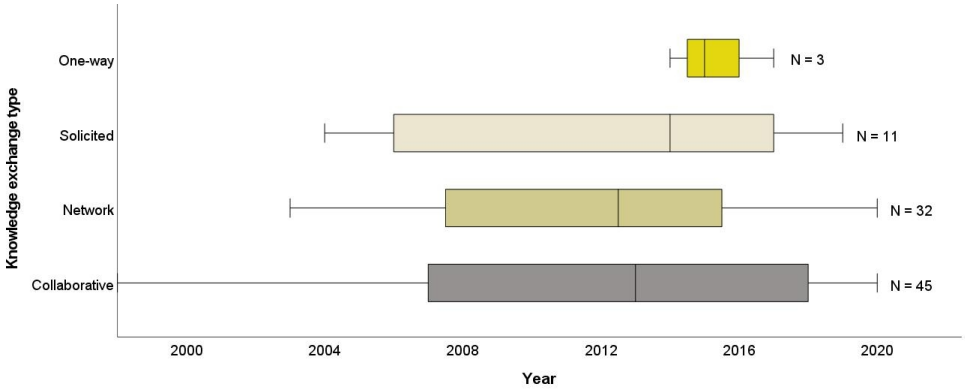

Figure 8: Distribution of retained items categorized by the four types of knowledge exchange as compared to year of publication.

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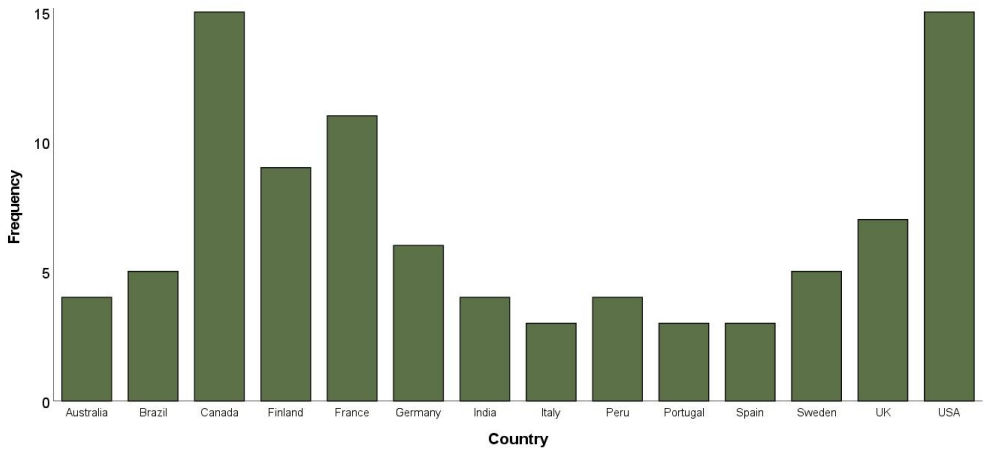

Figure 9: Count of countries whose organizations were named as knowledge producers and/or user in at least three items.

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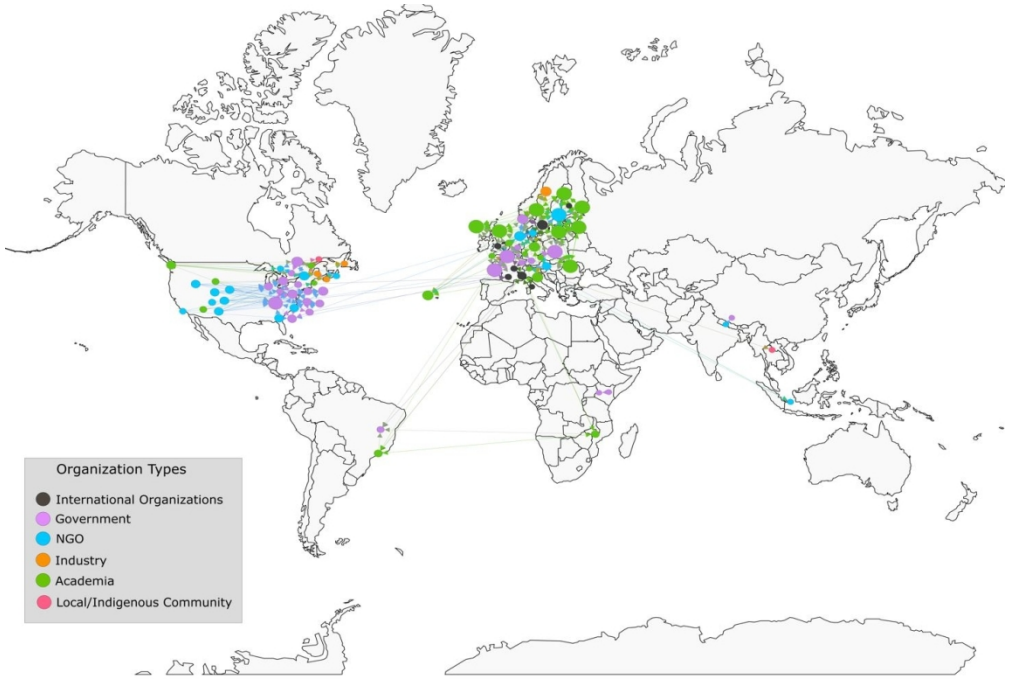

Figure 10: Network diagram visualizing the flow of knowledge between producers and users based on their institution type. Arrows indicate the direction of knowledge transfer from producer to user. An interactive online version of the network diagram can be found at https://westwoodlab.github.io/KE_NetworkDiagram_2022/network/

385x259mm (96 x 96 DPI)

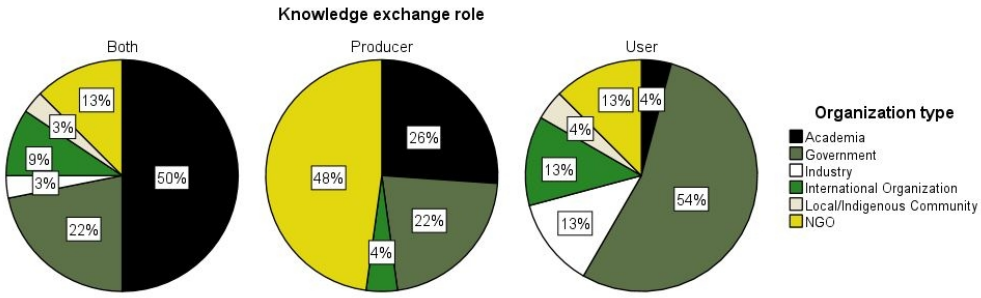

Figure 11: Of items where knowledge exchange was documented between producers and users, we report the proportions of organization types identified as both producers and users of knowledge in the same item (left), only producers of knowledge (middle), or only a user of knowledge (right).

255x81mm (96 x 96 DPI)

Appendix 1: Traductions françaises pour les types d'échange de connaissances dans le domaine scientifique

De: Westwood et al. 2021 A systematic review of knowledge exchange at the science-policy interface for forest science: How can we improve consistency and effectiveness? *Ecological Solutions & Evidence*.

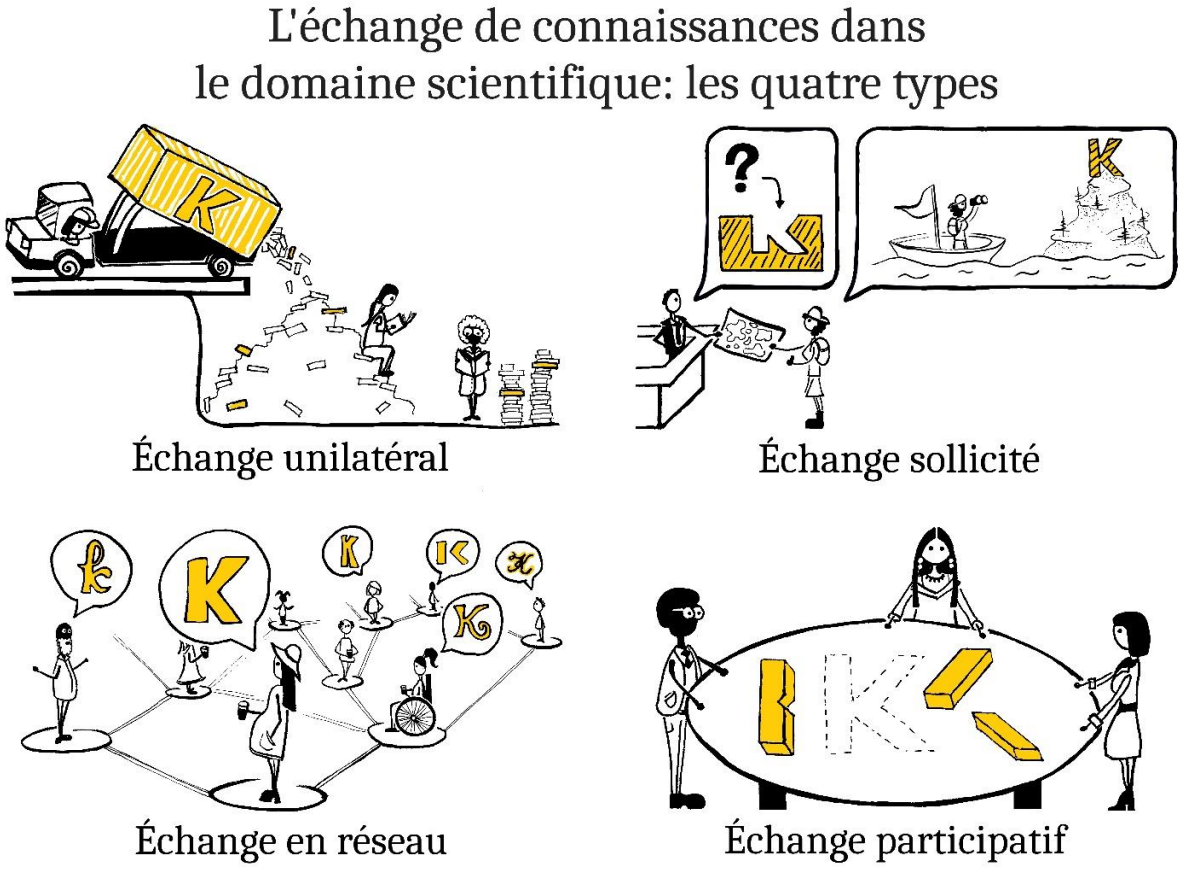

Image de Sarah Perez.

L'échange de connaissances dans le domaine scientifique: les quatre types

1. 'L'échange unilatéral', où les scientifiques produisent indépendamment un rapport ou un article scientifique et le remettent aux utilisateurs de la connaissance.
2. 'L'échange sollicité', dans lequel un utilisateur de connaissances invite expressément les producteurs de connaissances à combler une lacune de connaissances identifiée au préalable.
3. 'L'échange en réseau', par lequel deux ou plusieurs acteurs se réunissent dans le but explicite d'échanger des connaissances générées indépendamment par chacun d'eux.
4. 'L'échange participatif', dans lequel les utilisateurs potentiels de l'information scientifique sont engagés et impliqués dans sa production.

ROSES for Systematic Map Reports. Version 1.0

November 2017

Neal R Haddaway, Biljana Macura, Paul Whaley, and Andrew Pullin

Column descriptions

Section/sub-section - The sections or sub-sections listed below correspond to sections in CEE systematic review and map protocols and final reports: please se

Topic - the section or sub-section is further broken down for the purposes of clarity.

Description/Further explanation - Details of what is needed in each section or sub-section are provided, along with practical advice and links to relevant guida

Checklist/Meta-data - Checklist items MUST be completed. Meta-data items correspond to information that should be reported as data or short descriptions t

Author response - authors should select or write a response for meta-data, or select 'yes' or 'no' for checklist items. Further details may be provided in Comm

Comments - authors may supplement their response with a brief comment.

Please cite as: Haddaway NR, Macura B, Whaley P, and Pullin AS. 2017. ROSES for Systematic Map Reports. Version 1.0. DOI: 10.6084/m9.figshare.5897299.

ee the relevant text under these subheadings for information within a specific review.

ance.

that will be used to populate the Summary Record and Flow Diagram. Any meta-data items where stages were not performed (e.g. grey literature searching), t

ients (see below).

this should be stated (e.g. ‘Not performed’)

Section/sub-section	Topic	Description
Title	Title	The title must indicate that it is a systematic map, and should indicate if
Type of review	Type of review	Select one of the following types of review: systematic map, systematic
Authors' contacts	Authors' contacts	The full names, institutional addresses and email addresses for all
Abstract	Structured summary	The abstract of the manuscript must not exceed 500 words and must be
Background	Background	Describe the rationale for the review in the context of what is already
Stakeholder engagement	Stakeholder engagement	The actual role of stakeholders throughout the review process (e.g. in
Objective of the review	Objective	Describe the primary question and secondary questions (when
	Definition of the question	Provide reference to the question key elements, e.g. population(s),
Methods	Protocol	Provide citation, DOI or open-access link to published protocol.
	Deviations from protocol	Describe any ways in which the final methods of the review deviate from
Searches	Search strategy	Detail the search strategy used, including: database names accessed,
	Search string	Provide Boolean-style full search string and state the platform for which
	Languages - bibliographic	List languages used in bibliographic database searches
	Languages – grey literature	List languages used in organisational website searches and web-based
	Bibliographic databases	Provide the number of bibliographic databases searched
	Web-based search engines	Provide the number of web-based search engines searched
	Organisational websites	Provide the number of organisational websites searched
	Estimating comprehensiveness of	Describe the process by which the comprehensiveness of the search
	Search update	Describe any update to searches undertaken during the conduct of the
Article screening and study	Screening strategy	Describe the methodology for screening articles/studies for relevance.
	Inclusion criteria	Describe the inclusion criteria used to assess relevance of identified
Critical appraisal	Critical appraisal strategy	Describe here the method used for critical appraisal of study validity
	Critical appraisal used in	Describe how the information from critical appraisal was used in
Meta-data extraction and	Meta-data extraction and coding	Describe the method for meta-data extraction and coding for studies,
	Approaches to missing data	Describe any process for obtaining and confirming missing or unclear
Data synthesis and presentation	Narrative synthesis strategy	Describe methods used for narratively synthesising the evidence base in
	Knowledge gap and cluster	Describe the methods used to identify and/or prioritise key knowledge
	Demonstrating procedural	Describe the role of systematic reviewers (who have also authored
Results	Description of review process	Describe the review process including the volume of evidence identified
	Number of search results	Provide the number of search results from bibliographic databases

	Number of search results after	Provide the total number of search results from bibliographic database
	Full text screening excludes	Additional file containing list of and reasons for full text exclusions.
	Title screening results	Provide the number of articles retained following title screening.
	Abstract screening results	Provide the number of articles retained following abstract screening.
	Title and abstract screening	Provide the number of articles retained following title and abstract
	Retrieval results	Provide the number of articles retrieved at full text.
	Unobtainable articles	Additional file containing list of unobtainable articles.
	Full text screening results	Provide the number of articles retained following full text screening.
	Consistency checking: screening	Results of consistency checking at all stages (screening, meta-data
	Narrative synthesis	Describe the body of evidence identified using figures and tables,
	Systematic map database	Additional file containing meta-data and coding for included studies.
Discussion	Discussion	Discuss the review results and suggest further enquiry or analysis (e.g.
	Limitations of the review	Discuss possible limitations in the methods used.
	Limitations of the evidence base	Discuss possible limitations in the evidence base.
Conclusions	Knowledge gaps and clusters	Describe knowledge gaps (unrepresented or underrepresented subtopics
	Implications for	Summarise the state of the evidence base and discuss the way in which
	Implications for research	Discuss the way in which the identified evidence may inform research
Declarations	Competing interests	Describe of any financial or non-financial competing interests that the

References

[1] James, K.L., Randall, N.P. and Haddaway, N.R., 2016. A methodology for systematic mapping in environmental sciences. Environmental Evidence, 5(1), p
[2] Bayliss, H.R., Haddaway, N.R., Eales, J., Frampton, G.K. and James, K.L., 2016. Updating and amending systematic reviews and systematic maps in enviro
[3] Haddaway, N.R., Kohl, C., da Silva, N.R., Schiemann, J., Spök, A., Stewart, R., Sweet, J.B. and Wilhelm, R., 2017. A framework for stakeholder engagemer
[4] Collaboration for Environmental Evidence. 2018. Guidelines and Standards for Evidence synthesis in Environmental Management. Version 5.0. www.en
[5] Leeds Institute of Health Sciences. https://medhealth.leeds.ac.uk/info/639/information_specialists/1500/search_concept_tools. Accessed 12/11/2017.

Further explanation	Checklist/meta-data	Author response
The title should normally be the same or very similar to the review	Meta-data	A systematic review
See CEE Guidance on systematic mapping [1], and on amendments and	Meta-data	Systematic map
	Checklist	Yes
	Checklist	Yes
A theory of change and/or conceptual model should be presented that	Checklist	Yes
	Checklist	No
The primary question is the main question of the review. The secondary	Checklist	Yes
For other question types see [4,5]	Meta-data	The main question
The protocol should be peer-reviewed and publicly available online	Meta-data	The population of in
	Checklist	No
	Checklist	Yes
	Meta-data	Four search
	Meta-data	English; French
	Meta-data	English; French
	Meta-data	2
	Meta-data	0
	Meta-data	1
	Checklist	Yes
Compulsory (if update performed). A search update is good practice if	Checklist	No
	Checklist	Yes
	Checklist	Yes
Optional	Checklist	No
Compulsory if critical appraisal performed	Checklist	No
	Checklist	Yes
	Checklist	Yes
	Checklist	Yes
	Checklist	Yes
Reviewers who have authored articles to be considered within the	Checklist	No
	Checklist	Yes
This number should not include web-based search engine or	Meta-data	Yes

This number should not include web-based search engine or	Meta-data	Yes
	Checklist	Yes
Optional if screening titles and abstracts together	Meta-data	No
Optional if screening titles and abstracts together	Meta-data	No
Optional if screening titles and abstracts separately	Meta-data	yes
	Meta-data	Yes
	Checklist	Yes
	Meta-data	Yes
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	Checklist	Yes
Reviews must not include practical environmental management	Checklist	Yes
In this section some advocacy for future research on the reviewed topic	Checklist	Yes
	Checklist	No

p.7.
onmental management. Environmental Evidence, 5(1), p.20.
nt during systematic reviews and maps in environmental management. *Environmental Evidence*, *6*(1), p.11.
ıvironmentalevidence.org/information-for-authors.
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Comments

of knowledge exchange at the science-policy interface for forest science: How can we improve consistency and effectiveness?

This study is generated using a

nterest included cases of knowledge exchange in forestry and forest sciences reported in English or French, with emphasis on how knowledge exchange methods a

Original search was not conducted >2

Not necessary for systematic map
Not necessary for systematic map

No reviewers encountered their own

Title & abstract screening was
Title & abstract screening was

No financial or non-financial competing interests to disclose

are categorized, described, and evaluated.

String #	String
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3	(forêt* OR forest* OR sylvicultur*) AND (utilisation de connaissances OR trans* de c
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Use search bar and select 'article title, abstract, and keywords'. Search for documents

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2	07-29-2020
2	08/04/2020
4	08/05/2020
4	08/12/2020
4	08-14-2020
4	08-18-2020
1	08/04/2020
1	08/05/2020

member ID	String #	Hit #	2010)
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3	2	44	Bäckstrand, K., 2000
3	2	45	Brooks, D.J., 2003
3	2	46	Parrotta, J.A. et al., 2003
3	2	47	Reynolds, K.M. et al., 2003
3	2	48	Upham, P. et al., 2018
3	2	49	Grêt-Regamey, A. et al., 2017
3	2	50	Campbell, L.K. et al., 2016
3	2	51	Mupondwa, E. et al., 2017
3	2	52	Gerritsen, P.R.W., 2002
3	2	53	Saarela, S., 2018
3	2	54	Winkel, G. et al., 2014
3	2	55	Parrotta, J.A. et al., 2003
3	2	56	Brooks, D.J., 2003
3	2	57	Reynolds, K.M. et al., 2003
3	2	58	Thompson, I.D., 2015
3	2	59	Peterson, C.E. et al., 2004
3	2	60	Stewart, A. et al., 2013
3	2	61	Wallbott, L. et al., 2018
3	2	62	Konijnendijk, C.C., 2004
3	2	63	Dumetz, L. et al., 2016
3	2	64	Bréthaut, C. et al., 2019
3	2	65	Hougham, J. et al., 2015
3	2	66	Timpe, A., 2017
3	2	67	Liu, W.Y. et al., 2017
3	2	68	de Rigo, D. et al., 2013
3	2	69	Castellani, V. et al., 2013
3	2	70	Janse, G., 2008
3	2	71	Pérez Fortes, M. et al., 2011
3	2	72	Janse, G., 2008
3	2	73	Lanier, A.L. et al., 2018
3	2	74	Pérez Fortes, M. et al., 2011
3	2	75	Glenn, E.D., 2020
3	2	76	Ramirez, L. et al., 2018
3	2	77	Maharani, H., 2018
3	2	78	Sarna-Wojcicki, D.R., 2015
3	2	79	Turnhout, E. et al., 2020
3	2	80	von Schneck, S., 2020
3	2	81	Baycheva-Merger, T. et al., 2020
3	2	82	Mertz, O. et al., 2017
3	2	83	Diver, S., 2017
3	2	84	Gerritsen, P.R.W., 2005
3	2	85	McKechnie, J., 2012

3	2	86	Krott, M., 2012
2	3	1	Laurendeau 2013
2	3	2	Forêt 2013
2	3	3	Bouhedi 2013
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2	3	5	Forêt 2013
2	3	6	Dang et al. 2009
2	3	7	Dang et al. 2009
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2	3	10	Bouhedi 2013
2	3	11	Ebika et al. 2018
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2	3	18	Lardon et al. 2016
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2	3	20	Granjou et Mauz 2011
2	3	21	Forest 2010
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2	3	23	Brochot et Valente 2000
2	3	24	Valente et Brochot 2000
2	3	25	Derivaux et al. 2008
2	3	26	Gaucherand et Bédécarrats 2010
2	3	27	Youbi-Idrissi 2007
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2	3	39	Rigaud et Baran 2011
2	3	40	Bouhedi 2017
2	3	41	Rofes et al. 1998
2	3	42	Stöckel 1994
2	3	43	Bergeron et Filion 2004
2	3	44	Hostiou et al. 2003
2	3	45	Ganteaume 2009
2	3	46	Korboulewsky et al. 2016
2	3	47	Technical Centre for Agricultural and

2	3	48	Hviding 2008
2	3	49	Jatteau 2006
2	3	50	Houllier et Rousset 2019
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2	3	52	Blanc et al. 2008
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2	3	57	Nke Ndih 2014
2	3	58	Létang 1981
2	3	59	Nke Ndih 2014
2	3	60	Bouget et al. 2011
2	3	61	Regolini et al. 2010
2	3	62	Gosselin et Gosselin 2009
2	3	63	Blanchet 2004
2	3	64	Doblas-Miranda et al. 2015
2	3	65	Thiaw et al. 2014
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2	3	67	Korboulewsky et al. 2016
2	3	68	Malavoi et al. 2011
2	3	69	Hostiou et al. 2003
2	3	70	Penot et Garin 2011
2	3	71	Penot et Garin 2011
2	3	72	Penot et Garin 2011
2	3	73	Technical Centre for Agricultural and
2	3	74	Landry 2009
2	3	75	Haguenauer 1991
2	3	76	Pennec et Narat 2015
2	3	77	Moussally 2002
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2	3	79	Martinez 2015
2	3	80	Technical Centre for Agricultural and
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2	3	85	Vidal et Moisan 2004
2	3	86	Ladier 2016
2	3	87	Buisson et Charlier 1989
2	3	88	Garin et Penot 2011
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2	3	91	Evette et al. 2013
2	3	92	Tomasi et Vanny 2019
2	3	93	Bianco et al. 2001
2	3	94	Diallo 2008
2	3	95	Forestier et Jean 1979

2	3	96	Beeck et al. 2008
2	3	97	Salvignol 2011
2	3	98	Belamie 1997
2	3	99	Nyns et Schmitz 2019
2	3	100	Dumrongrojwatthana 2010
2	3	101	Meredieu 1995
2	3	102	Marquié et Reynaud 2019
2	3	103	Roch 2005
2	3	104	Adonsou 2017
2	3	105	Forest 2010
2	3	106	Hostiou et al. 2003
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2	3	108	Schepens et Jacques-Jouvenot 2005
2	3	109	Damour et al. 2008
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2	3	119	Rigaud 2011
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2	3	128	Monta et Le Flem 2014
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2	3	131	Meredieu 1995
2	3	132	Technical Centre for Agricultural and
2	3	133	Fapa Nanfack et al. 2017
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2	3	138	Ménard 2017
2	3	139	Keita 1988
2	3	140	Ménard 2017
2	3	141	Montginoul 2011
2	3	142	Crispo 2016
2	3	143	Montgolfier (De) 2009

2	3	144	Fapa Nanfack et al. 2017
2	3	145	Fleury et al. 2012
2	3	146	Yvergniaux 1993
2	3	147	Fapa Nanfack et al. 2017
2	3	148	Dounias 2001
2	3	149	Vanpeene et Dalban 2006
2	3	150	Durand 1986
2	3	151	Minet et al. 1975
2	3	152	Seck 1994
2	3	153	Delneuf et Michèle 1998
2	3	154	Daudet 1987
2	3	155	Fleury et al. 2012
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2	3	157	Leban et al. 2016
2	3	158	Gérard 2015
2	3	159	Daudet 1987
2	3	160	Poggi 2013
2	3	161	Queste et al. 2017
2	3	162	Desbois 2004
2	3	163	Taillandier et Dominguès 2009
2	3	164	Lardon et al. 2013
2	3	165	Oberlin 1999
2	3	166	Desbois 2004
2	3	167	Belamie 1986
2	3	168	Khaladi et Faure 1991
2	3	169	Breul 1997
2	3	170	Lamorlette 2008
2	3	171	Lamorlette 2008
2	3	172	Gosselin 2012
2	3	173	Clement 2011
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2	3	178	Technical Centre for Agricultural and
2	3	179	Fleury et al. 2012
2	3	180	Gramaglia 2009
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2	3	185	Thys 2015
2	3	186	Huguenin 2008
2	3	187	Diallo 2008
2	3	188	Taillandier 2008
2	3	189	Royal Academy for Overseas Scienc
2	3	190	Forest et al. 2018
2	3	191	Ollivier et Grulois 2009

2	3	192	Schneider et al. 2008
2	3	193	Schneider et al. 2008
2	3	194	Perin 2014
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2	3	199	Ben Lakhdar et al. 1998
2	3	200	Ménard 2020
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2	3	203	Schneider et al. 2008
2	3	204	Technical Centre for Agricultural and
2	3	205	Regolini et al. 2010
2	3	206	Hull 1994
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2	3	208	Yvergniaux 1993
2	3	209	Jacqmain 2008
2	3	210	Lardon et Capitaine 2008
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2	3	212	Morand et Mory 2016
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2	3	214	Sibelet et Mutel 2007
2	3	215	Forêt modèle d Lac-Saint-Jean
2	3	216	Buisson 1990
2	3	217	Racault 1994
2	3	218	Yvergniaux 1993
2	3	219	Farcy et al. 2012
2	3	220	Ebakisse 2014
2	3	221	Gadal et al. 2018
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2	3	224	Paulin 2010
2	3	225	Vidal 1992
2	3	226	Diette 2007
2	3	227	Artigues et al. 1970
2	3	228	Schlumberger 1981
2	3	229	Thiery 1997
2	3	230	Lafon et Pardo 2008
2	3	231	Connaissance Hellénique 2012
2	3	232	Barbier 2000
2	3	233	Gadal et al. 2018
2	3	234	Beaulieu et Leclerc 2005
2	3	235	Perez 2010
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2	3	240	Perez 2010
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2	3	242	Perez 2010
2	3	243	Perez 2010
2	3	244	Berger et Rey 2004
2	3	245	La Direction (ed.)
2	3	246	Ménard 2013
2	3	247	Forest 2003
2	3	248	Technical Centre for Agricultural and
2	3	249	Alvarez et al. 2004
2	3	250	Zanzinger et Touze Foltz 2009
2	3	251	Ranger et al. 1986
2	3	252	Pracros et Lecharpentier 1998
2	3	253	Garcia-Salmeron 1980
2	3	254	Guilpart et al. 1999
2	3	255	Haguenauer 1991
2	3	256	Grenand et Pierre 1993
2	3	257	Gazull 2003
2	3	258	Granjou et Mauz 2009
2	3	259	Betsch 2017
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2	3	261	Anselmo et al. 2001
2	3	262	Le Tourneau et Tritsch 2017
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2	3	267	Fritsch et Jean-Marie 1987
2	3	268	Delaye 2009
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2	3	270	Arunotai 2008
2	4	1	Lohanivo 2013
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2	4	3	Rondeux 2004
2	4	4	Vuki et Elder 2015
2	4	5	Lier et al. 2013
2	4	6	Moquay 2007
2	4	7	Chauvin et al. 2006
2	4	8	Buttoud et Glueck 1998
2	4	9	Rondeux et Lecomte 2005
2	4	10	Peyron et Pardé 2000
2	4	11	Jolly et al. 1993
2	4	12	Lompo 2015
2	4	13	Sergent 2017
2	4	14	Deuffic et Barthod 2003
2	4	15	Montagné et Niedzwiedz 2006
2	4	16	Montagné et Niedzwiedz 2006
2	4	17	Farcy 2005

2	4	18	Farcy 2005
2	4	19	Arnberger et Mann 2008
2	4	20	Montagné et Niedzwiedz 2006
2	4	21	Rondeux et Toussaint 1987
2	4	22	Rahajason et al. 2013
2	4	23	Rahajason et al. 2013
2	4	24	Marion 1994
2	4	25	Sergent 2014
2	4	26	Technical Centre for Agricultural and
2	4	27	Mühlemann 1994
2	4	28	Andon 2010
2	4	29	Michalland 1998
2	4	30	Gosselin et al. 2005
2	4	31	Lier et al. 2013
2	4	32	Moquay 2007
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2	4	35	Buttoud 2000
2	4	36	Rakotoniaina et al. 2013
2	4	37	Rakotoniaina et al. 2013
2	4	38	Rondeux 1992
2	4	39	Gosselin 2004
2	4	40	Gosselin 2004
2	4	41	Sébastien et Ferment 2001
2	4	42	Sébastien et Ferment 2001
2	4	43	Paillet et al. 2013
2	4	44	Gosselin et al. 2005
2	4	45	Ballouche et Taïbi 2013
2	4	46	Colin et Brochiéro 1999
2	4	47	Martinez 1994
2	4	48	Michalland 2000
2	4	49	Badré 2004
2	4	50	Sotirov et Deuffic 2015
2	4	51	Alderweireld et al. 2015
2	4	52	Sotirov et al. 2015
2	4	53	Technical Centre for Agricultural and
2	4	54	Rahaingoson et al. 2013
2	4	55	Rahaingoson et al. 2013
2	4	56	Bonnier 1992
2	4	57	Michalland 2000
2	4	58	Karsenty 2002
2	4	59	Chabé et Sergent 2012
2	4	60	Bon 2006
2	4	61	Dupuis et Nasi 1999
2	4	62	Ferment et Sébastien 2002
2	4	63	Ferment et Sébastien 2002
2	4	64	Ferment et Sébastien 2002
2	4	65	Deuffic 1996

2 4 66 Technical Centre for Agricultural and
2 4 67 Sergent et Chauvin 2011
2 4 68 Gosselin et Gosselin 2013
2 4 69 Martinez 2015
2 4 70 Dehez 2011
2 4 71 Technical Centre for Agricultural and
2 4 72 Gosselin et al. 2004
2 4 73 Andon 2010
2 4 74 Delacote et al. 2018
2 4 75 Dehez et al. 2004
2 4 76 Delacote et al. 2018
2 4 77 Terrasson et Le Floch 2002
2 4 78 Delacote et al. 2018
2 4 79 Lampin-Maillet 2008
2 4 80 Jolly et al. 1993
2 4 81 Schulz et al. 2014
2 4 82 Blanco et Julien 2015
2 4 83 Didolot 2001
2 4 84 Gosselin et Brézard 2004
2 4 85 Ballon et Gosselin 2012
2 4 86 Dehez 2012
2 4 87 Lepillé et al. 2017
2 4 88 Bonté et al. 2013
2 4 89 Leroy et al. 2013
2 4 90 Monnet 2005
2 4 91 Bertrand et al. 2014
2 4 92 Curt et al. 2015
2 4 93 Paillet et al. 2013
2 4 94 Cullotta et al. 2015
2 4 95 Technical Centre for Agricultural and
2 4 96 Dehez et al. 2015
2 4 97 Truong 2002
2 4 98 Tallon 2017
2 4 99 Ruslandi et al. 2014
2 4 100 Héois 2006
2 4 101 Chiasson et al. 2005
2 4 102 Paquet 2018
2 4 103 Ginisty 2003
2 4 104 Ballouche et Taïbi 2013
2 4 105 Lier et al. 2013
2 4 106 Chauvin et al. 2012
2 4 107 Leclerc et Sergent 2013
2 4 108 Landmann et al. 2010
2 4 109 Colin et Jappiot 2001
2 4 110 Durand et Monteuuis 1995
2 4 111 Bérard 2009
2 4 112 Fady et al. 2012
2 4 113 Souvannavong et al. 2008

2	4	114	Gosselin et al. 2012
2	4	115	Lepillé et al. 2017
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2	4	117	Lepillé et al. 2017
2	4	118	Roda 2005
2	4	119	Lepillé et al. 2017
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2	4	125	Lemoisson et al. 2011
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2	4	127	Colson et al. 2010
2	4	128	Colson et al. 2010
2	4	129	Lemoisson et al. 2011
2	4	130	Sergent et Montouroy 2009
2	4	131	Sergent 2013
2	4	132	Monteuuis 1990

Title	Language	Language	Screening
Knowledge for Wildfire: impro	1	0	1
Academic Knowledge Brokers	1	0	0
Improving knowledge exchan	1	0	1
Where is that epistemology p	1	0	0
การจัดการความรู้ของชุมชนเพื่อการจัดกา	0	0	0
Strong growth in weakly-deve	1	0	0
Factors affecting the knowled	1	0	0
KNOWLEDGE AND USE OF NA	1	0	0
Where is that epistemology p	1	0	0
"Revalorizar el Saber Ancestr	0	0	0
環境教育實務工作者的觀點將環境議題	0	0	0
Knowledge forest: a novel mo	1	0	0
Access to technical informatic	1	0	0
The Indigenous Forest Naviga	1	0	0
Knowledge regarding postexp	1	0	0
Using Indigenous Knowledge	1	0	0
Knowledge management for a	1	0	1
Knowledge management for a	1	0	0
Knowledge management for a	1	0	0
A knowledge exchange syster	1	0	1
Encyclopaedic knowledge bas	1	0	0
Science, Technology, and Inn	1	0	0
Autumn 2007 Approved by:	1	0	0
"Revalorizar el Saber Ancestr	0	0	0
A knowledge exchange syster	1	0	0
Professional Ecological Knowl	1	0	0
Improving knowledge exchan	1	0	0
Encyclopaedic knowledge bas	1	0	0
Enhancing informal interactio	1	0	1
Roles of Traditional Ecologica	1	0	0
Indigenous Knowledge and Ir	1	0	0
The design and management	1	0	1
Understanding transmission c	1	0	0
Professional Ecological Knowl	1	0	0
Working Knowledge: characte	1	0	0
Large Scale Knowledge Match	1	0	0
Enhancing Customer Knowled	1	0	0
Practice-based learning appro	1	0	0
Indigenous ecological knowle	1	0	0
Building Knowledge about Va	1	0	0
Working Knowledge: characte	1	0	0
Non-Timber Forest Products :	1	0	0
Post-fire forest management	1	0	0
Assessing awareness of tree p	1	0	0
URBAN FORESTRY INNOVATI	1	0	0
Extension, advice and knowle	1	0	0
Using Linguistic-Based Knowl	1	0	0

Institutional challenges in put	1	0	0
Institutional challenges in put	1	0	0
Institutional challenges in put	1	0	0
Comparing two sets of forest	1	0	0
Hierarchies of knowledge: eth	1	0	0
Indigenising Curriculum: ques	1	0	0
Knowledge in the forest planr	1	0	0
Enterprise Portal as a Knowle	1	0	0
Regulation, Knowledge Transf	1	0	0
Regulation, Knowledge Transf	1	0	0
Rural people's response to so	1	0	0
Negotiating Indigenous know	1	0	0
Communication At The Scienc	1	0	1
The design and management	1	0	0
Toward open science at the Eu	1	0	1
Working across boundaries: s	1	0	1
Predicting disease risk areas	1	0	0
Predicting disease risk areas	1	0	0
Integration of climate time se	1	0	0
9. Free and open source softw	1	0	0
The Role of Science in Enviror	1	0	0
The Brazilian Panel on Climat	1	0	0
Predicting disease risk areas	1	0	0
From pure science to participa	1	0	1
Power dynamics and integrati	1	0	0
Working across boundaries: S	1	0	0
Environmental science-policy	1	0	1
IUFRO task force on science/p	1	0	1
River Re-naturalization in Ups	1	0	0
Old-growth forests : understa	1	0	1
Co-production after an urban	1	0	0
The role of non-natural capita	1	0	0
The politics of an EU forest int	1	0	0
Sustainable forest manageme	1	0	0
2014 Future Earth Young Scie	1	0	0
Internationale Waldbauforsch	0	0	0
Rooted in place? The coprodu	1	0	0
University of Maine Integrate	1	0	0
Using a Coproduction Approac	1	0	0
Adding Value to the Integrate	1	0	0
Crossing the science-policy in	1	0	0
Enhancing the forest science-	1	0	1
Crossing the science-policy in	1	0	0
Crossing the science-policy in	1	0	0
Capacity building for effective	1	0	1
Crossing the science-policy in	1	0	0
Crossing the science-policy in	1	0	0
Communication between fores	1	0	1

Evaluating order acceptance p	1	0	0
Evaluating order acceptance p	1	0	0
Crossing the science-policy in	1	0	0
Forest Science-Policy Interfac	1	0	1
Research and innovation in su	1	0	1
Stakeholder perceptions of sc	1	0	1
What Can Nature Withstand?	1	0	0
Analysis of environmental effe	1	0	0
Improving communication acr	1	0	1
The science/policy interface i	1	0	1
When regulatory co-productic	1	0	0
Review of decision support to	1	0	0
Knowledge Co-production at t	1	0	0
Status of Canada's lignocellul	1	0	0
Diversity at stake : a farmers'	1	0	0
From pure science to participa	1	0	0
Perspectives on forest conser	1	0	0
Improving communication acr	1	0	1
Analysis of environmental effe	1	0	0
The science/policy interface i	1	0	0
An overview of the science–p	1	0	0
Contributions of Acid Rain Res	1	0	0
Improving the science–policy	1	0	1
Safeguards, Standards, and th	1	0	0
Enhancing the Forest Science-	1	0	0
Evaluating order acceptance p	1	0	0
Power Dynamics and Integrat	1	0	0
From the forest to the classro	1	0	0
Produktive Parks entwerfen :	0	0	0
Supply chain optimization of f	1	0	0
Toward Open Science at the E	1	0	0
Research findings and decisio	1	0	0
Communication between fores	1	0	0
Advanced simulation environr	1	0	0
Communication between fores	1	0	0
Facilitating Integration in Int	1	0	0
Advanced simulation environr	1	0	0
Organizational Influence on K	1	0	0
Crossing the science-policy in	1	0	0
Contesting 'Deforestation': Civ	1	0	0
Scales of Sovereignty: the Sea	1	0	0
The politics of co-production:	1	0	0
"Om ett träd bränns utan att r	0	0	0
The politics of an EU forest int	1	0	0
Land Sparing and Land Sharin	1	0	0
Negotiating Indigenous know	1	0	0
Farmer and Conventional Pers	1	0	0
Assessing Greenhouse Gas En	1	0	0

Value and risks of the use of a	1	0	0
Inventaire des savoirs et des connaissanc	0	1	1
La découverte de l'eau chaude et le rejet (	0	1	0
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Les champignons sauvages comestibles e	0	1	0
Le rôle des propriétés du sol dans la distri	0	1	0
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Rôle des propriétés du sol dans la distribu	0	1	0
Combiner modélisation des chercheurs et	0	1	1
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L'équipement du travail de production de (	0	1	1
La production de connaissances a l'ère de	0	1	0
Le réseau mixte technologique AFORCE:	0	1	1
Crues torrentielles : connaissance et prév	0	1	1
Crues torrentielles : connaissance et prév	0	1	0
Extraction de détecteurs d'objets urbains a	0	1	0
Mise au point d'un outil de gestion des zor	0	1	0
Le point sur le 22e congès international du	0	1	0
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Liste des publications par taxon TOGO	0	1	0
Liste des récoltes par Herbier de dépôt TC	0	1	0
De la connaissance des causes de départ	0	1	0
Combiner modélisation des chercheurs et	0	1	0
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Changement climatique dans le Bassin du	0	1	0
Utilisation d'une ontologie du domaine pou	0	1	0
Interaction entre un jet et une enceinte : a	0	1	0
Maîtrise des conditions de réfrigération de	0	1	0
Interaction entre un jet et une enceinte : a	0	1	0
Amélioration de la transparence migratoire	0	1	0
Les pratiques de partage des connaissanc	0	1	1
Contribution à la connaissance des sédim	0	1	0
Transportant les pourritures aigre et grise.	0	1	0
Retombées socio-économiques de la rech	0	1	1
Connaissance et formes d'organisation pc	0	1	1
De la connaissance des causes de départ	0	1	0
Sylviculture, ressources minérales et biod	0	1	1
La folie des fusions	0	1	0

Connaître et gérer la biodiversité dans les	0	1	1
Développement d'un réseau d'échange su	0	1	0
Forêts d’hier et de demain	0	1	0
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Étude préalable à l'analyse économique d	0	1	0
Comment le chercheur tient-il compte des	0	1	1
Quelques remarques sur l'acquisition et la	0	1	1
Étude préalable à l'analyse économique d	0	1	0
Étude préalable à l'analyse économique d	0	1	0
Gestion des écosystèmes forestiers par le	0	1	0
Utilisation de l'énergie dans les industries	0	1	0
Gestion des écosystèmes forestiers par le	0	1	0
Bois morts, peuplements riches en bois m	0	1	0
FragForNet, a Content Management Syst	1	1	1
"Gros vieux bois" et biodiversité : état des	0	1	0
Caractérisation du comportement des lam	0	1	0
Le réseau MENFRI : innovation euro-méd	0	1	1
Caractérisation De La Végétation Herbace	1	1	0
Comment le chercheur tient-il compte des	0	1	0
Sylviculture, ressources minérales et biod	0	1	0
Eléments de connaissance pour la gestion	0	1	0
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Charrue et variétés de riz : maîtrise social	0	1	0
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Approche systémique appliquée à la Forê	0	1	1
Comprendre par les cycles. et les cycles p	0	1	0
Etude de l’habitat des bonobos dans la fo	0	1	1
Le renouveau du fédéralisme canadien et	0	1	0
Approche systémique appliquée à la Forê	0	1	0
L’évolution silencieuse des pratiques fores	0	1	1
Nouvelles technologies de l'information [3	0	1	0
Pour tirer partie de l'expérience des grand	0	1	0
Pesticides au quotidien	0	1	0
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Opérationalisation de connaissances pour	0	1	0
Forêts méditerranéennes face au changer	0	1	0
Analyse d'une zone de départ d'avalanche	1	1	0
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Charrue et variétés de riz : maîtrise social	0	1	0
Génie végétal en rivière de montagne : co	0	1	0
Environnement et santé : une approche g	0	1	0
Mise en commun des méthodes et connai	0	1	0
Intégration des connaissances, pratiques	0	1	0
Observations pour la connaissance du riz	0	1	0

Transfert de savoir-faire en matière de réi	1	1	0
Exemple de méthode de transfert et de cc	0	1	1
Etude des sédiments et démarche de diag	0	1	0
Hébergements touristiques informels: dist	0	1	0
Intéractions entre élevage bovin et reboise	1	1	1
Système intégré pour la prévision de la cr	0	1	0
ACTAE regional project Accompanying th	1	1	1
Les flux de transport du bois et des pâtes	0	1	0
Système racinaire clonal et intégration phy	0	1	0
La production de connaissances a l'ère de	0	1	0
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Être à sa place (socio-anthropologie de la	0	1	0
Bases théoriques et approches expérimer	0	1	0
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Le transfert : la question clef des relations	0	1	1
La donnée géographique aux frontières de	0	1	0
Des savoirs aux savoirs faire : l'innovation	0	1	0
Utilisation des biomarqueurs de la lignine	0	1	0
Informer, diffuser, échanger les connaissa	0	1	1
Anguille en milieux profonds : Etat des co	0	1	0
Cartographie des éricacées (Kalmia angu	0	1	0
Les effets du passage d'un feu dans un pe	0	1	0
Des savoirs aux savoirs faire : l'innovation	0	1	0
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Evaluation de l'état écologique des cours	0	1	0
Restitution de l'atelier n°1 Amélioration co	0	1	1
La clepsydre ; La clepsydre: De l'astrologi	0	1	0
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Etat des lieux de la filière liège varoise et	0	1	0
L'Association Internationale Forêts Médite	0	1	1
Savoir, pouvoir et territoire : acquisition et	0	1	1
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NGARA met la gomme en réseau	0	1	0
Enjeux de genre et synergies APV-FLEGT	0	1	0
Des liens dans la production de la connais	0	1	0
Consommation en eau potable des ménag	0	1	0
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Quels réseaux d'acteurs sur le pastoralisn	0	1	1
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Facteurs expliquant la composition et la d	0	1	0
Le contexte "moderne" de la gouvernance	0	1	1

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Un conservatoire botanique adapté au ter	0	1	1
Dynamique fluviale et transport solide : ét	0	1	0
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Connaissance et utilisation de l'environne	0	1	0
Synthèse bibliographique au niveau de l'a	0	1	0
Connaissance des essences sous-utilisée	0	1	0
MORUE 75=01 cruise, Cryos R/V	0	1	0
Les paysans : des 'bénéficiaires' plutôt qu	0	1	0
Les recherches archéologiques menées p	0	1	0
Un systeme simple pour la mesure in situ	0	1	0
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Quelles connaissances et quels outils pou	0	1	0
Renforcement des capacités des personn	0	1	0
Un systeme simple pour la mesure in situ	0	1	0
Forêt Méditerranéenne	0	1	0
Produire des connaissances pour l'action?	0	1	1
Vers une appropriation privative du vivant	0	1	0
Evaluation automatique de connaissances	0	1	0
Combiner modèles forestiers et participati	0	1	0
Introduction à la réhabilitation hydrique de	0	1	0
Vers une appropriation privative du vivant	0	1	0
Aperçu des pollutions liées à l'utilisation d	0	1	0
Modèle de gestion optimale de réseaux hy	0	1	0
Attentes des gestionnaires de la forêt méd	0	1	0
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Prof Dr. Ir. Jacques Hardouin (27.09.1929	1	1	0
Gestion des prairies amazoniennes contre	1	1	0
Intégration des connaissances, pratiques	0	1	0
Révision automatique des connaissances	0	1	0
Concours annuels	1	1	0
La biographie comme vecteur de connaiss	0	1	0
Le transfert des connaissances sur la biod	0	1	1

Extraction et gestion de connaissances da	0	1	0
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Etude de la croissance et du niveau de pr	0	1	0
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Quand le Sud donne des leçons au Nord	0	1	0
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The Second Industrial Revolution and the	1	0	0
Les maladies des cultures pérennes tropic	0	1	0
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Chorèmes et graphes : production et trans	0	1	0
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Les Alpes: arpenter, retracer, projeter. Un	0	1	0
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Savoirs et représentations sur le rôle de l'	0	1	0
Mécanisme de participation citoyenne dar	0	1	0
Reasoning on space with object-centered	1	1	0
Upgrading and innovation in trickling filters	1	1	0
Dynamique fluviale et transport solide : ét	0	1	0
Recherche multidisciplinaire autour des qu	0	1	0
Appropriation de la recherche forestière a	1	1	1
Enjeux de connaissance et circulation des	0	1	0
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Les Baka du Gabon dans une dynamique	0	1	0
Participation à la conception d'un système	0	1	0
Une histoire du mont Ventoux : un homme	0	1	0
Contribution à la connaissance de l'écolog	0	1	0
Rapport de mission en Hongrie.Pisciculture	0	1	0
Une piste pour une nouvelle méthode de l	0	1	0
Une gestion multifonctionnelle des espace	0	1	0
L'enseignement du grec en Russie après	0	1	0
L'ingénierie de la propreté urbaine : une d	0	1	0
Enjeux de connaissance et circulation des	0	1	0
La Journée Biodiversité Sénégal 2005, Da	0	1	0
Géographie des interfaces: Une nouvelle	0	1	0
Système agroalimentaire et environnemer	0	1	0
Compensation des exportations minérales	0	1	0
La journée biodiversité Sénégal 2005	0	1	0
Gestion des prairies amazoniennes contre	0	1	0

Géographie des interfaces: Une nouvelle	0	1	0
Compensation des exportations minérales	0	1	0
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Mountain protection forests against natura	1	1	1
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Connaissances des Znieff de Bourgogne	0	1	0
L'existence des choses hors de nous com	0	1	0
L'importance de la biotechnologie pour l'a	0	1	0
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Performance des géosynthétiques benton	0	1	0
Utilisation de la méthode des minéraux tes	0	1	0
Répartition des dégâts. L'Eudémis flaire le	0	1	0
Les diagrammes bioclimatiques et leur uti	0	1	0
Calculation method of ice slurry thermoph	1	1	0
Comprendre par les cycles. et les cycles p	0	1	0
La connaissance du milieu en Amérique d	0	1	0
Organisation spatiale d'une filière d'appro	0	1	0
Quand l'identité de l'objet-frontière se con	0	1	0
L'agriculture itinérante sur brûlis : quelque	0	1	0
Connaissance des Znieff de Bourgogne :	0	1	0
Amélioration de la connaissance de la plu	0	1	0
Système d'usage de l'espace et connaissa	0	1	0
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Cuivre et vegetation au Shaba (Zaire)	0	1	0
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Évaluation quantitative de la mise en œuv	0	1	0
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Parité et politique forestière aux Fidji : pro	0	1	0
Utilisation des systèmes européens de cri	1	1	1
Du sectoriel au territorial	0	1	0
Le FEADER, nouvelle étape vers une poli	0	1	0
Les Politiques de la forêt de montagne en	0	1	0
L'inventaire permanent des ressources fo	0	1	0
La Revue forestière française, 50 ans de p	0	1	0
Système d'information géographique, télé	0	1	0
Participation du public et gestion durable	0	1	0
Pourquoi la politique forestière française r	0	1	0
Acquérir de nouvelles compétences envir	0	1	0
Les comptes économiques et environnem	0	1	1
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L'aménagement forestier à la croisée des	0	1	0

L'aménagement forestier à la croisée des	0	1	0
Crowding in European forests: a review of	1	0	0
Les comptes économiques et environnem	0	1	0
Regional forest inventory in Belgium : mai	0	1	0
Le système de suivi de l'impact des transf	1	1	0
Le système de suivi de l'impact des transf	1	1	0
Les conditions spécifiques à la forêt et à la	0	1	0
Quelle part d'innovation politique dans les	0	1	0
De l'arbre à la forêt	0	1	0
Dépérissement des forêts en Suisse : situ	0	1	0
Évaluation de la politique de protection for	0	1	1
Impact spatial de la politique forestiere	0	1	0
Suivre la biodiversité en forêt: pourquoi? C	0	1	0
Utilisation des systèmes européens de cri	1	1	0
Du sectoriel au territorial : nouveaux dispo	0	1	0
Biodiversité et gestion forestière, quels en	0	1	0
How can policy take into consideration the	1	1	0
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Les inventaires nationaux en Europe : ten	0	1	0
Some conditions that could promote scien	1	0	1
La biodiversité : définitions, enjeux et déba	0	1	0
Forêt cherche propriétaire pour relation du	0	1	0
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Le suivi de la biodiversité forestière en Eu	1	1	0
Suivre la biodiversité en forêt: pourquoi? C	0	1	0
Le " dessèchement " de l'Afrique sahélien	0	1	1
Au Maroc, des reboisements sous surveill	0	1	0
La prise en compte du risque incendie de	0	1	0
La politique de boisement-reboisement fac	0	1	0
Critères et indicateurs de gestion durable	0	1	0
United in diversity? Typology, objectives a	1	0	0
Inventaire Forestier Wallon - Résultats 19	0	1	0
United in diversity? Typology, objectives a	1	0	0
La gestion communautaire des forêts	0	1	0
Analyse structurale et floristique de la vég	0	1	0
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Information et communication sur la forêt	0	1	0
La politique de boisement-reboisement fac	0	1	0
Gouvernance et forêts tropicales : l'exemp	0	1	0
Etude évaluative de la contribution des Pla	0	1	0
Gestion « scientifique et rationnelle » des	0	1	1
Gestion des écosystèmes forestiers dense	0	1	0
Forêt cherche propriétaire pour relation du	0	1	0
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Perception des impacts paysagers des ac	0	1	0

Il faut négocier en toute connaissance des	0	1	0
La forêt : un objet politique territorial ?	0	1	0
French Forests and Biodiversity: State, Pc	1	1	0
L'évolution silencieuse des pratiques fores	0	1	1
L'ouverture des forêts au public : regards	0	1	0
Plaidoyer pour une politique forestière hur	0	1	0
Biodiversité et gestion forestière : pour un	0	1	1
Évaluation de la politique de protection for	0	1	0
La filière de la Forêt et du bois en France	0	1	0
Recreation on French forests: Questions f	1	1	0
La filière de la Forêt et du bois en France	0	1	0
Forest and rural development in France; n	1	1	0
La filière de la Forêt et du bois en France	0	1	0
Les incendies de l'été 2007 en Europe mé	1	1	0
Système d'information géographique, télé	0	1	0
Comparison of integrative nature conserva	1	0	0
Le fils du Sahara et les gens de la pluie. C	0	1	0
Utilisations de l'IFN en Limousin et perspe	0	1	0
Partnership to build a national directive	1	1	1
Les indicateurs forestiers sur la voie d'une	0	1	0
Quelle place pour les services récréatifs e	0	1	0
Quand la forêt devient un équipement de	0	1	0
Applying the viability theory for studying fo	1	1	0
La gestion durable des forêts tropicales - I	0	1	0
L'apprentissage collaboratif, outil d'évalua	0	1	1
Madagascar, politique forestière : Bilan 19	1	1	0
Understanding fire patterns and fire driver	0	1	0
Monitoring forest biodiversity in Europe: st	1	1	0
Forest planning across Europe: the spatia	1	1	0
Xème congrès forestier mondial 'Les forêt	0	1	0
Le Grenelle de l'environnement, une séqu	0	1	0
Défi forestier au Vietnam - phase II : DFVI	0	1	0
Défis et opportunités de la gestion autoch	0	1	0
Beyond equitable data sharing to improve	1	0	1
Perspectives de production de variétés an	0	1	0
La forêt plurielle : nouveau mode de gesti	0	1	1
Jungle government: Forestry ; state-makir	1	0	0
La Commission Nationale du Peuplier, un	0	1	0
Le " dessèchement " de l'Afrique sahélien	0	1	0
The use of European criteria and indicator	1	1	0
BENEFITS, Bois-énergie : environnement	0	1	0
Comparaison France-Québec des mécani	0	1	1
Produire plus de bois tout en préservant n	0	1	0
Politiques de prévention et de réhabilitatio	0	1	0
Foresterie aux Philippines : priorité aux re	0	1	0
Légitimité des normes environnementales	0	1	0
Conservation in situ des ressources génét	0	1	0
Ongoing study on the integration of biodiv	1	1	0

Suivi national de la biodiversité forestière	0	1	0
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Réseaux d'entreprises et stratégies indust	0	1	0
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La politique forestière en mutation : une s	0	1	0
Map and determinants of woodlands visiti	1	1	0
Politiques de gestion durable des forêts e	1	1	0
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Observatoires et gouvernance territoriale	0	1	0
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Recherche forestière engagement et cont	0	1	0
Map and determinants of woodlands visiti	1	1	0
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Green politics and now industrial opportur	1	1	0
Les déterminants politiques des processu	0	1	0
Notes de voyage en Thailande	0	1	0

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4	1	1	Jewitt 2019	Gender, Silvicultural Knowledge and Fore
4	1	2	Innes 2002	Improving knowledge exchange with techı
4	1	3	Cortini 2015	Silviculture knowledge for reclamation of c
4	1	4	Deyoe and Hollstedt 2004	A knowledge exchange system: Putting in
4	1	5	Price et al 2015	VALERIE - knowledge exchange for innov
4	1	6	Zheng et al. 2019	Knowledge forest: a novel model to organ
4	1	7	Reed and Simon-Brown 2006	Fundamentals of Knowledge Transfer anc
4	1	8	Mugwisi 2020	Applying Indigenous Knowledge in Agricu
4	1	9	Segev et al 2020	Neuronless Knowledge Processing in For
4	1	10	Miah and Roy 2020	Traditional Forest-Related Knowledge
4	1	11	Kornexl 2017	Planning and Monitoring Framework for S
4	1	12	Jiancheng et al 2017	Research on Knowledge Acquisition and I
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4	1	14	Manning 2020	Knowledge Base for Forests in Cooling ar
4	1	15	D'Eon and MacAfee 2016	Knowledge Exchange in the Canadian Wo
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4	1	18	Jena and Seeland 2016	Knowledge Systems: Indigenous Knowlec
4	1	19	Humanen 2013	Forest owners social networks - possibiliti
4	1	20	Studley 1998	Dominant Knowledge Systems & Local Kr
4	1	21	Duplicate of hit 91	BIOECONOMY ASSOCIATION TO KNOV
4	1	22	Van Buuren 2009	Knowledge for Governance, Governance
4	1	23	Duchelle et al 2009	Graduate Students and Knowledge Excha
4	1	24	Jena and Seeland 2016	Knowledge Systems: Indigenous Knowlec
4	1	25	Shevchenko et al 2020	The CSD and knowledge databases: from
4	1	26	Eriksson and Fries 2020	The Knowledge and Value Basis of Privat
4	1	27	Karpakal and Rajasekharan 20	Traditional Knowledge in Horticulture
4	1	28	dos Santos 2018	Knowledge Sharing in Forestry
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4	1	34	Sun 2000	WTO and Chinese forestry: An outline of I
4	1	35	Ramirez 2019	Panay Guimaras Traditional Knowledge S
4	1	36	Bayne et al 2016	Structural and relational support for innov
4	1	37	Kempf et al 1995	Forestry information and knowledge excha
4	1	38	Akintunde 2020	Impact of Eye Tracking Analysis on Know
4	1	39	Scheel 2020	Reconfiguring Desecuritization: Contestin
4	1	40	Zhao et al 2020	Forestry big data platform by Knowledge (
4	1	41	Jones 2018	Women's Knowledge, Women's Work
4	1	42	De Forest 2019	Building infrastructures for university-com
4	1	43	Leete 2020	Editorial Impressions: Ethnographic Know
4	1	44	Murray 2019	Responding to Climate Change-Knowledg
4	1	45	Arora 2018	The Nicobarese Tribes and Their Knowlec
4	1	46	Fleischman and Briske 2016	Professional ecological knowledge: An un
4	1	47	Preiss 2019	Is automatic detection of hidden knowledg

4	1	48	Knoepp et al 2019	History of forest soils knowledge and rese
4	1	49	Riany 2016	Role of Knowledge Management Systems
4	1	50	Hubbard and Jackson 2001	Extension forestry: Knowledge at work in
4	1	51	Lun and Zachary 2019	Traditional Knowledge in Forest The tradit
4	1	52	Pongamornkul 2020	Ethnomedicinal Knowledge of Pwo People
4	1	53	Brown et al 2018	Empirical evidence for the diffusion of kno
4	1	54	Esyunin et al 2020	To the knowledge of the spider fauna (Ara
4	1	55	Asselin 2015	Indigenous forest knowledge
4	1	56	Jansen et al 2020	Landmarks of the Knowledge and Trypan
4	1	57	Setlak and Pasko 2020	Random Forests in a Glassworks: Knowle
4	1	58	Kolosova et al 2019	Contribution to the knowledge of the bumb
4	1	59	Baker 1996	Tree of knowledge
4	1	60	Hermida et al 2018	Contribution to the knowledge of guinena
4	1	61	Holden et al 2018	Sports Nutrition Knowledge of Volleyball P
4	1	62	Eoin 2016	Ethnoecology: Losing traditional knowledg
4	1	63	Carter 2013	Social construction of knowledge use in p
4	1	64	Morgan 2016	Humanising Sociological Knowledge
4	1	65	Davis 1958	THE PHILOSOPHY OF KNOWLEDGE
4	1	66	Major et al 2019	Wolf Recovery in The Swietokrzyskie Mou
4	1	67	Rosaliza 2018	LOCAL KNOWLEDGE SUKU AKIT BENG
4	1	68	Basole 2014	The Informal Sector from a Knowledge Pe
4	1	69	Walker 1994	A knowledge-based systems approach to
4	1	70	Yue et al 2019	Current Knowledge on the Biology and Ac
4	1	71	Malas et al 2019	Drug prioritization using the semantic prop
4	1	72	Jupain 2010	Indigenous Knowledge and Environmenta
4	1	73	Tirira 2019	Tropical Ungulates of Ecuador: An Update
4	1	74	Fabre 2013	In the forest of knowledge: Childhood mer
4	1	75	van Amstel and Carneiro 2020	The construction of environmental knowle
4	1	76	Constant and Tshisikhawe 201	Hierarchies of knowledge: Ethnobotanical
4	1	77	Esguerra 2014	Toward two narratives of knowledge
4	1	78	Dhital et al 2017	Knowledge regarding postexposure proph
4	1	79	Shukla 1992	Traditional environmental knowledge and
4	1	80	Shiu-yingu 2012	A Contribution to Our Knowledge of Ginse
4	1	81	Lopes Soares et al 2020	Additions to the knowledge of the pollen n
4	1	82	Vieira de Lacerda 2020	White Forest and Ethnobotany: Endemic K
4	1	83	Kean et al 2010	Sustainable Capital? The Neoliberalizatio
4	1	84	Arjmandi et al 2011	Using of indigenous knowledge in agricult
4	1	85	Ahmed 2018	Are bio-economy dimensions new stream
4	1	86	Narayanaswamy 2013	Problematizing 'Knowledge-for-Developm
4	1	87	Tokola and Mustalahti	ROOTING FOREST SCIENCE THROUGH
4	1	88	Roy 2019	Theoretical Approaches: Gendered Knowl
4	1	89	Fortmann and Ballard	Sciences, knowledges, and the practice o
4	1	90	Kontogianni et al 2011	An index based on silvicultural knowledge
4	1	91	Brischke et al 2018	Enhancing knowledge transfer in the wood
4	1	92	Sharma et al 2009	Traditional Knowledge in Nepal - A review
4	1	93	Thomson 2007	How should we manage knowledge ecosy
4	1	94	Snidaro and Foresti 2007	Knowledge representation for ambient sec
4	1	95	Perez-Sarabia et al 2017	The floristic knowledge of the Yucatan Pe

4	1	96	Turke 2012	Gastropodochory: knowledge and perspe
4	1	97	Lewis 2015	Where goods are free but knowledge cost
4	1	98	Ripen and Noweg 2019	DOCUMENTING ETHNOBOTANICAL KN
4	1	99	Turke 2012	Gastropodochory: knowledge and perspe
4	1	100	Kremers 2006	Contributions to the knowledge of forest p
4	1	101	Robillard and Wilson 2011	Using Historical Knowledge as Evidence
4	1	102	Francis 2011	Knowledge Management in Agriculture an
4	1	103	Mayer et al 2020	Influence of forest management activities
4	1	104	Forestier et al 2010	Collaborative clustering with background k
4	1	105	Ballard 2005	Integrating Knowledge of Forest Manager
4	1	106	Drescher and Edwards 2018	A systematic review of transparency in the
4	1	107	Ahmed 2018	BIOECONOMY ASSOCIATION TO KNOV
4	1	108	Thet and Tokuchi 2020	Traditional knowledge on shifting cultivatio
4	1	109	Madegowda 2009	Traditional Knowledge and Conservation
4	1	110	Delaitre and Moisan 2000	Knowledge Management by Reusing Exp
4	1	111	Andre 2019	From forestry and heavy industry to a vibr
4	1	112	Tynson et al 2020	Review: Traditional ecological knowledge
4	1	113	Ludwig and El-Hani 2019	Philosophy of Ethnobiology: Understandin
4	1	114	Gitau et al 2019	Knowledge extraction based on autoenco
4	1	115	Ajayi 2019	State of knowledge on tropical forest mam
4	1	116	Mavhunga 2018	The Mobile Workshop: The Tsetse Fly and
4	2	1	Miller 2006	Adaptive Governance, Integrating Science
4	2	2	Wagner 2006	The Science-policy interface
4	2	3	Filho 2007	The forest science-policy interface
4	2	4	Marfo and Natukor 2008	Communication At The Science - Policy Ir
4	2	5	Saarela 2018	From pure science to participatory knowle
4	2	6	Diver 2017	Negotiating Indigenous knowledge at the s
4	2	7	Ojha et al 2019	Improving science-policy interface: Lesson
4	2	8	Parrotta and Campos Arce 200	Improving communication across the fores
4	2	9	Humpreys 2009	Working across boundaries: Science-polic
4	2	10	Gupta n.d.	Global Scientific Assessments and Gover
4	2	11	Maye rand Rametsteiner 2004	Forest Science-Policy Interface in the Cor
4	2	12	Carvalho n.d.	Forest science-policy interface in practice
4	2	13	Janse 2008	Communication Between Forest Scientists
4	2	14	van den Bosch 2004	Enhancing the Forest Science-Policy Inter
4	2	15	Ochuodho and Odera 2008	The Mismatch between Forest Research a
4	2	16	Ramirez and Belcher 2018	Crossing the science-policy interface: Les
4	2	17	Shaw et al 2000	Working with knowledge at the science/po
4	2	18	Thompson et al 2015	An overview of the science–policy interfac
4	2	19	Bouriaud and Schmithusen 201	European Forest Research and Science P
4	2	20	Peterson and Shriner 2004	Contributions of Acid Rain Research to th
4	2	21	Wallbott and Rosendal 2018	Safeguards, Standards, and the Science-I
4	2	22	Brooks 2003	Analysis of environmental effects of prosp
4	2	23	Kleine 2009	Capacity Building for Effective Work at the
4	2	24	Gamborg et al 2004	The forest science/policy interface in Euro
4	2	25	Clark and Medinger 1998	Integrating Science and Policy in Natural I
4	2	26	Aggestam and Weiss 2011	Innovation in EU forestries: A science-poli
4	2	27	Elliott 2018	The interface between forest science and

4	2	28	Oddsdottir et al 2019	Science-Policy Interaction in Icelandic For
4	2	29	Vargas et al 2017	Enhancing interoperability to facilitate imp
4	2	30	Sample et al 2015	Forest conservation in the anthropocene:
4	2	31	Woomaw et al 2018	Wetlands In a Changing Climate: Science
4	2	32	Joyce 2003	Improving the Flow of Scientific Informatic
4	2	33	Caceres et al 2016	The rocky path from policy-relevant scienc
4	2	34	Gustafsson et al 2019	Gaps in science, policy and practice in the
4	2	35	Nagasaka et al 2016	Science-policy interaction: The case of the
4	2	36	Brookes et al 2017	Integrated science informs forest and wate
4	2	37	Leach and Fairhead 2016	Changing Perspectives on Forests: Scienc
4	2	38	Hetemaki 2019	The Role of Science in Forest Policy – Ex
4	2	39	Alario 2000	Urban and Ecological Planning in Chicago
4	2	40	Colombo 2005	Integrating Science and Policy Within MNI
4	2	41	Bachmann 2009	Black Carbon: A Science-Policy Primer
4	2	42	Pluymers 2017	Forest Conservation in the Anthropocene:
4	2	43	Oslejs and Gamborg 2007	Sustainable forestry in Latvia: Building bri
4	2	44	Cristofir 2014	Estimating ozone risks using forest monito
4	2	45	Driscoll et al 2012	Integrating science and society: the role o
4	2	46	Leach et al n.d.	Science, policy and national parks in Trini
4	2	47	Galperin 2013	The Environmental Performance Index: tra
4	2	48	Sa and Grieco 2016	Open Data for Science, Policy, and the Pu
4	2	49	Wolfslehner et al 2020	European forest governance post-2020
4	2	50	Leach and Fairhead 2016	Changing Perspectives on Forests: Scienc
4	2	51	Rautio and Ferretti 2015	Monitoring European forests: results for s
4	2	52	de Rigo et al 2016	Forest resources in Europe: an integrated
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4	2	54	Hauck et al 2019	Combining policy analyses, exploratory sc
4	2	55	Hickey et al 2013	Managing the environmental science-polic
4	2	56	Avishek et al 2012	Ecosystem management in Asia Pacific: E
4	2	57	Baskerville 1997	Advocacy, Science, Policy, and Life in the
4	2	58	Clarke et al 2010	Large Scale Conservation Integrating Scie
4	2	59	Brown et al 2009	Land use and the carbon cycle: Advances
4	2	60	Dale and Kline 2008	Modeling for integrating science and mana
4	2	61	Wellock 2010	The Dickey Bird Scientists Take Charge: S
4	2	62	Winkel and Jump 2014	Perspectives on forest conservation: build
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4	2	65	Willick 2001	Forest sustainability: Ontario combines sc
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4	2	68	Stewart et al 2013	Improving the science–policy–practice inte
4	2	69	Birot et al 2099	Living with wildfires: what science can tell
4	2	70	Ramirez and Belcher 2019	Stakeholder perceptions of scientific know
4	2	71	Dillmann et al 2017	Bridge the gap playing. Using games to lin
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4	2	73	Wistbacka et al 2018	The tragedy of the science-policy gap – R
4	2	74	Buttoud 2014	Research and innovation in sustainable fo
4	2	75	Sauer et al 2011	Sustaining Soil Productivity in Response t

4	2	76	Norton et al 2019	Serious mismatches continue between sc
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4	2	78	Zingerli et al 2004	Towards Policy Integration: Experiences v
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4	2	81	Noon and Murphy n.d.	CASE STUDY 3 Management of the Spot
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4	2	83	Støen 2018	Social forestry movements and science-po
4	2	84	Wilmking et al 2020	Global assessment of relationships betwe
4	2	85	Angst 2012	Integration of Nature Protection in Swiss F
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4	2	87	Sjostedt and Kleinschmit	Frames in environmental policy integration
4	2	88	Hall 2006	Science and policy issues in the Eastern C
4	2	89	Hickey	A tale of three disciplines: Navigating the
4	2	90	de Jong et al 2012	Political theory in forest policy science
4	2	91	Park and Yeo-CHange 2017	Reforestation policy integration by the mu
4	2	92	Wellstead and Howlett 2016	Assisted Tree Migration in North America:
4	2	93	Thomson 2006	Getting science into policy
4	2	94	Andoh and Lee 2018	Forest transition through reforestation poli
4	2	95	Bonet et al 2016	From science to policy: unlocking the pote
4	2	96	Thomson 2010	Integrating biosecurity science and public
4	2	97	Kostov and Van Cleemput 2015	Some Aspects of Bio-Environmental Prob
4	2	98	Wurtzebach et al 2018	REDD+ policy design and policy learning:
4	2	99	Goulart et al 2017	Conservation lessons from Cuba: Connec
4	2	100	Mott 2020	The Forest or the Trees? Science and Pol
4	2	101	Ojha et al 2010	The Deliberative Scientist: Integrating Sci
4	2	102	Mcafee and Malouin 2007	Implementing ecosystem-based managen
4	2	103	Clark 2008	Fire and Climate in the Inland Pacific Nort
4	2	104	Leslie et al 2020	Integrating the social sciences into the CC
4	2	105	Manson et al 2012	Lessons learned in linking science and po
4	2	106	Ross and Vedda 2018	The Policy and Science of Rocket Emissio
4	2	107	Sotirov and Storch 2018	Resilience through policy integration in Eu
4	2	108	Johns 2008	The science and politics of reducing emis
4	2	109	Klenk and Hickey 2011	Government science in forestry: Characte
4	2	110	Goldammer and Furiav 1995	Global Change, the Global Boreal Forest,
4	2	111	Guldin et al 2004	Working Effectively at the Interface of For
4	2	112	Kamelaczyk and Gamborg 2015	Spanning Boundaries: Science-Policy Inte
4	2	113	Anderson et al 2008	Integrating Science and Society through L
4	2	114	Mills et al 1998	Technical Commentary: Science Manager
4	2	115	Di Gregorio et al 2015	Integrating mitigation and adaptation in cli
4	2	116	Wellstead and Stedman 2014	Addressing the Challenges of Adaptation
4	2	117	Griscom et al 2009	The Hidden Frontier of Forest Degradation
4	2	118	Garcia-Gonzalo and BOrges 2(	Models and tools for integrated forest mar
4	2	119	Hogl et al 2014	Achieving policy integration across fragme
4	2	120	Aseretto et al 2013	Free and Open Source Software underpin
4	2	121	Kojwang 2004	Forest Science and Forest Policy Develop
4	2	122	Lapola 2018	Limiting the high impacts of Amazon fores
4	2	123	Krott 2003	Catalyst for innovation in European forest

4	2	124	Bennett and Barton 2018	The enduring link between forest cover ar
4	2	125	Arts and Buizer 2009	Forests, Discourses, Institutions: A Discur
4	2	126	IPBES 2019	The IPBES assessment report on land de
4	2	127	Buffa et al 2018	Local versus landscape-scale effects of ar
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4	2	129	Imperatriz-Fonseca et al 2016	The assessment report of the Intergovern
4	2	130	Rival 2012	Sustainable Development through Policy I
4	2	131	Krott 2010	Value and risks of the use of analytical the
4	2	132	Gret-Regamay et al. 2016	Review of decision support tools to operat
4	2	133	Ferranti 2014	Energy wood: A challenge for European fo
4	2	134	Turner 2006	Conservation Science and Forest Service
4	2	135	Bartlett 2020	Carbon storage in Norwegian ecosystems
4	2	136	Bekele and Kusumadewi 2016	The Implementation of Community Based
4	2	137	Tanpipat and Eng 2017	Wildland Fire, Smoke and Haze Control in
4	2	138	Ayob 1979	National Policies and strategies on scienc
4	2	139	Winkel and Sotirov	Whose integration is this? European fores
4	2	140	Hillier n.d.	Rural Housing, Regional Development an
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4	2	143	Goldsmith et al 2008	Canopy in the Clouds: Integrating Science
4	2	144	Maryudi et al 2018	Research trend: Forest policy and governa
4	2	145	Atsuji 2016	Crisis Sciences for Sustainability beyond t
4	2	146	Miller and Barber 2008	Protected Areas: Science, Policy, and Ma
4	2	147	Eden 2009	The Work of Environmental Governance N
4	2	148	USDA Forest Service n.d.	Social Infrastructure to Integrate Science a
4	2	149	Szramka and Adamowicz 2020	Forest development and conservation poli
4	2	150	Kumar et al 2019	From Catchment Management to Managin
4	2	151	Parks 2010	Adaptation of forests and forest managem
4	2	152	de Rigo et al 2017	Robust modelling of the impacts of climate
4	2	153	Stankey 1996	Defining the social acceptability of forest r
4	2	154	Rodwell et al. 2014	Integration of European forest classificatio
4	2	155	Tomich et al 2007	Integrative science in practice: Process pe
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4	2	158	Campos et al 2017	Multifunctional natural forest silviculture e
4	2	159	Johnson et al 2020	Science to inform policy: linking populatio
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4	2	161	von Detten 2010	Environmental policy and the sense of un
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4	2	163	Do et al 2018	Science-based Support for Biodiversity Co
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4	2	166	Mach et al 2015	Managing a Mess of Cumulative Effects: I
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4	2	169	Migunova 2019	RESULTS OF THE 70-YEAR RESEARCH
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4	2	180	Di Gregorio et al 2016	Integrating mitigation and adaptation in cli
4	2	181	Humpreys 2009	Science, knowledge, values and forest po
4	2	182	Marcin n.d.	Integrating Social Sciences into Forest Ec
4	2	183	Rayan and Linkie 2015	Conserving tigers in Malaysia: A science-d
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4	2	187	Gottingen 2017	The science policy gap regarding informed
4	2	188	de Castro and Furtado 2012	Science, technology and innovation policie
4	2	189	Behan n.d.	Salmon anchor habitats in Tillamook and (
4	2	190	Nummelin and Urho 2018	International Environmental Conventions (
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4	2	192	Shannon et al 2007	Science is endogenous to sustainable fore
4	2	193	Yanez-Arancibia 1999	Integrating science and management on c
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4	2	195	Lalremsanga et al 2020	Environmental and Social Sciences Open
4	2	196	Swedlow 2012	Cultural Coproduction of Four States of Kn
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4	2	199	Neeff and Piazza 2020	How countries link forest monitoring into p
4	3	1	Zurcher-Gasser et al 2016	Échange de connaissances et controlling:
4	3	2	Tousignant 2017	Publications, transfert de connaissances e
4	3	3	Ramaroson et al 2013	Treillis de Galois pour la fusion de connais
4	3	4	Dumas and Boudier 2018	Les bryophytes Loiretaines: bilan des con
4	3	5	Lesgourgeset al 2015	Massif des Landes de Gascogne : Etat de
4	3	6	Etienne and Hubert 1987	Relations herbe-arbre: etat des connaissa
4	3	7	Forest 2010	La production de connaissances a l'ère de
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4	3	9	Dahmani-Megrerouche 2018	État des connaissances sur les systèmes
4	3	10	Torre et al 2017	Territoires en transition: Construire des pa
4	3	11	Cheylan and Jacquet 2008	Synthèse des connaissances sur l'impact
4	3	12	Rameau 2001	Eléments de connaissance à mettre à la c
4	3	13	Forest et al 2018	Genèse des innovations. Les biographies
4	3	14	Roux 1987	L'economie des dehesas: situation actuell
4	3	15	St-Laurent et al 2012	Synthèse des connaissances relatives au
4	3	16	Breul 1996	Attentes des gestionnaires de la forêt méd
4	3	17	Clot n.d.	Répartition altitudinale de la végétation fo
4	3	18	Saucier and Robert 1995	Présentation du programme de connaissa
4	3	19	Napoli 2001	Formalisation et gestion des connaissanc
4	3	20	Nguyen et al 2016	La biographie comme vecteur de connais

4	3	21	Soissons 2016	Les syrphes, indicateurs de forêts ancienr
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4	3	23	Touroult 2012	Longicornes des Petites Antilles : mise à j
4	3	24	Forest 2009	Penser la production de connaissances p
4	3	25	Schutz 2004	Stabilité sylvicole des peuplements foresti
4	3	26	Normandin 2008	Etat des connaissances sur les structures
4	3	27	Vennetier 2004	Incendies de forêt : bilan des connaissanc
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4	3	30	Freycon et al 2003	Influence du sol sur la végétation arbores
4	3	31	Tillon et al 2012	Restitution de l'atelier n°1 Amélioration co
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4	3	33	Varin et al 2015	Acquisition de connaissances essentielles
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4	3	35	Bertin et al 2016	Le bilan hydrique des peuplements foresti
4	3	36	Cordonnier and Gosselin 2009	La gestion forestière adaptative: intégrer l
4	3	37	Mosconi 2014	L'apport d'une approche multidimensionne
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4	3	39	Forest and Serrate 2011	Diffusion et production des connaissances
4	3	40	Verhaegan et al 2014	Eucalyptus robusta pour une production d
4	3	41	Comolet and Weber 1990	Un instrument de connaissance et d'aide à
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4	3	43	Ehrendorfer 2014	Progrès des connaissances sur la différer
4	3	44	Terrier et al 2011	Stratégies de protection de la cheville : de
4	3	45	Yahi and Djellouli 2011	Groupements forestiers et préforestiers à
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4	3	48	Charnet 2009	Le phytomanagement, protection et dépol
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4	3	50	Gedal et al 2018	Enjeux de connaissance et circulation des
4	3	51	Combrisson 2017	État des connaissances portant sur les m
4	3	52	Andre 2001	Ressources halieutiques hors quotas du N
4	3	53	Ben Dhiaf and Sellaouti n.d.	Système de classification d'images foresti
4	3	54	Podlewski 1975	Bilan de l'état des connaissances démogr
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4	3	56	Nicolas et al 2009	Neutralisation de ruisseaux forestiers acid
4	3	57	Houngbegnon et al 2019	État des connaissances sur les céphaloph
4	3	58	Wybo 2000	Gestion des connaissances pour la gestio
4	3	59	Dupuis et al 2007	Etude bibliographique : Inventaire des cor
4	3	60	Nicolas et al 2010	Neutralisation de ruisseaux forestiers acid
4	3	61	Boucher et al 2011	Le registre des états de référence: intégra
4	3	62	Sarmiento 2001	Les enjeux de la recherche sur les montag
4	3	63	Prevost 1992	Effets du scarifiage sur les propriétés du s
4	3	64	Pimont et al 2014	Les effets du passage d'un feu dans un p
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4	3	67	Courbet et al 2012	Le cèdre en France face au changement c
4	4	1	Makoso et al 2018	Annales des Sciences et des Sciences Ap

4	4	2	Soumana et al 2020	FACULTÉ DES SCIENCES ET TECHNIC
4	4	3	Diallo n.d.	Intégration des connaissances, pratiques
4	4	4	Tonquit et al n.d.	La structuration des politiques forestières
4	4	5	Douget 2006	Editorial dossier 6 "Les territoires de l'eau
4	4	6	Laques et al 2012	Spatialisation de la biodiversité en Amazo
4	4	7	Arnold et al 2014	User-Oriented National Forest Monitoring
4	4	8	Viard-Cretat 2015	La déforestation évitée. Socio-anthropolo
4	4	9	Nicault et al 2018	POUR L'ADAPTATION DES TERRITOIR
4	4	10	Angu et al 2010	La promotion de programmes nationaux d
4	4	11	Panagouli 2016	La rencontre de la ville et de la forêt. L'act
4	4	12	De Cara and Thomas 2008	Projections des émissions/absorptions de
4	4	13	Namour et al 2008	Rejets par temps de pluie en rivière péri-u
4	4	14	Tchatchou et al 2015	Changement climatique dans le Bassin du
4	4	15	Miguel and Alberdi 2020	Intégration, dans le cadre de l'Accord de P
4	4	16	Coddeville et al 2016	Évolution des émissions, de la qualité de l
4	4	17	Montouroy 2012	ENJEUX FORESTIERS GLOBALISÉS ET
4	4	18	Jewitt et al 2014	Indonesia's Contested Domains. Deforest
4	4	19	Gadal et al 2018	Enjeux de connaissance et circulation des
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4	4	21	Auclair and Cailliez 2009	Les besoins de recherche en agroforester
4	4	22	Barre et al 2015	Un demi-siècle d'environnement entre sci
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4	4	24	Bortolamiol et al 2014	Le voisinage entre hommes, forêt et les cl
4	4	25	Ledant et al 2018	Diagnostic de l'intégration des changemer
4	4	26	Kimba et al 2012	Analyse du fonctionnement du marché rur
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4	4	28	Tousssaint 2018	L'épreuve du feu. Politiques de la nature,
4	4	29	Morin-Rivat 2019	Quand le patrimoine naturel rejoint le patr
4	4	30	Costey 2015	Faire des sciences sociales, vol. 1, Critiqu
4	4	31	Alifriqui and Genin 2015	Des arbres et des usages : savoirs locaux
4	4	32	Ledoux 2010	Dossier quadriennal 2012-2015 : BIBLIOG

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Title	Language	Language	Screening
A multifactorial optimization paradi	1	0	0
Zero-shot Handwritten Chinese Ch	1	0	0
Phosphorus in 2D: Spatially resolv	1	0	0
Erratum: Factors determining orga	1	0	0
Palaeosols and their cover sedime	1	0	0
The potential of Amazon indigenou	1	0	1
How isotopic signatures relate to m	1	0	0
Sustainable soil use and managem	1	0	1
Concise ID-based mercurial functic	1	0	0
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A knowledge-based Query Tree wi	1	0	0
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The dynamics of online learning at	1	0	0
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Factors influencing local people's p	1	0	1
Is green rural transformation possil	1	0	0
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Novel trajectory privacy-preserving	1	0	0
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Putting the pieces together: Integra	1	0	0
Habitat suitability analysis reveals	1	0	0
A recruitment model for beech-oak	1	0	0
Comparison Study of Sentiment Ar	1	0	0
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Discrimination of biological scattere	1	0	0
Systematic review of the roost-site	1	0	0
Urban sprawl on natural lands: ana	1	0	0
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Decision-making of municipal urba	1	0	0
Nudging in the forests-the role and	1	0	1
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Estimating Forest Losses Using Sp	1	0	0
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The potential sensitivity to climate	1	0	0
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Regeneration of underused natural	1	0	0
Forests as pathways to prosperity:	1	0	0
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Impacts of atmospheric particulate	1	0	0
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The science and sociology of resto	1	0	1
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Soil erosion modelling: The new ch	1	0	0
Combining policy analyses, explora	1	0	1
From pure science to participatory	1	0	0
Understanding national biodiversity	1	0	0
International silvicultural research f	1	0	1
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People-Centered and Ecosystem-B	1	0	1
The interface between forest scien	1	0	1
Precondition for Integration: In Sup	1	0	1
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From climate to caribou: How man	1	0	0
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Government science in forestry: Cl	1	0	1
Forests, discourses, institutions. A	1	0	1
Opportunity for the study of critical	1	0	0
Capacity building for effective work	1	0	1
The work of environmental governa	1	0	1
Bridging the gap between knowled	1	0	0
Communication between forest sci	1	0	1
The role of science in environment	1	0	1
Adapting agriculture to climate cha	1	0	0
The forest science-policy interface	1	0	0

Forestry and climate change	1	0	0
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The forest science/policy interface	1	0	N/A
Forest science-policy interface in tl	1	0	1
Contributions of acid rain research	1	0	1
Forest science and forest policy in	1	0	1
Indicators of sustainability: Challen	1	0	0
Improving communication across tl	1	0	N/A
Forest science and forest policy in	1	0	1
Analysis of environmental effects c	1	0	1
Improving the flow of scientific info	1	0	1
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Working with knowledge at the scie	1	0	1
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String	Database	Total # retained results	First 20 results # retained results	Specificity (%)
1	BASE Bielefeld	6	4	20
2	BASE Bielefeld	17	7	35
3	BASE Bielefeld	36	5	25
4	BASE Bielefeld	13	2	10
1	ResearchGate	31	12	60
2	ResearchGate	44	14	70
3	ResearchGate	7	4	20
4	ResearchGate	2	2	10
1	Scopus	20	4	20
2	Scopus	54	12	60

String	Database	Total # screened	Total # retained res	Retained # English
1	BASE Bielefeld	57	6	6
2	BASE Bielefeld	83	17	17
3	BASE Bielefeld	270	36	7
4	BASE Bielefeld	132	13	4
1	ResearchGate	116	31	31
2	ResearchGate	199	44	44
3	ResearchGate	67	7	0
4	ResearchGate	32	2	1
1	Scopus	125	20	20
2	Scopus	85	52	52

First 40 results		First 60 results		First 80 results
# retained results	Specificity (%)	# retained results	Specificity (%)	# retained results
6	15	6	10	#N/A
10	25	17	28	17
10	25	16	26.7	21
4	10	6	10	8
20	50	25	42	27
23	57.5	27	45	33
6	15	7	12	7
2	5	#N/A	#N/A	
11	27.5	14	23	18
25	62.5	36	60	49

% English	% French
100%	0%
100%	0%
19%	81%
31%	69%
100%	0%
100%	0%
0%	100%
50%	50%
100%	0%
100%	0%

Database
BASE
ResearchGate
Scopus
Total

	First 100 results		First 120 results	
Specificity (%)	# retained results	Specificity (%)	# retained results	Specificity (%)
#N/A		0		0
21.25	17	17	#N/A	#N/A
26.25	23	23	26	21.7
10	11	11	13	10.8
33.75	31	31	31	25.8
41.25	34	34	39	32.5
8.75	#N/A	#N/A		0
0		0		0
22.5	20	20	20	16.7
61.25	54	54	#N/A	#N/A

Total # screened	Total # retained results
542	72
414	84
210	72
1166	**228**

First 140 results		First 160 results		First 180 results
# retained results	Specificity (%)	# retained results	Specificity (%)	# retained results
	0		0	
	0		0	
31	22.1	33	20.6	34
13	9.3	#N/A	#N/A	
#N/A	#N/A		0	
40	28.6	42	26	44
	0		0	
	0		0	
20	14.3	#N/A	#N/A	
	0		0	

	First 200 results		First 220 results		First 240 results
Specificity (%)	# retained results	Specificity (%)	# retained results	Specificity (%)	# retained results
0		0		0	
0		0		0	
18.9	35	17.5	37	16.8	37
0		0		0	
0		0		0	
24	44	22	#N/A	#N/A	
0		0		0	
0		0		0	
0		0		0	
0		0		0	

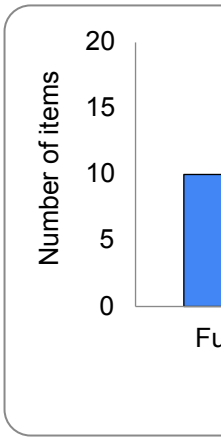
	First 260 results		First 280 results		First 300 results
Specificity (%)	# retained result	Specificity (%)	# retained result	Specificity (%)	# retained result
0		0		0	
0		0		0	
15.4	39	15	39	13.9	#N/A
0		0		0	
0		0		0	
0		0		0	
0		0		0	
0		0		0	
0		0		0	
0		0		0	

Specificity (%)
0
0
#N/A
0
0
0
0
0
0
0

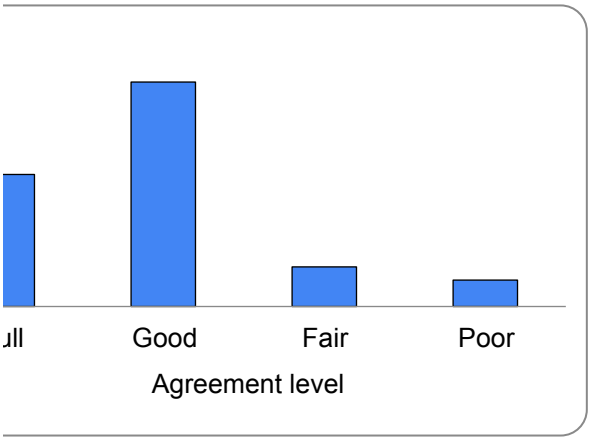
Stage	Number	Included texts to be validated (15%)	Completed	Full agreement with validator	Percent full agreement
Full-text screening (after duplicate	158	24	24	23	95.8
Data extraction	122	18	32	10	31.3

0.84375

Agreement	Percentage
Full	10
Good	17
Fair	3
Poor	2



Good agreement (additions or adjustments to 1-2 questions)	Percent good agreement	Fair agreement (additions or adjustments to 3-8 questions)	Percent fair agreement	Poor agreement (adjustments or additions to 9+ questions)	Percent poor agreement
17	53.1	3	9.4	2	6.3



Excluded (excluded at this stage)	0

number	Date validated	project	number between	screening	agreement with
1	11/25/2020	4	123	Excluded	Yes
2	11/25/2020	4	122	Excluded	Yes
3	11/25/2020	4	18	Excluded	Yes
4	11/25/2020	4	105	Excluded	Yes
5	11/25/2020	4	142	Included	Yes
6	11/25/2020	4	31	Included	Yes
7	11/25/2020	4	112	Included	Yes
8	11/25/2020	4	146	Included	Yes
9	11/25/2020	4	24	Included	Yes
10	11/25/2020	4	137	Included	Yes
11	11/25/2020	4	58	Included	Yes
12	11/25/2020	4	91	Included	Yes
13	11/25/2020	4	22	Included	No
14	11/25/2020	4	65	Included	Yes
15	11/25/2020	4	97	Included	Yes
16	11/25/2020	4	113	Included	Yes
17	11/25/2020	4	111	Included	Yes
18	11/25/2020	4	16	Included	Yes
19	11/25/2020	4	130	Included	Yes
20	11/25/2020	4	148	Included	Yes
21	11/25/2020	4	176	Included	Yes
22	11/25/2020	4	134	Included	Yes
23	11/25/2020	4	49	Excluded	Yes
24	11/25/2020	4	119	Included	Yes
25	11/25/2020	4	96	NA - record removed as duplicate	
26	11/25/2020	4	82	NA - record removed as duplicate	
27	11/25/2020	4	8	NA - record removed as duplicate	
28	11/25/2020	4	57	NA - record removed as duplicate	
29	11/25/2020	4	73	NA - record removed as duplicate	
30	11/25/2020	4	83	NA - record removed as duplicate	
31	11/25/2020	4	20	NA - record removed as duplicate	
32	11/25/2020	4	56	NA - record removed as duplicate	

Notes

Validation item	Date validated	Covidence record number
4	12/23/2020	119
5	12/28/2020	19
6	12/29/2020	134
1	12/23/2020	132
2	12/23/2020	70
3	12/23/2020	110
7	12/29/2020	132
8	12/29/2020	53
24	2/2/2021	55
13	1/13/2021	126
14	1/13/2021	149
15	1/13/2021	79
19	1/29/2021	67
20	1/29/2021	135
21	1/29/2021	43
32	3/30/2021	unk
33	04/13/2021	174
34	04/13/2021	158
36	4/29/2021	136
27	2/7/2021	166
28	2/7/2021	24
29	2/7/2021	50
16	1/15/2021	45
17	1/15/2021	142
18	1/15/2021	139
22	1/29/2021	94
23	1/29/2021	106
25	2/7/2021	65
26	2/7/2021	27
10	12/29/2020	127
11	12/29/2020	57
12	12/29/2020	131

Item short citation	Extractor project member ID	Validator project member ID
Tokola & Mustalahti, 2019	3	4
Aurenhammer 2020	3	4
Bayne et al. 2016	3	4
Amorelli 2016	5	4
de Arano 2014	5	4
Arnold 2014	5	4
Knoepp et al. 2019	6	4
Aggestam and Weiss 2011	6	4
Gulbrandson 2008	6	4
D'Eon and MacAfee, 2016	7	4
Berger and Rey 2004	7	4
Buttoud 2014	7	4
Gonzalez and Kroger 2020	8	4
Santos 2018	8	4
Gret-Regamey et al. 2017	8	4
Ollivier and Grulois	2	4
Landry 2009	2	4
Monnet 2005	2	4
Price et al. 2015	2	4
Innes 2002	9	4
Chazdon et al 2017	9	4
Driscoll et al 2012	9	4
Guldin 2003	10	4
Carvalho 2016	10	4
Fleischman and Briske 2016	10	4
(Joa & Schraml, 2020)	10	4
DeYoe & Hollstedt, 2004	10	4
Joyce 2003	10	4
Janse & Konijnendijk, 2007	10	4
Afxantidis 2009	11	4
Basnet and Karki 2020	11	4
Boutinot 2000	11	4

Validator agreement level	Notes
Good	
Full	
Good	
Good	
Full	
Full	
Good	
Fair	
Good	
Full	
Good	
Good	
Good	
Full	
Good	
Full	Didn't take record number before checking it off and then Covidence hides it... might be ab
Good	
Good	
Good	Requested by extractor
Good	
Fair	
Good	
Poor	
Good	
Good	
Fair	
Poor	
Full	
Full	
Full	
Good	
Full	

ole to find from downloaded data if needed

Covidence entry #	Author/Date	Title
41	Koshollek 2020	Bridging the gender gap in forest stewardship: Facilitating pro
49	Žalakevičius 2005	Wildlife response to climate warming: Evidence, future resea
75	Tikkanen 2005	Research agenda to strengthen science - Policy interface un
145	Kamelarczyk 2013	Environmental science-policy interactions:the example of fore
155	Gosselin 2004	Some conditions that could promote science-policy interactio
159	Gosselin 2004	Partnership to build a national directive
179	Pennec 2015	Etude de l'habitat des bonobos dans la forêt de Manzano (RI
109	Aggestam 2011	Innovation in EU forestries: A science-policy dialogue
34	Jürges 2019	International silvicultural research for forestry practice – Profe
151	Saarela 2018	From pure science to participatory knowledge production? Re

URL/DOI
https://www.scopus.com/inward/record.uri?eid=2-s2.0-8
https://www.scopus.com/inward/record.uri?eid=2-s2.0-8
https://www.scopus.com/inward/record.uri?eid=2-s2.0-2
https://curis.ku.dk/portal/da/publications/environmental-s
https://hal.inrae.fr/hal-02583660
https://hal.inrae.fr/hal-02583662
ResearchGate or http://journals.openedition.org/primatc
https://www.scopus.com/inward/record.uri?eid=2-s2.0-8
https://www.scopus.com/inward/record.uri?eid=2-s2.0-8
http://hdl.handle.net/10.1093/scipol/scy039

STATUS
Located and put in mendeley
Located and put in mendeley
Unable to locate, I think it's a news series that is out of print and the author name is too general to be fi
Located and put in mendeley
Located and put in Mendeley. It's in the 'biodiversity research that matters' document so we will need a
Located and put in Mendeley. It's in the 'biodiversity research that matters' document so we will need a
Requested from author on researchgate. Will track down email if I don't hear back
Located and put in mendeley
Located and put in mendeley. It's not in English or French so it will be excluded later
Located and put in mendeley

COVIDENCE

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Uploaded

Covidence	Study ID	Title	Reviewer N	Instructions	Please writ	Please writ	Item type	Item keywo
182	Wurtzebacl	Knowledge	Manjulika F	I confirm	(Wurtzebac	Wurtzebacl	Thesis (Un	NA
182	Wurtzebacl	Knowledge	Consensus	I confirm	(Wurtzebac	Wurtzebacl	Thesis (Un	NA
177	Chiasson 2	La forêt plu	Sophie Le	I confirm	Chiasson e	Chiasson, (	Peer-reviev	Aboriginal p
177	Chiasson 2	La forêt plu	Consensus	I confirm	Chiasson e	Chiasson, (	Peer-reviev	Aboriginal p
176	Doblas-Mir	Le réseau l	Sophie Le	I confirm	Doblas-Mir	Doblas-Mir	Conference	NA
176	Doblas-Mir	Le réseau l	Consensus	I confirm	Doblas-Mir	Doblas-Mir	Conference	NA
174	Landry 200	Approche s	Kimberly Kl	I confirm	Landry 200	Landry, Ma	Thesis (Un	NA
174	Landry 200	Approche s	Consensus	I confirm	Landry 200	Landry, Ma	Thesis (Un	NA
172	J 2009	Le contexte	Sophie Le	I confirm	de Montgol	de Montgol	Other: Edit	NA
172	J 2009	Le contexte	Consensus	I confirm	de Montgol	de Montgol	Other: Edit	NA
171	Ebakisse 2	Appropriati	Kimberly Kl	I confirm	Ebakisse 2	Ebakisse, S	Peer-reviev	communica
171	Ebakisse 2	Appropriati	Consensus	I confirm	Ebakisse 2	Ebakisse, S	Peer-reviev	communica
169	Regolini 20	FragForNet	Manjulika F	I confirm	(Regolini, C	Regolini, A.	Conference	NA
169	Regolini 20	FragForNet	Consensus	I confirm	(Regolini, C	Regolini, A.	Conference	NA
168	P 2009	Le transfert	Kimberly Kl	I confirm	Ollivier and	Ollivier, P.,	Conference	NA
168	P 2009	Le transfert	Consensus	I confirm	Ollivier and	Ollivier, P.,	Conference	NA
167	Martinez 2(	L'évolution	Matt Falcor	I confirm	Martinez 2(	Martinez, G	Peer-reviev	NA
167	Martinez 2(	L'évolution	Consensus	I confirm	Martinez 2(	Martinez, G	Peer-reviev	NA
166	Innes 2002	Improving k	Matt Falcor	I confirm	Innes 2002	Innis, T. 20	Other: Opir	NA
166	Innes 2002	Improving k	Consensus	I confirm	Innes 2002	Innis, T. 20	Other: Opir	NA
165	Dumrongro	Intéractions	Kimberly Kl	I confirm	Dumrongro	Dumrongro	Thesis (Un	companion
165	Dumrongro	Intéractions	Consensus	I confirm	Dumrongro	Dumrongro	Thesis (Un	companion
164	Marquié 20	ACTAE reg	Manjulika F	I confirm	(Marquié &	Marquié C.	Report (e.g	NA
164	Marquié 20	ACTAE reg	Consensus	I confirm	(Marquié &	Marquié C.	Report (e.g	NA
162	Bouhedi 20	Le partage	Sophie Le	I confirm	Bouhedi 20	Bouhedi, M	Thesis (Un	Information
162	Bouhedi 20	Le partage	Consensus	I confirm	Bouhedi 20	Bouhedi, M	Thesis (Un	Information
161	JOUR 201	L'Associati	Sophie Le	I confirm	Poulet 200	Poulet, D. 2	Other: Sum	NA
161	JOUR 201	L'Associati	Consensus	I confirm	Poulet 200	Poulet, D. 2	Other: Sum	NA
160	C 2011	Exemple d	Sophie Le	I confirm	Salvignol 2	Salvignol, (	Other: Sum	NA
160	C 2011	Exemple d	Consensus	I confirm	Salvignol 2	Salvignol, (	Other: Sum	NA
159	Gosselin 2(	Partnership	Matt Falcor	I confirm	Young, J. e	Young, J., (	Conference	NA
159	Gosselin 2(	Partnership	Consensus	I confirm	Young, J. e	Young, J., (	Conference	NA
158	Monnet 20(	L'apprentis	Kimberly Kl	I confirm	Monnet 20(	Monnet, Sc	Thesis (Un	NA
158	Monnet 20(	L'apprentis	Consensus	I confirm	Monnet 20(	Monnet, Sc	Thesis (Un	NA
154	Ruslandi 2(	Beyond eq	Jenna Hutc	I confirm	Ruslandi et	Ruslandi, R	Peer-reviev	capacity-bu
154	Ruslandi 2(	Beyond eq	Consensus	I confirm	Ruslandi et	Ruslandi, R	Peer-reviev	capacity-bu
153	GEN 2008	Connaître e	Sophie Le	I confirm	Hviding 20(	Hviding, E.	Peer-reviev	NA

153	GEN 2008	Connaître e	Consensus	I confirm	Hviding 20(	Hviding, E.	Peer-reviev	NA	
152	Marfo 2010	Communic	Jonathan W	I confirm	Marfo et al.	Marfo, E., M	Peer-reviev	science-pol	
152	Marfo 2010	Communic	Consensus	I confirm	Marfo et al.	Marfo, E., M	Peer-reviev	science-pol	
151		From pure	Jenna Hutc	I confirm	Saarela 20	Saarela, S.	Peer-reviev	science-pol	
151		From pure	Consensus	I confirm	Saarela 20	Saarela, S.	Peer-reviev	science-pol	
150	Mcmorrow	Knowledge	Jonathan W	I confirm	Mcmorrow	Mcmorrow,	Presentatio	NA	
150	Mcmorrow	Knowledge	Consensus	I confirm	Mcmorrow	Mcmorrow,	Presentatio	NA	
149	Berger 200	Mountain p	Jenna Hutc	I confirm	Berger and	Berger, F.,	Peer-reviev	Zoning; pre	
149	Berger 200	Mountain p	Consensus	I confirm	Berger and	Berger, F.,	Peer-reviev	Zoning; pre	
147	Leclerc 201	Comparais	Matt Falcor	I confirm	Leclerc et S	Leclerc, E.,	Report (e.g	NA	
147	Leclerc 201	Comparais	Consensus	I confirm	Leclerc et S	Leclerc, E.,	Report (e.g	NA	
146	Gamborg 2	IUFRO task	Alana West	I confirm	Meridian In	Meridian In	Conference	NA	
146	Gamborg 2	IUFRO task	Consensus	I confirm	Meridian In	Meridian In	Conference	NA	
145	BOOK 201	Environme	Jonathan W	I confirm.	Kamelarczy	Kamelarczy	Thesis (Un	NA	
145	BOOK 201	Environme	Consensus	I confirm.	Kamelarczy	Kamelarczy	Thesis (Un	NA	
143	Ochuodho	The Misma	Jenna Hutc	I confirm	Ochuodho	Ochuodho,	Conference	Science/Po	
143	Ochuodho	The Misma	Consensus	I confirm	Ochuodho	Ochuodho,	Conference	Science/Po	
142	Carvalho 2	Forest scie	Manjulika F	I confirm	(Carvalho,	Carvalho, F	Other: Self-	NA	
142	Carvalho 2	Forest scie	Consensus	I confirm	(Carvalho,	Carvalho, F	Other: Whit	NA	
141	Tomich 20(	Integrative	Manjulika F	I confirm	(Tomich, et	Tomich, T.	Peer-reviev	Tropical for	
141	Tomich 20(	Integrative	Consensus	I confirm	(Tomich, et	Tomich, T.	Peer-reviev	Tropical for	
140	Oslejs 200	Sustainable	Matt Falcor	i confirm	Oslejs et al	Oslejs, J. G	Peer-reviev	environmer	
140	Oslejs 200	Sustainable	Consensus	i confirm	Oslejs et al	Oslejs, J. G	Peer-reviev	environmer	
139	Fleischmar	Profession	Manjulika F	I confirm	(Fleischma	Fleischman	Peer-reviev	governmen	
139	Fleischmar	Profession	Consensus	I confirm	(Fleischma	Fleischman	Peer-reviev	governmen	
137	Duchelle 2(	Graduate s	Felicitas Eç	I confirm	Duchelle et	Duchelle, A	Peer-reviev	Brazilian Ar	
137	Duchelle 2(	Graduate s	Consensus	I confirm	Duchelle et	Duchelle, A	Peer-reviev	Brazilian Ar	
136	Price 2015	VALERIE -	Kimberly Kl	I confirm	Newell-Pric	Newell-Pric	Conference	NA	
136	Price 2015	VALERIE -	Consensus	I confirm	Newell-Pric	Newell-Pric	Conference	NA	
135	Ferreira 20	Knowledge	Jackie Satu	I confirm	Santos 201	Santos, V.F	Peer-reviev	Knowledge	
135	Ferreira 20	Knowledge	Consensus	I confirm	Santos 201	Santos, V.F	Peer-reviev	Knowledge	
134		[학교교육고	Jonathan W	I confirm	Bayne et al	Bayne, K..,	Peer-reviev	knowledge	
134		[학교교육고	Consensus	I confirm	Bayne et al	Bayne, K..,	Peer-reviev	knowledge	
133	Brischke 2(	Enhancing	Jonathan W	I confirm	Brischke et	Brischke, C	Report (e.g	Forest woo	
133	Brischke 2(	Enhancing	Consensus	I confirm	Brischke et	Brischke, C	Report (e.g	Forest woo	
132		Knoeppetal	Francesco	I confirm	Knoepp et a	Sorry but b	Other: Bool	NA	
132		Knoeppetal	Consensus	I confirm	Knoepp et a	Knoepp, J.I	Other: Bool	NA	

131	Boutinot 20	De la conn	Sophie Le I	I confirm	Boutinot 20	Boutinot, L.	Other: Edit	NA	
131	Boutinot 20	De la conn	Consensus	I confirm	Boutinot 20	Boutinot, L.	Other: Edit	NA	
130	Conseilcan	Collecte et	Sophie Le I	I confirm	Conseil car	Conseil car	Report (e.g	NA	
130	Conseilcan	Collecte et	Consensus	I confirm	Conseil car	Conseil car	Report (e.g	NA	
129	Dimanche 2	Quels rése	Sophie Le I	I confirm	Dimanche 2	Dimanche,	Conference	NA	
129	Dimanche 2	Quels rése	Consensus	I confirm	Dimanche 2	Dimanche,	Conference	NA	
128	Afxantidis 2	Le transfert	Sophie Le I	I confirm	Afxantidis 2	Afxantidis,	Conference	NA	
128	Afxantidis 2	Le transfert	Consensus	I confirm	Afxantidis 2	Afxantidis,	Conference	NA	
127	NaturalRes	Knowledge	Matt Falcor	i confirm	NRCan 201	Natural Re	Presentatio	NA	
127	NaturalRes	Knowledge	Consensus	i confirm	NRCan 201	Natural Re	Presentatio	NA	
126	D'Eon 201	Knowledge	Jenna Hutc	I confirm	D'Eon and	D'Eon, S.,	Peer-reviev	knowledge	
126	D'Eon 201	Knowledge	Consensus	I confirm	D'Eon and	D'Eon, S.,	Peer-reviev	knowledge	
125	Théberge 2	Initiative for	Jenna Hutc	I confirm	Theberge e	Théberge, I	Report (e.g	Knowledge	
125	Théberge 2	Initiative for	Consensus	I confirm	Theberge e	Théberge, I	Report (e.g	Knowledge	
124	GergerSwa	Joint knowl	Felicitas Ec	I confirm	Swartling, e	Swartling, A	Peer-reviev	climate cha	
124	GergerSwa	Joint knowl	Consensus	I confirm	Swartling, e	Swartling, A	Peer-reviev	climate cha	
121	Krott 2003	Catalyst for	Jonathan W	I confirm	Krott 2003	Krott, M. 20	Peer-reviev	policy analy	
121	Krott 2003	Catalyst for	Consensus	I confirm	Krott 2003	Krott, M. 20	Peer-reviev	policy analy	
119		Rooting for	Jonathan W	I confirm	Tokola & M	Tokola, N.,	Presentatio	NA	
119		Rooting for	Consensus	I confirm	Tokola & M	Tokola, N.,	Presentatio	NA	
117	Asselin 201	KNOWLED	Jonathan W	I confirm	Asselin 201	Asselin, H.	Other: Cha	NA	
117	Asselin 201	KNOWLED	Consensus	I confirm	Asselin 201	Asselin, H.	Other: Cha	NA	
116	Hamunen 2	Forest own	Manjulika F	I confirm	(Hamunen,	Hamunen,	Peer-reviev	decision-ma	
116	Hamunen 2	Forest own	Consensus	I confirm	(Hamunen,	Hamunen,	Peer-reviev	decision-ma	
113	Vargas 201	Enhancing	Manjulika F	I confirm	(Vargas, et	Vargas, R.,	Peer-reviev	developing	
113	Vargas 201	Enhancing	Consensus	I confirm	(Vargas, et	Vargas, R.,	Peer-reviev	developing	
111	Tousignant	Publication	Kimberly Kl	I confirm	Tousignant	Tousignant	Other: infor	NA	
111	Tousignant	Publication	Consensus	I confirm	Tousignant	Tousignant	Other: infor	NA	
110	Arnold 201	User-Orien	Felicitas Ec	I confirm	Arnold et al	Arnold, F.E	Peer-reviev	Evidence b	
110	Arnold 201	User-Orien	Consensus	I confirm	Arnold et al	Arnold, F.E	Peer-reviev	Evidence b	
107	Guldin 200	Working Ef	Felicitas Ec	I confirm	Guldin et al	Guldin, R.W	Report (e.g	NA	
107	Guldin 200	Working Ef	Consensus	I confirm	Guldin et al	Guldin, R.W	Report (e.g	NA	
106	Deyoe 200	DeYoe and	Manjulika F	I confirm	(DeYoe & I	David DeY	Peer-reviev	knowledge	
106	Deyoe 200	DeYoe and	Consensus	I confirm	(DeYoe & I	David DeY	Peer-reviev	knowledge	
103	Hamunen 2	Enhancing	Francesco	I confirm	Virkulla et a	Hamunen I	Peer-reviev	communitie	
103	Hamunen 2	Enhancing	Consensus	I confirm	Virkulla et a	Hamunen I	Peer-reviev	communitie	
100	Parrotta 20	Improving c	Manjulika F	I confirm	(Parrotta &	Parrotta, Jc	Peer-reviev	NA	

100	Parrotta 20	Improving c	Consensus	I confirm	(Parrotta & Parrotta, Jc	Peer-reviev	NA		
99	Guldin 200	Forest scie	Jonathan W	I confirm	Guldin et al	Guldin, R.,	Peer-reviev	forest polic	
99	Guldin 200	Forest scie	Consensus	I confirm	Guldin et al	Guldin, R.,	Peer-reviev	forest polic	
98	Peterson 2	Contributio	Francesco	I confirm	Peterson a	Peterson, C	Peer-reviev	NPAP, pee	
98	Peterson 2	Contributio	Consensus	I confirm	Peterson a	Peterson, C	Peer-reviev	NPAP, pee	
97	Eden 2009	The work o	Felicitas Eç	I confirm	Eden 2009	Eden, S. 2(	Peer-reviev	Heterogene	
97	Eden 2009	The work o	Consensus	I confirm	Eden 2009	Eden, S. 2(	Peer-reviev	Heterogene	
95	Diver 2017	Negotiating	Francesco	I confirm	Diver 2017	Diver, S. 2(	Peer-reviev	Co-product	
95	Diver 2017	Negotiating	Consensus	I confirm	Diver 2017	Diver, S. 2(	Peer-reviev	Co-product	
94	Joa 2020	Conservati	Manjulika F	I confirm	(Joa & Sch	Joa, Bettin	Peer-reviev	Small-scale	
94	Joa 2020	Conservati	Consensus	I confirm	(Joa & Sch	Joa, Bettin	Peer-reviev	Small-scale	
92	Thompson	An overvie	Manjulika F	I confirm	(Thompson	Thompson,	Peer-reviev	Biodiversity	
92	Thompson	An overvie	Consensus	I confirm	(Thompson	Thompson,	Peer-reviev	Biodiversity	
91	Aurenhamr	Nudging in	Jonathan W	I confirm	Aurenhamr	Aurenhamr	Peer-reviev	forest intiat	
91	Aurenhamr	Nudging in	Consensus	I confirm	Aurenhamr	Aurenhamr	Peer-reviev	forest intiat	
88	Klenk 2011	Governmer	Felicitas Eç	I confirm	Klenk and H	Klenk, N.L.	Peer-reviev	Science-po	
88	Klenk 2011	Governmer	Consensus	I confirm	Klenk and H	Klenk, N.L.	Peer-reviev	Science-po	
87	Krott 2012	Value and r	Manjulika F	I confirm	(Krott, 2012	Krott, Max.	Peer-reviev	Forest polic	
87	Krott 2012	Value and r	Consensus	I confirm	(Krott, 2012	Krott, Max.	Peer-reviev	Forest polic	
85	Schick 201	People-Cer	Manjulika F	I confirm	(Schick et a	Schick, A.,	Peer-reviev	Conservatic	
85	Schick 201	People-Cer	Consensus	I confirm	(Schick et a	Schick, A.,	Peer-reviev	Conservatic	
81	Ramirez 20	Stakeholde	Jenna Hutc	I confirm	Ramirez an	Ramirez, L.	Peer-reviev	science-pol	
81	Ramirez 20	Stakeholde	Consensus	I confirm	Ramirez an	Ramirez, L.	Peer-reviev	science-pol	
79	Buttoud 20	Research a	Jenna Hutc	I confirm	Buttoud 20	Buttoud, G.	Conference	Forest rese	
79	Buttoud 20	Research a	Consensus	I confirm	Buttoud 20	Buttoud, G.	Conference	Forest rese	
78	Tarbox 202	Decline in l	Manjulika F	I confirm	(Tarbox, et	Tarbox, B.	Peer-reviev	adoption; e	
78	Tarbox 202	Decline in l	Consensus	I confirm	(Tarbox, et	Tarbox, B.	Peer-reviev	adoption; e	
77	Wistbacka	The traged	Jenna Hutc	I confirm	Wistbacka	Wistbacka,	Peer-reviev	Science-po	
77	Wistbacka	The traged	Consensus	I confirm	Wistbacka	Wistbacka,	Peer-reviev	Science-po	
74	Hardianti 2	Configurati	Matt Falcor	i confirm	Hardianti et	Hariantia A	Conference	theory of ac	
74	Hardianti 2	Configurati	Consensus	i confirm	Hardianti et	Hariantia A	Conference	theory of ac	
71	Reynolds 2	The scienc	Manjulika F	I confirm	(Reynolds,	Reynolds, I	Peer-reviev	Montreal P	
71	Reynolds 2	The scienc	Consensus	I confirm	(Reynolds,	Reynolds, I	Peer-reviev	Montreal P	
70		EFIMED: S	Felicitas Eç	I confirm	de Arano, 2	de Arano, I	Other: Two	NA	
70		EFIMED: S	Consensus	I confirm	de Arano, 2	de Arano, I	Other: Two	NA	
68	Stewart 20	Improving t	Manjulika F	I confirm	(Stewart, E	Stewart, A.	Peer-reviev	adoption; d	
68	Stewart 20	Improving t	Consensus	I confirm	(Stewart, E	Stewart, A.	Peer-reviev	adoption; d	
67	González 2	The potenti	Jackie Satu	I confirm	Gonzalez a	Gonzalez, I	Peer-reviev	Forest defir	

67	González 2	The potenti	Consensus	I confirm	Gonzalez a	Gonzalez, I	Peer-reviev	Forest defir
65	Joyce 2003	Improving t	Manjulika F	I confirm	(Joyce, 20(	Joyce, L. A	Peer-reviev	Natural res
65	Joyce 2003	Improving t	Consensus	I confirm	(Joyce, 20(	Joyce, L. A	Peer-reviev	Natural res
64	Heim 2018	Nomination	Manjulika F	I confirm	(Heim, Krot	Heim, Janir	Peer-reviev	World Herit
64	Heim 2018	Nomination	Consensus	I confirm	(Heim, Krot	Heim, Janir	Peer-reviev	World Herit
61	Gamborg 2	The forest s	Francesco	I confirm	Guldin et al	Guldin, R. \	Peer-reviev	forest policy
61	Gamborg 2	The forest s	Consensus	I confirm	Guldin et al	Guldin, R. \	Peer-reviev	forest policy
59	Janse 200	Communica	Felicitas Eç	I confirm	Janse 200	Janse, G. 2	Peer-reviev	Science/po
59	Janse 200	Communica	Consensus	I confirm	Janse 200	Janse, G. 2	Peer-reviev	Science/po
58	Mills 1998	Science-ma	Matt Falcor	i confirm	Mills et al. ´	Mills, T. J.	Peer-reviev	NA
58	Mills 1998	Science-ma	Consensus	i confirm	Mills et al. ´	Mills, T. J.	Peer-reviev	NA
57	Basnet 202	REDD+ Act	Sophie Le I	I confirm	Basnet and	Basnet, S.	Peer-reviev	REDD+;Re
57	Basnet 202	REDD+ Act	Consensus	I confirm	Basnet and	Basnet, S.	Peer-reviev	REDD+;Re
55	Gulbrandse	The role of	Francesco	I confirm	Gulbrandse	Gulbrandse	Peer-reviev	NA
55	Gulbrandse	The role of	Consensus	I confirm	Gulbrandse	Gulbrandse	Peer-reviev	NA
54	Arts 2009	Forests, dis	Felicitas Eç	I confirm	Arts and Bu	Arts, B. and	Peer-reviev	Global fore
54	Arts 2009	Forests, dis	Consensus	I confirm	Arts and Bu	Arts, B. and	Peer-reviev	Global fore
53	Aggestam ;	Innovation	Francesco	I confirm	Aggestam ;	Aggestam,	Other: Book	NA
53	Aggestam ;	Innovation	Consensus	I confirm	Aggestam ;	Aggestam,	Other: Book	NA
50	Driscoll 20	Science an	Matt Falcor	i confirm	Driscoll et a	Driscoll, C.	Peer-reviev	boundary s
50	Driscoll 20	Science an	Consensus	i confirm	Driscoll et a	Driscoll, C.	Peer-reviev	boundary s
48	Jara-Rojas	Factors affe	Manjulika F	I confirm	(Jara-Rojas	Jara-Rojas,	Peer-reviev	agroforestry
48	Jara-Rojas	Factors affe	Consensus	I confirm	(Jara-Rojas	Jara-Rojas,	Peer-reviev	agroforestry
47	Hockings 2	Extensive (	Jackie Satu	I confirm	Hockings e	Hockings, H	Peer-reviev	human-wild
47	Hockings 2	Extensive (	Consensus	I confirm	Hockings e	Hockings, H	Peer-reviev	human-wild
45	Guldin 200	Forest scie	Manjulika F	I confirm	(Guldin, 20(	Guldin, R. \	Peer-reviev	Forest polic
45	Guldin 200	Forest scie	Consensus	I confirm	(Guldin, 20(	Guldin, R. \	Peer-reviev	Forest polic
43	Grêt-Regar	Review of c	Jackie Satu	I confirm	Gret-Regar	Gret-Regar	Peer-reviev	Decision m
43	Grêt-Regar	Review of c	Consensus	I confirm	Gret-Regar	Gret-Regar	Peer-reviev	Decision m
42	Elliott 2018	The interfa	Jenna Hutc	I confirm	Elliott 2018	Elliot, S. 20	Conference	forest scien
42	Elliott 2018	The interfa	Consensus	I confirm	Elliott 2018	Elliot, S. 20	Conference	forest scien
39	Winkel 201	Perspective	Manjulika F	I confirm		Winkel, G.,	Peer-reviev	Interdiscipli
39	Winkel 201	Perspective	Consensus	I confirm	(Winkel & J	Winkel, G.,	Peer-reviev	Interdiscipli
38	Purseid 20	Predicting (	Manjulika F	I confirm	(Purse, et a	Purse, B. V	Peer-reviev	NA
38	Purseid 20	Predicting (	Consensus	I confirm	(Purse, et a	Purse, B. V	Peer-reviev	NA
36	Mayer 200	Forest scie	Jonathan W	I confirm	Mayer et al	Mayer, P.,	Peer-reviev	Forest polic
36	Mayer 200	Forest scie	Consensus	I confirm	Mayer et al	Mayer, P.,	Peer-reviev	Forest polic

35	Benz 2020	Multifunctio	Francesco	I confirm	Benz et al.	Benz, J.P.;	Peer-reviev	multifunctio
35	Benz 2020	Multifunctio	Consensus	I confirm	Benz et al.	Benz, J.P.;	Peer-reviev	multifunctio
31	Wurtzebacl	Adaptive g	Manjulika F	I confirm	(Wurtzebac	Wurtzebacl	Peer-reviev	Knowledge
31	Wurtzebacl	Adaptive g	Consensus	I confirm	(Wurtzebac	Wurtzebacl	Peer-reviev	Knowledge
29	Cáceres 20	The rocky p	Felicitas Eç	I confirm	Caceres et	Caceres, D	Peer-reviev	NA
29	Cáceres 20	The rocky p	Consensus	I confirm	Caceres et	Caceres, D	Peer-reviev	NA
27	Janse 2007	Communic	Manjulika F	I confirm	(Janse & K	Janse, Ger	Peer-reviev	Public parti
27	Janse 2007	Communic	Consensus	I confirm	(Janse & K	Janse, Ger	Peer-reviev	Public parti
25	Ojha 2020	Improving s	Jenna Hutc	I confirm	Ojha et al.	Ohja, H., R	Peer-reviev	Science-po
25	Ojha 2020	Improving s	Consensus	I confirm	Ojha et al.	Ohja, H., R	Peer-reviev	Science-po
24	Chazdon 2	A Policy-Dr	Matt Falcor	I confirm	Chazdon et	Chazdon, F	Peer-reviev	Aichi biodiv
24	Chazdon 2	A Policy-Dr	Consensus	I confirm	Chazdon et	Chazdon, F	Peer-reviev	Aichi biodiv
21	ShawIII 20	(Working wi	Manjulika F	I confirm	(Shaw, Eve	Shaw, C. G	Peer-reviev	Risk asses
21	ShawIII 20	(Working wi	Consensus	I confirm	(Shaw, Eve	Shaw, C. G	Peer-reviev	Risk asses
19	Kleine 200	Capacity bu	Manjulika F	I confirm	(Kleine, 20	Kleine, Mic	Peer-reviev	Science–po
19	Kleine 200	Capacity bu	Consensus	I confirm	(Kleine, 20	Kleine, Mic	Peer-reviev	Science–po
17	Lawrence 2	Extension,	Jonathan W	I confirm	Lawrence e	Lawrence,	Peer-reviev	family fores
17	Lawrence 2	Extension,	Consensus	I confirm	Lawrence e	Lawrence,	Peer-reviev	family fores
16	Savari 202	Factors infl	Manjulika F	I confirm	(Savari, Es	Savari, M.,	Peer-reviev	Natural res
16	Savari 202	Factors infl	Consensus	I confirm	(Savari, Es	Savari, M.,	Peer-reviev	Natural res
15	Nautiyal 20	Ecological	Jenna Hutc	I confirm	Nautiyal an	Nautiyal, S.	Peer-reviev	Conservatio
15	Nautiyal 20	Ecological	Consensus	I confirm	Nautiyal an	Nautiyal, S.	Peer-reviev	Conservatio
13	Konijnendij	Enhancing	Francesco	I confirm	Konijnendij	Konijnendij	Peer-reviev	Europe, for
13	Konijnendij	Enhancing	Consensus	I confirm	Konijnendij	Konijnendij	Peer-reviev	Europe, for
11	Böcher 201	The RIU m	Francesco	I confirm	Boecher an	Boecher, M	Peer-reviev	Scientific kn
11	Böcher 201	The RIU m	Consensus	I confirm	Boecher an	Boecher, M	Peer-reviev	Scientific kn
7	Klenk 2015	The design	Felicitas Eç	I confirm	Klenk and \	Klenk, N.L.	Peer-reviev	Research n
7	Klenk 2015	The design	Consensus	I confirm	Klenk and \	Klenk, N.L.	Peer-reviev	Research n
6	Service 20	Agriculture	Manjulika F	I confirm	(Clark & M	Clark, R. N	Report (e.g	Science, po
6	Service 20	Agriculture	Consensus	I confirm	(Clark & M	Clark, R. N	Report (e.g	Science, po
5	Fortmann 2	Sciences, k	Francesco	I confirm	Fortmann a	Fortmann, l	Peer-reviev	Non-timber
5	Fortmann 2	Sciences, k	Consensus	I confirm	Fortmann a	Fortmann, l	Peer-reviev	Non-timber
4	Amorelli 20	Planning ar	Francesco	I confirm	Amorelli Ril	Again I stru	Report (e.g	NA
4	Amorelli 20	Planning ar	Consensus	I confirm	Amorelli Ril	Again I stru	Report (e.g	NA
3	Amorelli 20	South-Sout	Felicitas Eç	I confirm	Amorelli Ril	Amorelli Ril	Thesis (Un	South-Sout
3	Amorelli 20	South-Sout	Consensus	I confirm	Amorelli Ril	Amorelli Ril	Thesis (Un	South-Sout
1	Ramirez 20	Crossing th	Felicitas Eç	I confirm	Ramirez an	Ramirez, L.	Peer-reviev	NA

1	Ramirez 20	Crossing th	Consensus	I confirm	Ramirez an	Ramirez, L.	Peer-reviev NA

List all cour	List all fund	Which of th	Does this it	List the ma	Would the a	Describe th	What were	Does this it
U.S.A	US Forest S	Presents re	Yes	knowledge	Solicited: K	"My objecti	"In the U.S.	No
U.S.A	US Forest S	Presents re	Yes	knowledge	Solicited: K	"My objecti	"In the U.S.	No
Canada	Social Scie	Case study	No	intégration	Solicited: K	"L'objectif p	La Forêt de	Yes
Canada	Social Scie	Case study	No	intégration	Solicited: K	"L'objectif p	La Forêt de	Yes
France;Spa	NA	Case study	No	échanges c	Network: Tl	"Cet article	"faire entre	No
France;Spa	NA	Case study	No	échanges c	Network: Tl	"Cet article	"faire entre	No
Costa Rica	Forêt modè	Presents re	No	horizontal c	Not applica	"Cette étud	"While the l	No
Costa Rica	Forêt modè	Presents re	No	horizontal c	Other: Netv	"Cette étud	"While the l	No
NA	NA	Other: Pres	No	transfert de	Network: Tl	"Pour comp	Creating a	No
NA	NA	Other: Pres	No	transfert de	Network: Tl	"Pour comp	Creating a	No
Cameroun	Centre de F	Presents re	Yes	partage de	Network: Tl	"This article	"Les analys	No
Cameroun	Centre de F	Presents re	Yes	partage de	Network: Tl	"This article	"Les analys	No
NA	NA	Other: Prop	No	exchange	Not applica	Describe ar	FragForNet	No
NA	NA	Other: Prop	No	exchange	Not applica	Describe ar	FragForNet	No
France	NA	Presents re	Yes	'transfert de	Coproducti	"Voici le se	"Actuellem	No
France	NA	Presents re	Yes	'transfert de	Coproducti	"Voici le se	"Actuellem	No
France	NA	Case study	No	NA	Loading do	Explore the	See conclu	No
France	NA	Case study	No	NA	Loading do	Explore the	See conclu	No
Canada	NA	Other: Opir	No	Knowledge	Coproducti	From botto	Last paragr	No
Canada	NA	Other: Opir	No	Knowledge	Other: Not	From botto	Last paragr	No
Thailand	Challenge I	Case study	Yes	knowledge	Coproducti	"The expan	"In relation	Yes
Thailand	Challenge I	Case study	Yes	knowledge	Coproducti	"The expan	"In relation	Yes
NA	Agence Fra	Presents re	Yes	knowledge	Solicited: K	The ACTAE	"The ACTA	Yes
NA	Agence Fra	Presents re	Yes	knowledge	Solicited: K	The ACTAE	"The ACTA	Yes
France	NA	Case study	Yes	partage de	Network: Tl	"de faire un	"les outils n	No
France	NA	Case study	Yes	partage de	Network: Tl	"de faire un	"les outils n	No
NA	NA	Case study	No	échange de	Network: Tl	To describe	NA	No
NA	NA	Case study	No	échange de	Network: Tl	To describe	NA	No
NA	NA	Case study	No	Communica	Coproducti	"A travers l'	The article	No
NA	NA	Case study	No	Communica	Coproducti	"A travers l'	The article	No
NA	EU Europe	Other: Esta	No	Biodiversity	Coproducti	From sumn	Biodiversity	No
NA	EU Europe	Other: Esta	No	Biodiversity	Coproducti	From sumn	Biodiversity	No
Canada	NA	Case study	Yes	échange d'i	Coproducti	"Imposée p	"Les gains	No
Canada	NA	Case study	Yes	échange d'i	Coproducti	"Imposée p	"Les gains	No
NA	Future of P	Other: Pres	No	data-sharin	Loading do	"The benefi	"At one ext	No
NA	Future of P	Other: Pres	No	data-sharin	Loading do	"The benefi	"At one ext	No
Solomon Is	NA	Case study	No	intégration	Coproducti	Using the M	For western	Yes

Solomon Is	NA	Case study	No	intégration	Coproducti	Using the M	For western	Yes
Ghana	Governmer	Presents re	Yes	"science-pc	Loading do	"the paper	"face-to-fac	Yes
Ghana	Governmer	Presents re	Yes	"science-pc	Loading do	"the paper	"face-to-fac	Yes
Finland	Academy o	Presents re	No	science-pol	Solicited: K	To understa	" On a prac	No
Finland	Academy o	Presents re	No	science-pol	Solicited: K	To understa	" On a prac	No
UK	Natural En	Presents re	No	"knowledge	Loading do	"To join up	NA	No
UK	Natural En	Presents re	No	"knowledge	Loading do	"To join up	NA	No
France	NA	Theoretical	No	Research-p	Solicited: K	"Improved l	"The attribu	No
France	NA	Theoretical	No	Research-p	Solicited: K	"Improved l	"The attribu	No
France; Canada (QUe		Case study	No	la gestion c	Other: Look	To review s	alyse contr	No
France; Ca	NA	Case study	No	la gestion c	Other: Look	To review s	alyse contr	No
		Theoretical	No	communica	Network: Tl	"The goal o	"PRELIMIN	Yes
		Theoretical	No	communica	Network: Tl	"The goal o	"PRELIMIN	Yes
Zambia	Faculty of L	Theoretical	Yes	'science-po	Network: Tl	"Contribute	"policy was	No
Zambia	Faculty of L	Theoretical	Yes	'science-po	Network: Tl	"Contribute	"policy was	No
Kenya	NA	Presents re	No	Science/Po	Network: Tl	"The purpo	"If it is clea	No
Kenya	NA	Presents re	No	Science/Po	Network: Tl	"The purpo	"If it is clea	No
Portugal	NA	Presents re	No	transfer mo	Not applica	Document t	There are e	No
Portugal	NA	Presents re	No	transfer mo	Not applica	Document t	There are e	No
NA	Governmer	Theoretical	No	integration;	Network: Tl	"This repor	"ASB's pro	Yes
NA	Governmer	Theoretical	No	integration;	Network: Tl	"This repor	"ASB's pro	Yes
Latvia	Danish Co	Case study	No		Loading do	Review exa	Provides re	No
Latvia	Danish Co	Case study	No	None found	Loading do	Review exa	Provides re	No
India	US Nationa	Theoretical	No	knowledge	Solicited: K	"By calling	"governme	Yes
India; USA	US Nationa	Theoretical	No	knowledge	Solicited: K	"By calling	"governme	Yes
South Afric	University o	Theoretical	No	knowledge	Loading do	The main o	Recommer	Yes
South Afric	University o	Theoretical	No	knowledge	Loading do	The main o	Recommer	Yes
United King	NA	Case study	No	knowledge	Solicited: K	Conference	NA	No
United King	NA	Case study	No	knowledge	Other: Loa	Conference	NA	No
NA	NA	Case study	No	knowledge	Network: Tl	"This artic	"It is import	No
NA	NA	Case study	No	knowledge	Network: Tl	"This artic	"It is import	No
New Zealar	New Zealar	Theoretical	Yes	knowledge	Solicited: K	"We posit a	conceptua	No
New Zealar	New Zealar	Theoretical	Yes	knowledge	Solicited: K	"We posit a	"itappearstl	No
NA	NA	Presents recommenda		'networking	Loading do	"An interdi	" it seems	No
NA	NA	Presents recommenda		'networking	Loading do	"An interdi	" it seems	No
Global focu	NA	Other: Ove	No	Research N	Network: Tl	Overview o	Importance	No
Global focu	NA	Other: Ove	No	Research N	Network: Tl	Overview o	"Most EFR	No

NA	NA	Other: Pres	No	la conaissa	Coproducti	To highligh	A multidisci	Yes
NA	NA	Other: Pres	No	la conaissa	Coproducti	To highligh	A multidisci	Yes
Canada	Canadian F	Case study	No	échange de	Solicited: K	"Le présent	NA	No
Canada	Canadian F	Case study	No	échange de	Solicited: K	"Le présent	NA	No
France	NA	Other: Sum	No	transfert de	Network: Tl	To summar	NA	No
France	NA	Other: Sum	No	transfert de	Network: Tl	To summar	NA	No
France	NA	Presents re	No	transfert de	Network: Tl	To summar	Societal de	No
France	NA	Presents re	No	transfert de	Network: Tl	To summar	Societal de	No
Canada	NA	Theoretical	No	knowledge	Loading do	Showcase	There is a	Yes
Canada	NA	Theoretical	No	knowledge	Loading do	Showcase	There is a	Yes
Canada; US	NA	Case study	Yes	knowledge	Coproducti	Of the over	That collab	No
Canada; US	NA	Case study	Yes	knowledge	Coproducti	Of the over	That collab	No
Canada	NA	Theoretical	No	knowledge	Coproducti	This is a gu	"Co-creatio	Yes
Canada	NA	Theoretical	No	knowledge	Coproducti	This is a gu	"Co-creatio	Yes
Sweden	Swedish Fo	Case study	No	coproductic	Loading do	“This paper	"ensure rep	No
Sweden	Swedish Fo	Case study	No	coproductic	Loading do	“This paper	"ensure rep	No
NA	NA	Presents re	No	"open netw	Loading do	To analyze	"program a	No
NA	NA	Presents re	No	"open netw	Loading do	To analyze	"program a	No
Finland	Strategic R	Presents re	No	living know	Coproducti	"Our goal	"Youth may	No
Finland	Strategic R	Presents re	No	living know	Coproducti	"Our goal	"Youth may	No
NA	NA	Presents re	No	'integration	Not applica	"this chapte	"ecosystem	Yes
NA	NA	Presents re	No	'integration	Not applica	"this chapte	"ecosystem	Yes
Finland	Graduate S	Presents re	No	communica	Network: Tl	"In this thes	"To keep o	No
Finland	Graduate S	Presents re	No	communica	Network: Tl	"In this thes	"To keep o	No
Mexico	Division of	Case study	No	knowledge	Not applica	"encourage	" improving	No
Mexico	Division of	Case study	No	knowledge	Not applica	"encourage	" improving	No
Canada	NA	Case study	No	diffusion sc	Not applica	Brief descri	NA	No
Canada	NA	Case study	No	diffusion sc	Not applica	Brief descri	NA	No
Bangladesh	Food and A	Presents re	No	information	provision;	"...this pape	The paper	No
Bangladesh	Food and A	Presents re	No	information	Other:	"...this pape	The paper	No
NA	Internationa	Theoretical	No	NA	Loading do	"In 1998, th	"I. In condu	Yes
NA	Internationa	Theoretical	No	NA	Loading do	"In 1998, th	"I. In condu	Yes
Canada	NA	Theoretical	No	knowledge	Network: Tl	"This paper	"To capitali	No
Canada	NA	Other: The	No	knowledge	Other: Solic	"This paper	"To capitali	No
Finland	NordPlus A	Case study	Yes	Knowledge	Network: Tl	"The first ol	"The role o	No
Finland	NordPlus A	Case study	Yes	Knowledge	Network: Tl	"The first ol	"The role o	No
	NA							

	NA	Other: Netv	Other: No	forest scier	Other: Network	"It iis our hc	Other: No	
NA	NA	Presents re	No	"science-pc	Loading do	To identify	"People's v	No
NA	NA	Presents re	No	"science-pc	Loading do	To identify	"People's v	No
USA	NA	Case study	No	NA	Coproducti	This article	"Most expli	No
USA	NA	Case study	No	NA	Coproducti	This article	"Most expli	No
UK; USA	Economic a	Case study	No	NA	Not applica	"This paper	NA	No
UK; USA	Economic a	Case study	No	NA	Not applica	"This paper	NA	No
Canada	Berkeley F	Theoretical	No	Knowledge	Coproducti	"While ackr	"Aligning w	Yes
Canada	Berkeley F	Theoretical	No	Knowledge	Coproducti	"While ackr	"Aligning w	Yes
Germany	German Re	Presents re	No	knowledge	Not applica	"to identify	"PFOs' per	Yes
Germany	German Re	Presents re	No	knowledge	Not applica	"to identify	“Despite th	Yes
NA		Theoretical	No	local ecolo	Coproducti	"This paper	"local know	Yes
NA	NA	Theoretical	No	local ecolo	Coproducti	"This paper	"local know	Yes
Germany	European l	Presents re	Yes	NA	Coproducti	This paper	"GFIs inde	No
Germany	European l	Presents re	Yes	NA	Coproducti	This paper	"GFIs inde	No
Canada	Sustainable	Case study	No	knowledge	Coproducti	The main o	Main findin	No
Canada	Sustainable	Case study	No	knowledge	Coproducti	The main o	Main findin	No
NA	NA	Theoretical	No	knowledge	Network: Tl	"This paper	"even if sta	No
NA	NA	Theoretical	No	knowledge	Network: Tl	"This paper	"even if sta	No
Namibia	NA	Case study	Yes	knowledge	Coproducti	"In this artic	"working wi	Yes
Namibia	NA	Case study	Yes	knowledge	Coproducti	"In this artic	"working wi	Yes
Peru	Social Sci	Case study	No	knowledge	Network: Tl	They used	Their concl	No
Peru	Social Sci	Case study	No	knowledge	Network: Tl	They used	Their concl	No
NA	NA	Theoretical	No	science/pol	Solicited: K	"From an a	" Whilst de	No
NA	NA	Theoretical	No	science/pol	Solicited: K	"From an a	"However,	No
Columbia	Tropical Cc	Presents re	No	knowledge	Not applica	"[To evalua	"[We] founc	Yes
Columbia	Tropical Cc	Presents re	No	knowledge	Not applica	"[To evalua	"[We] founc	Yes
Finland	Svensk-Ös	Other: The	No	science-pol	Loading do	"Here we a	"Our study	No
Finland	Svensk-Ös	Other: The	No	science-pol	Loading do	"Here we a	"Our study	No
Indonesia		Presents re	No		Not applica	From abstr	From abstr	No
Indonesia	NA	Presents re	No	NA	Not applica	From abstr	From abstr	No
NA	NA	Theoretical	No	communica	Network: Tl	"(1) to illust	The propos	No
NA	NA	Theoretical	No	communica	Network: Tl	"(1) to illust	The propos	No
Algeria; Bu	NA	Other: Des	No	multilateral	Network: Tl	The main o	NA	No
Algeria; Bu	NA	Other: Des	No	multilateral	Network: Tl	The main o	NA	No
UK	Forestry Cc	Presents re	No	knowledge	Not applica	"This paper	"Thus, in cc	No
UK	Forestry Cc	Presents re	No	knowledge	Not applica	"This paper	"Thus, in cc	No
Colombia; I	Academy o	Theoretical	No	transferable	Not applica	"We seek t	"This article	Yes

Colombia; I	Academy o	Theoretical	No		transferabl	Not applica	"We seek t	"This article	Yes
USA	Forest Ser	Presents re	No		assessmen	Network: Tl	"This paper	"When the	No
USA	Forest Ser	Presents re	No		assessmen	Network: Tl	"This paper	"When the	No
Germany	Federal Mi	Case study	No		science–p	Coproducti	"This contri	" The differ	No
Germany	Federal Mi	Case study	No		science–po	Coproducti	"This contri	" The differ	No
Europe; Afr	NA	Case study	No		No relevan	Network: Tl	At a worksh	The 6 majo	Yes
Europe; Afr	NA	Case study	No		No relevan	Network: Tl	At a worksh	The 6 majo	Yes
NA	European F	Presents re	No		NA	Not applica	"The purpo	"the import	No
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USA (alask	US Dept. o	Case study	No		science-pol	Coproducti	Goal was t	Shares cha	No
USA (alask	US Dept. o	Case study	No		science-pol	Coproducti	Goal was t	Shares cha	No
Bhutan;Ne	Internation	Other: Pres	No		knowledge	Network: Tl	"This paper	"The pace	No
Bhutan;Ne	Internation	Other: Pres	No		knowledge	Network: Tl	"This paper	The author	No
Sweden; N	The work w	Case study	Yes		interaction	Coproducti	"This study	"This stud	No
Sweden; N	The work w	Case study	Yes		interaction	Coproducti	"This study	"This stud	No
NA	NA	Other: Cas	No		discourse a	Loading do	This article	NA	No
NA	NA	Other: Cas	No		discourse a	Loading do	This article	NA	No
European U	NA	Theoretical	No		Cooperatio	Network: Tl	This chapte	"Support fo	No
European U	NA	Theoretical	No		Cooperatio	Network: Tl	This chapte	"Support fo	No
USA	Bullard Fell	Other: Synt	No		boundary-s	Network: Tl	"We examii	From p. 36	Yes
USA	Bullard Fell	Other: Synt	No		boundary-s	Other: othe	"We examii	"In all of th	Yes
Colombia	NA	Presents re	No		knowledge	Loading do	use hurdle	"Decisions	No
Colombia	NA	Presents re	No		knowledge	Loading do	use hurdle	"Decisions	No
Guinea-Bis	Fundação	Presents re	No		shared kno	Network: Tl	"bridge this	"Overall, lo	Yes
Guinea-Bis	Fundação	Presents re	No		shared kno	Network: Tl	"bridge this	"Overall, lo	Yes
Costa Rica	NA				boundary-spanning		Discuss the	"Research	No
NA	NA	Other: The	Other: No		boundary-s	Other: Netv	Discuss the	"Research	No
Review of s	EU's Sever	Presents re	Yes		ecosystem	Loading do	"This paper	"While for s	No
Review of s	EU's Sever	Presents re	Yes		gap in the s	Loading do	"This paper	"While for s	No
Indonesia; /	NA	Other: A su	No		Science-po	Other: The	"This comm	These con	Yes
Indonesia; /	NA	Other: A su	No		Science-po	Other: The	"This comm	These con	Yes
Germany	NA	Other: Expl	No		knowledge	Not applica	"we aim to	NA	No
Germany	NA	Other: Expl	No		knowledge	Not applica	"we aim to	NA	No
India	NA	Presents re	Yes		knowledge	Loading do	"Through c	"Our appro	Yes
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NA		Theoretical	No		"consultativ	Loading do	"This pape	Five Resol	No

China; Ger	UM Global	Other: Sum	No	This article	Network: Tl	Therefore,	3.1. Multifu	No		
China; Ger	UM Global	Other: Sum	No	This article	Network: Tl	Therefore,	3.1. Multifu	No		
U.S.	NA	Presents re	No	knowledge	Coproducti	" investigat	"decentraliz	No		
U.S.	NA	Presents re	No	knowledge	Coproducti	" investigat	"decentraliz	No		
Argentina	National Ur	Case study	No	co-producti	Loading do	This article	Four consic	No		
Argentina	National Ur	Case study	No	co-producti	Loading do	This article	Four consic	No		
Greater Flo	EU Fifth Fr	Case study	Yes	communica	Solicited: K	"The NBW	"a set of to	No		
Greater Flo	EU Fifth Fr	Case study	Yes	communica	Solicited: K	"The NBW	"a set of to	No		
Nepal	Australian (	Theoretical	Yes	research-p	Coproducti	"In the cont	"The EPL c	No		
Nepal	Australian (	Theoretical	Yes	research-p	Coproducti	"In the cont	"The EPL c	No		
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NA (intl./UN	Fellowship	Theoretical	No	knowledge	Other: Loa	"Internation	"Knowl-edg	No		
U.S.	NA	Case study	No		Coproducti	Summarise"	Scientists	No		
U.S.	NA	Case study	No	Scientific k	Coproducti	Summarise"	Scientists	No		
Australia, C	Internationa	Presents re	No	science-pol	Coproducti	"analyze th	"interaction	No		
Australia, C	Internationa	Presents re	No	science-pol	Coproducti	"analyze th	"interaction	No		
Finland; Sw	European (	Presents re	Yes	"knowledge	Loading do	"this paper	"analysis of	No		
Finland; Sw	European (	Presents re	Yes	"knowledge	Loading do	"this paper	"analysis of	No		
Iran	NA	Presents re	No	extension	Not applica	"discover th	"The results	No		
Iran	NA	Presents re	No	extension	Not applica	"discover th	"The results	No		
India	NA	Other: This	No	Science-po	Not applica	"[T]he impo	"People in t	Yes		
India	NA	Other: This	No	Science-po	Not applica	"[T]he impo	"People in t	Yes		
Europe	NA	Theoretical	No	knowledge	Network: Tl	An overvie	"Although p	No		
Europe	NA	Theoretical	No	knowledge	Network: Tl	An overvie	"Although p	No		
Germany	NA	Theoretical	Yes	knowledge	Other: This	Since a dire	This paper	No		
Germany	NA	Theoretical	Yes	knowledge	Other: This	Since a dire	This paper	No		
Canada; US	Northern H	Theoretical	No	knowledge	Network: Tl	The article	Recommer	No		
Canada; US	Northern H	Theoretical	No	knowledge	Network: Tl	The article	Recommer	No		
Unites Stat	United Stat	Case study	No	integration	Not applica	"The purpo	"We found	No		
Unites Stat	United Stat	Case study	No	integration	Not applica	"The purpo	"We found	No		
USA	NA	Theoretical	Yes	Knowledge	Coproducti	This article	We have d	Yes		
USA	NA	Theoretical	Yes	Knowledge	Coproducti	This article	We have d	Yes		
Brazil	NA	Theoretical	No	Knowledge	Network: Tl	A theoretic	Definition	No		
Brazil	NA	Theoretical	No	Knowledge	Network: Tl	A theoretic	Definition	No		
Brazil; Moz	NA	Case study	No	knowledge	Network: Tl	"By analyzi	"Include Br	No		
Brazil; Moz	NA	Case study	No	knowledge	Network: Tl	"By analyzi	"Include Br	No		
Peru	Canada Re	Case study	No	knowledge	Loading do	"This paper	"... direct c	No		

Peru	Canada	Re	Case study	No	knowledge Loading do	"This paper"... direct cc No

Does this it	Does this it	(if applicabl	(if applicabl	Is there anything else you would like to add about this iter
Yes	Yes	The Nature	US Forest Service, 0%; US Fish & Wildlife Service, 0%; National Pa	
Yes	Yes	The Nature	US Forest S	NA
No	Yes	NA	La Corporation de gestion de la Forêt de l'Aigle (CGFA), socially-owr	
No	Yes	NA	La Corporation de gestion de la Forêt de l'Aigle (CGFA), socially-owr	
Yes	No	NA	NA	
Yes	No	NA	NA	
No	Yes			
No	Yes	NA	NA	No
Yes	No	NA	NA	
Yes	No	NA	NA	
Yes	No			
Yes	No			
No	No	NA	NA	NA
No	No	NA	NA	NA
No	No			
No	No			
No	No	NA	NA	
No	No	NA	NA	Non
No	Yes	FORREX, '	NA	The paper focuses on then-emerging technology tools to
No	Yes	FORREX, '	NA	The paper focuses on then-emerging technology tools to
Yes	No			
Yes	No			
No	No	NA	NA	NA
No	No	NA	NA	NA
No	Yes	l'Unité de F	NA	
No	Yes	l'Unité de F	NA	
No	Yes	l'Associatio	NA	NA
No	Yes	l'Associatio	NA	NA
Yes	No	Centre For	NA	
Yes	No	Centre For	NA	
Yes	Other	University E	NA	Proceedings from an international (EU-centred) conferen
Yes	Other	University E	NA	Proceedings from an international (EU-centred) conferen
Yes	No			
Yes	No	Members o	Members o	No
Yes	No			
Yes	No	NA	NA	NA
Yes	No	NA	NA	

Yes	No	NA	NA	
Yes	No	Forestry Re	Forestry Research Institute of Ghana, government, 100%	
Yes	No	Forestry Re	Forestry Research Institute of Ghana, government, 100%	
Yes	Yes	Finnish Env	NA	This paper may be very useful in how we structure our an
Yes	Yes	Finnish Env	NA	This paper may be very useful in how we structure our an
Yes	Yes	University c	University of Manchester, academia, 100%	
Yes	Yes	University c	University of Manchester, academia, 100%	
Other: Prov	No	NA		
Other: Prov	No	NA	NA	No
No	No	NA	NA	More on the policy side than science. Not much about kn
No	No	NA	NA	More on the policy side than science. Not much about kn
No	Yes	Internationa	International Union of Forest Research Organizations (IUFRO), cons	
No	Yes	Internationa	International Union of Forest Research Organizations (IUFRO), cons	
No	No	University c	University c	NA
No	No	University c	University c	NA
Yes	No	Kenya Fore	Kenya Forest Services, government, NA	
Yes	No	Kenya Fore	Kenya Forest Services, government, NA	
Yes	Yes	University c	NA	
Yes	Yes	NA	NA	
No	No	NA	NA	NA
No	No	NA	NA	NA
Yes	No			
Yes	No	NA	NA	NA
Yes	Yes	50% Univer	NA	
Yes	Yes	Indian fores	Indian forest officials, government, 0%; USDA, government, 0	
Yes	No	University c	NA	The authors developed a framework for knowledge excha
Yes	No	University c	NA	The authors developed a framework for knowledge excha
Other: No	Other: No			
Yes	Yes	Food and A	Food and Agricultural Organization of the United Nations, agency, 1(	
Yes	Yes	Food and A	Food and A	No
No	Yes	University c	NA	
No	Yes	University c	NA	None
No	Yes	Internationa	IRG, NGO, NA; University of Goettingen, academia, 33.2%; Norwegi	
No	Yes	Internationa	IRG, NGO, NA; University of Goettingen, academia, 33.2%; Norwegi	
Yes	Yes	US Forest S	NA	
Yes	Yes	US Forest S	NA	

Yes	No	NA	NA	
Yes	No	NA	NA	
Yes	No	NA	NA	
Yes	No	NA	NA	
Yes	No	NA	NA	
Yes	No	NA	NA	
Yes	No	NA	NA	
Yes	No	NA	NA	The word used to capture the idea of 'knowledge broker' i
No	Yes	Natural Re:	NA	
No	Yes	Natural Re:	NA	It's a talk from a conference, a powerpoint slide deck.
Yes	Yes	Canadian V	Canadian Wood Fibre Centre, Canadian Forest Service, Natural Res	
Yes	Yes	Canadian V	Canadian Wood Fibre Centre, Canadian Forest Service, Natural Res	
Yes	No	Laval Unive	Laval University, academia, 80%; Natural Resources Canada (Canad	
Yes	No	Laval Unive	Laval Unive	NA
No	Yes	NA	NA	
No	Yes	NA	NA	No
No	Yes	Institute for	Institute for	Poor English made comprehension difficult.
No	Yes	Institute for	Institute for	Poor English made comprehension difficult.
Yes	No	University c	University c	No
Yes	No	University c	NA	No
No	No	NA	NA	
No	No	NA	NA	
No	No			
No	No	NA	NA	
No	No	NA	NA	NA
No	No	NA	NA	NA
Other: Yes	Other: No	Gouvernen	NA	
Yes	Yes	Food and A	National forest programmes, government, NA; FAO, NGO, 33%;	
Yes	Yes	Food and A	National for	None
No	Yes	IUFRO, NG	IUFRO, NG	IUFRO is a global association of forestry research organiz
No	Yes	IUFRO, NG	IUFRO, NG	IUFRO is a global association of forestry research organiz
Yes	Yes	FORREX–F	Ontario Forest Research Institute, Ministry of Natural Resources 50%	
Other: No	Other: No	No	No	No
No	Yes	NA	NA	Interesting case study on knowledge exchange between t
No	Yes	NA	NA	Interesting case study on knowledge exchange between t

Other: No	Other: Yes	Internationa	Internationa	No
Yes	No	Forest Scie	Forest Science-Policy Interface, consortium, 20%; Division 6 - Social	
Yes	No	Forest Scie	Forest Science-Policy Interface, consortium, 20%; Division 6 - Social	
Yes	Yes	NA	NA	Good overview of a successful past experience and learn
Yes	Yes	NA	NA	Good overview of a successful past experience and learn
No	Yes	NA	NA	
No	Yes	NA	NA	NA
Yes	No	NA	NA	This article is a very good example of knowledge exchang
Yes	No	NA	NA	This article is a very good example of knowledge exchang
No	No	Faculty of E	Forest Research Institute Baden-Wuerttemberg 50%	
No	No	NA	NA	No
No	No			
No	No	NA	NA	
No	Yes	Technical U	Technical University of Munich, academia, 50%; Bavarian State Insti	
No	Yes	Technical U	Technical U	This article is so unintelligible and poorly written that it is l
No	Yes	Ontario Mir	Ontario Mir	NA
No	Yes	Ontario Mir	Ontario Mir	NA
No	No	NA	NA	
No	No	NA	NA	
No	No	NA	NA	NA
No	No	NA	NA	NA
Yes	No	NGOS, NA	NGOS, NA; Government, NA; Associations & Concessionaires, NA; I	
Yes	No	NGOS, NA	NGOS, NA	NA
Yes	Other	Internationa	European Union, government, NA	
Yes	Other	Internationa	European U	No
No	No	NA	NA	NA
No	No	NA	NA	NA
Other: This	No	NA	NA	This paper is interesting because it mentions the science-
Other: This	No	NA	NA	This paper is interesting because it mentions the science-
No	No	NA	NA	The methods are strange to me in this one - using qualita
No	No	NA	NA	The methods are strange to me in this one - using qualita
No	No	NA	NA	NA
No	No	NA	NA	NA
Yes	Yes	Mediterran	EFIMED, g	NA
Yes	Yes	Mediterran	EFIMED, g	NA
No	Yes	Forest Res	Forestry Commission (FC), 0%; Institute of Chartered Foresters 0%	
No	Yes	Forest Res	Forestry Co	NA
No	No	University c	NA	

No	No	University c	NA	No
Yes	Yes	USDA Fore	US federal	government 0%, US Secretary of Agriculture 0%, US Nati
Yes	Yes	USDA Fore	US federal	No
Yes	No	Bundesamt	UNESCO	World Heritage Committee (WHC) 0%; Länder (federal sta
Yes	No	Bundesamt	UNESCO V	NA
Yes	Yes	NA	NA	I really enjoyed reading this article and I agree with their i
Yes	Yes	NA	NA	I really enjoyed reading this article and I agree with their i
Yes	No	NA	NA	The article reported on a survey of forest scientists and p
Yes	No	NA	NA	The article reported on a survey of forest scientists and p
Yes	Yes	USDA, gov	USDA,	government, 100%
Yes	Yes	USDA, gov	USDA, gov	NA
Yes	No	NA	NA	Definition: "Participatory forestry is a management practic
Yes	No	NA	NA	Definition: "Participatory forestry is a management practic
Yes	Yes	NA	NA	Solid article evaluating the integration of policy into scien
Yes	Yes	NA	NA	Solid article evaluating the integration of policy into scien
Other: Artic	No	Wageninge	NA	
Other: Artic	No	Wageninge	NA	NA
No	Yes	NA	NA	This study is a summary of a panel discussion during a c
No	Yes	NA	NA	This study is a summary of a panel discussion during a c
Yes	Yes	LTER Netw	Harvard Fo	This is a paper that presents relevant details from five cas
Yes	Yes	LTER Netw	Harvard Fo	This is a paper that presents relevant details from five cas
No	No	NA	NA	NA
No	No	NA	NA	NA
Yes	No	University c	NA	
Yes	No	University c	NA	
Yes	No	The Forest	The Forest	Science-Policy Interface, International Union of Forest Re
Yes	No	NA	NA	No
Yes	No	Swiss Fede	Operational	Potential of Ecosystem Research Applications, funding a
Yes	No	Swiss Fede	Operationa	No
Other: Yes,	Yes			Since this paper was a summary of so many different reg
Other: Yes,	Yes			Since this paper was a summary of so many different reg
No	No	NA	NA	NA
No	No	NA	NA	NA
No	No	NA	NA	NA
No	No	NA	NA	NA
Yes	No	Internationa	International	Union of Forest Research Organization, NGO, 50%; Ins
Yes	No	Internationa	International	Union of Forest Research Organization, NGO, 50%; Ins

Yes	No	NA	NA	This article is a summary of knowledge exchange corrobo
Yes	No	NA	NA	This article is a summary of knowledge exchange corrobo
Yes	Yes	Southwest	US Forest S	NA
Yes	Yes	Southwest	US Forest S	NA
Yes	Yes	National Ur	NA	
Yes	Yes	National Ur	NA	NA
Yes	No	the public C	NeighbourW	Woods 0%
Yes	No	the public C	NeighbourW	No
Yes	No	EnLiFT Pol	Department of Forests and Soil Conservation, government, 0%	
Yes	No	EnLiFT Pol	Department of Forests and Soil Conservation, government, 0%	
Yes	No	NA	Global Partnership on Forest and Landscape Restoration, NA; Intern	
Other: No	No	NA	NA	Although a model like 'loading dock' was proposed, where
No	Yes	U.S. Forest	U.S. Forest	NA
No	Yes	U.S. Forest	U.S. Forest	NA
No	No			
No	Other: Yes	Internationa	NA	
Yes	Yes	University o	University of the Highlands and Islands, academia, 8.3%; INRAE, go	
Yes	Yes	University o	University of the Highlands and Islands, academia, 8.3%; INRAE, go	
No	No	NA	NA	NA
No	No	NA	NA	NA
No	No			
No	No			
Yes	Yes	NA	NA	Good overview of the knowledge exchange process for U
Yes	Yes	NA	NA	Good overview of the knowledge exchange process for U
Yes	No	NA	NA	This article is sound and provides a very thorough framev
Yes	No	NA	NA	This article is sound and provides a very thorough framev
No	No	NA	NA	Article based on a desk review of research organizations
No	No	NA	NA	Article based on a desk review of research organizations
No	No	NA	NA	NA
No	No	NA	NA	NA
Yes	No	The main fo	NA	
Yes	No	The main fo	NA	no
Yes	No	FAO, 50%;	Governments, NA; Forest Sector, NA; Not specified stakeholders ,NA	
Yes	No	FAO, 50%;	Governmer	NO
Yes	Yes	Maastricht	Internationa	Thesis examined four knowledge exchange initiatives but
Yes	Yes	Maastricht	Internationa	Thesis examined four knowledge exchange initiatives but
Yes	No	Brazil Nut F	Department of Madre de Dios (Peru), government, 0%	

Yes	No	Brazil Nut F	Departmen NA

m not captured by previous questions?
ırk Service, 0%; Bureau of Land Management, 0%; US Geologic Survey, 0%; Natural Resources Conse

ned enterprise, NA

ned enterprise, NA

use with knowledge exchange, but the focus is really on knowledge management within and between o

use with knowledge exchange, but the focus is really on knowledge management within and between o

ce. Distribution of knowledge producers ID'ed above are co-authors only. Contributions list included in d

ce. Distribution of knowledge producers ID'ed above are co-authors only. Contributions list included in d

nalysis for CFS

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owledge exchange here.
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ange from Monroe et al 2007, the framework has three levels, information sharing, skills building, and kn

ange from Monroe et al 2007, the framework has three levels, information sharing, skills building, and kn

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ian Institute of Bioeconomy Research, government, 16.6%; University of Ljubljana, academia, 16.6%; D

ian Institute of Bioeconomy Research, government, 16.6%; University of Ljubljana, academia, 16.6%; D

is 'un transporteur' ou 'un transporteur professionel'

sources Canada, government, 100%; Canadian Institute of Forestry, NA; Canadian Woodlands Forum, c

sources Canada, government, 100%; Canadian Institute of Forestry, NA; Canadian Woodlands Forum, c
dian Forest Service, Laurentian Forestry Centre), government, 20%; Pessamit, Indigenous group, NA

zations. I put it in the NGO sector but I am not sure whether it is a good fit.

zations. I put it in the NGO sector but I am not sure whether it is a good fit.
%, Silviculture institute 0%, U.S. Forest Service 0%, BC Provincial Government 0%, Ontario Provincial G

forest owners in Finland.

forest owners in Finland.

l, Economic, Information and Policy Sciences, NGO, 20%; Division 1 - Silviculture, International Union o

l, Economic, Information and Policy Sciences, NGO, 20%; Division 1 - Silviculture, International Union o
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ıings from it.

ge between indigenous people and provincial governments (i.e. BC) and the many challenges of integra

ge between indigenous people and provincial governments (i.e. BC) and the many challenges of integra

ıtute of Forestry, academia, 50%

hard to properly assess.

Researchers/Field Assistants, 100%; Regentes, NA

-policy gap and produces information to fill a specific part of that gap, but it does so by creating another

-policy gap and produces information to fill a specific part of that gap, but it does so by creating another
ıtive interviews and doing statistical analysis on them. It's not to discredit it, just to flag that it's strange. M

ıtive interviews and doing statistical analysis on them. It's not to discredit it, just to flag that it's strange. M

ional Assessment 0%, Pacific Basin Coastal Zone Management 0%, Hawaii Congress of Planning Offici

ates) 0%

important concluding paragraph: "Finally, although the design of the scientific process is intended to pro

important concluding paragraph: "Finally, although the design of the scientific process is intended to pro
olicy makers from Europe. Questionnaires were mailed to 229 participants, 77 participants from 40 Euro

olicy makers from Europe. Questionnaires were mailed to 229 participants, 77 participants from 40 Euro

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ce in which forests are controlled as common property by forest dependent communities who share deci
ce in Norway and Sweden.

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conference on policy-science interactions in Europe for Small- and Medium Enterprises (SME)

conference on policy-science interactions in Europe for Small- and Medium Enterprises (SME)
se studies conducted by members of the LTER network. They collectively cut across many situations wi

se studies conducted by members of the LTER network. They collectively cut across many situations wi

esearch Organizations 50%, Science-Policy, Planning, Inventory and Information, US Department of Agr

agency, NA

gions and sectors, and the author did not describe their involvement with any of them, I have elected not

gions and sectors, and the author did not describe their involvement with any of them, I have elected not

stitute of Forest, Environmental and Natural Resource Policy, academia, 50%

stitute of Forest, Environmental and Natural Resource Policy, academia, 50%

orated by presenting several case studies. Each case study has a unique structure in terms of generatin

orated by presenting several case studies. Each case study has a unique structure in terms of generatin

ational Union for the Conservation of NatureWorld Resources Institute, NA; United Nations, NA

eby knowledge producers answer defined questions, the authors advocated for deliberate and more effe

vernment, 8.3%; University of Eastern Finland, academia, 8.3%; Natural Resources Institute Finland, ac

vernment, 8.3%; University of Eastern Finland, academia, 8.3%; Natural Resources Institute Finland, ac

Jrban forestry with several examples from North America and Europe

Jrban forestry with several examples from North America and Europe
work for knowledge transfer together with a very interesting case study. This is a solid reference.

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in three countries, however, I think it is worth noting that two of the reviewed organizations (CIFOR and

in three countries, however, I think it is worth noting that two of the reviewed organizations (CIFOR and

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t didn't provide enough detail about the initiatives.

t didn't provide enough detail about the initiatives.

rvation Service, 0%; Bureau of Reclamation, 0%; Environmental Protection Agency, 0%; State Fish and

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nowledge generation. The framework was used to analyse the knowledge exchange activities of graduat

nowledge generation. The framework was used to analyse the knowledge exchange activities of graduat

J Timber Consultancy Limited, industry, 16.6%; Heinz-Piest-Intitute for Skilled Crafts, government, 16.6

J Timber Consultancy Limited, industry, 16.6%; Heinz-Piest-Intitute for Skilled Crafts, government, 16.6

consortium, NA; Partenariat Innovation Forêt, NA; House of Commons Standing Committee on Natural F

consortium, NA; Partenariat Innovation Forêt, NA; House of Commons Standing Committee on Natural F

Government 0%,

f Forest Research Organizations, Vienna, Austria, NGO, 20%; United States Development of Agriculture

f Forest Research Organizations, Vienna, Austria, NGO, 20%; United States Development of Agriculture

ating TEK (Traditional Ecological Knowledge) and "western science" into forest policy.

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loading-dock style paper

loading-dock style paper

Mainly that's because it's trying to quantify qualitative data. I don't understand the benefit of that.

Mainly that's because it's trying to quantify qualitative data. I don't understand the benefit of that.

ials 0%, Panel on Climate Change 0%

mote rational thought and exploration of the unknown, assuming that the policy-making process is equa

mote rational thought and exploration of the unknown, assuming that the policy-making process is equa
opean countries responded. However the participants' countries were not listed to provide anonymity. In

opean countries responded. However the participants' countries were not listed to provide anonymity. In

ision-making authority among themselves, and use those resources to support their subsistence-oriente

ision-making authority among themselves, and use those resources to support their subsistence-oriente

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thin the USA and highlight different models/approaches. Shows that outreach and uptake activities are c

riculture 50%

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ıg the knowledge and sharing it; however, it remains a very high level summary of existing knowledge or

ıg the knowledge and sharing it; however, it remains a very high level summary of existing knowledge or

ective means of knowledge transfer to users

cademia, 8.3%; University Stefan cel Mare, academia, 8.3%; University of Aberdeen, academia, 8.3%; F

cademia, 8.3%; University Stefan cel Mare, academia, 8.3%; University of Aberdeen, academia, 8.3%; F

l IUFRO) are international thus extending the focus of the article.

l IUFRO) are international thus extending the focus of the article.

Wildlife, 0%; Natural Heritage Programs, 0%; State Forestry, 0%

te students and then develop guidelines and strategies for effective knowledge exchange

te students and then develop guidelines and strategies for effective knowledge exchange

%; LNEC, academia, 16.6%

%; LNEC, academia, 16.6%

Resources, government, NA; US Forest Service, government, NA; Tembec, industry, NA; J.D. Irving Ltd.

Resources, government, NA; US Forest Service, government, NA; Tembec, industry, NA; J.D. Irving Ltd.

e, Forest Service, Research and Development, Washington, DC, USA, government, 20%; Skov & Lands

e, Forest Service, Research and Development, Washington, DC, USA, government, 20%; Skov & Lands

ılly rational may be unwarranted. People who successfully span the boundaries between the scientific ar

ılly rational may be unwarranted. People who successfully span the boundaries between the scientific ar
addition, it is not clear whether there was a respondent from the author's institute.

addition, it is not clear whether there was a respondent from the author's institute.

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quantifiable; however, impact remains obscure to measure.

quantifiable; however, impact remains obscure to measure.

n specific topics rather then advancing our understanding of knowledge exchange per se.

n specific topics rather then advancing our understanding of knowledge exchange per se.

Forest Research Institute, government, 8.3%; Swedish University of Agricultural Sciences, academia, 8.3

Forest Research Institute, government, 8.3%; Swedish University of Agricultural Sciences, academia, 8.3

., industry, NA; Corner Brooker Pulp and Paper, industry, NA

., industry, NA; Corner Brooker Pulp and Paper, industry, NA

skab, Danish Centre for Forest, Landscape and Planning, NGO, 20%

skab, Danish Centre for Forest, Landscape and Planning, NGO, 20%

rena and the policy arena have learned to live with this dichotomy. That does not make one right and the

rena and the policy arena have learned to live with this dichotomy. That does not make one right and the

3%; Wildlife and Forestry Department, Belgium, government, 8.3%; Karelia University of Applied Scienc

3%; Wildlife and Forestry Department, Belgium, government, 8.3%; Karelia University of Applied Scienc

e other wrong. It just makes them different. Scientists who hope to be effective boundary spanners betwe

e other wrong. It just makes them different. Scientists who hope to be effective boundary spanners betwe

:es, academia, 8.3%; Estonian University of Life Sciences, academia, 8.3%; Latvia University of Life Sci

:es, academia, 8.3%; Estonian University of Life Sciences, academia, 8.3%; Latvia University of Life Sci

een forest science and forest policy need to learn how to celebrate the differences between the two."

een forest science and forest policy need to learn how to celebrate the differences between the two."

ences and Technologies, academia, 8.3%

ences and Technologies, academia, 8.3%

This datasheet includes extracted and cleaned data for the paper Westwood et al. (in revision

Sheet	Description
Variable codes	Descriptions of the variable codes used in su
DATA	Full dataset, cleaned after export from covide
COUNTRYxYEARxEFFECTxIKxKETYPE	Datasheet which isolates the variables of 'Co
KETYPExEFFECTxCOUNTRYxYEARxIK	Datasheet which isolates the variables of 'Kn
KEYWORDSxYEAR	Datasheet which isolates the variables of 'Ke
ITEMTYPExYEARxEFFECTxIK	Datasheet which isolates the variables of 'Ite
IKxYEARxFORMATxITYPExEFFxKETYPE	Datasheet which isolates the variables of 'Ind

) A systematic map of knowledge exchange across the science-policy interface for forest s

bsequent sheets
ence (raw data available in Appendix 5)
untry', 'Publication Year', 'Evidence of Effectiveness', 'Indigenous and Local Knowledge' ar
owledge Exchange Type', 'Evidence of Effectiveness', 'Country' and 'Publication Year' and
ywords' and 'Publication Year to support further analysis
m Type', 'Publication Year', 'Evidence of Effectiveness', and 'Indigenous and Local Knowle
digenous and Local Knowledge', 'Publicaiton Year', 'Item Format', 'Item Type', 'Evidence of

cience: How can we improve consistency and effectiveness? *Ecological Solutions and Evi*

ıd 'Knowledge Exchange Type' to support further analysis
'Indigenous and Local Knowledge' to support further analysis

dge'
Effectiveness', and 'Knowledge Exchange Type'

idence.

Variable code
COVNUM
SHORTCIT
FULLCIT
FORMAT
KEYWORDS
COUNTRIES
FUNDERS
ITEMTYPE
ITEMTYPE_clean
ITEMTYPE_clean_short
EFFECT
KETERMS
KETYPE
KETYPE_clean_typology
OBJECTIVE
FINDINGS
IK
KEBETWEEN
KEWITHIN
PRODUCERS
USERS
NOTES

Description
Item number given by Covidence
Short citation (author year)
Full item citation
Format of presented item (peer-reviewed paper, gray literature, thesis, presentation, etc.)
Item keywords, separated by semicolons
Countries included in item, separated by semicolons
Funders of item where identified, separated by semicolons
Item is a case study presenting an example of KE, theoretical framework for how knowledge exchange does or
A cleaned version of 'ITEMTYPE' where items categorized as 'other' were re-coded into new or existing categor
A version of 'ITEMTYPE_CLEAN' where categories were given short codes for ease of analysis
Whether the item evaluates the effectiveness of the KE technique presented therein (yes or no)
Terms used in the item as a synonym for knowledge exchange, separated by semicolons
Type of KE (solicited, loading dock, coproduction, network, or other)
A version of 'KETYPE' where responses were re-coded into the typology given in Westwood et al. 2021
Long form text describing objective of item. Quotes indicated text directly pasted from item. Semicolons separ
Long form text describing main findings or recommendations of the item. Quotes indicated text directly paste
Whether the item includes Indigenous knowledge, traditional knowledge, or non-Eurocentric ways of knowing
Item describes KE between producers of knowledge and users of knowledge
Item describes KE within a group that includes both producers of knowledge and users of knowledge
List of institutions who are knowledge producers, sector, % of named coauthors. Institutions separated by sem
List of institutions who are knowledge users, sector, % of named coauthors. Institutions separated by semicolc
Additional information added by the data extractor of that item

COVNUM	SHORTCIT	YEAR	FULLCIT
1	Ramirez & Belcher, 2(	2020	Ramirez, L. F., and Belcher, B.M. 2020. C
3	Amorelli Ribeiro Korne	2016	Amorelli Ribeiro Kornexl, L., 2016. South-
4	Amorelli Ribeiro Korne	2017	Again I struggle with the citation. This is a
5	Fortmann & Ballard, 2	2011	Fortmann, L., Ballard, H. 2011. Sciences,
6	Clark & Meidinger, 19	1998	Clark, R. N., Meidinger, E. E. [and others]
7	Klenk & Wyatt, 2015	2015	Klenk, N.L., and Wyatt, S. 2015. The desi
11	Boecher & Krott, 2014	2014	Boecher, M. and Krott, M. 2014. The RIU
13	Konijnendijk, 2004	2004	Konijnendijk, C.C. 2005. Enhancing the F
15	Nautiyal & Nidamanur	2012	Nautiyal, S., Nidamanuri, R.R. 2012. Ecol
16	Savari, Eskandari Dar	2020	Savari, M., Eskandari Damaneh, H., & Esl
17	Lawrence et al., 2020	2020	Lawrence, A., Deuffic, P., Hujala, T., Nich
19	Kleine, 2009	2009	Kleine, Michael. 2009. Capacity Building f
21	Shaw, Everest & Swar	2000	Shaw, C. G., Everest, F. H., & Swanston,
24	Chazdon et al., 2017	2017	Chazdon, R. L., Brancalion, P. H. S., Lam
25	Ojha et al., 2020	2020	Ohja, H., Regmi, U., Shrestha, K.K., Paud
27	Janse & Konijnendijk,	2007	Janse, Gerben, & Konijnendijk, Cecil C. 2(
29	Caceres et al., 2016	2016	Caceres, D.M., Silvetti, F., and Diaz, S. 2(
31	Wurtzebach et al., 201	2019	Wurtzebach, Z., Schultz, C., Waltz, A. E. I
35	Benz et al., 2020	2020	Benz, J.P.; Chen, S.; Dang, S.; Dieter, M.
36	Mayer et al., 2004	2004	Mayer, P., Rametsteiner, E. 2004. Forest
38	Purse, et al., 2020	2020	Purse, B. V, Darshan, N., Kasabi, G. S., G
39	Winkel & Jump, 2014	2014	Winkel, G., and Jump, A. S. 2014. Perspe
42	Elliott, 2018	2018	Elliot, S. 2018. The interface between fore
43	Gret-Regamey et al., 2	2017	Gret-Regamey, A., Siren, E., Brunner, S. I
45	Guldin, 2003	2003	Guldin, R. W. 2003. Forest science and fo
47	Hockings et al., 2020	2020	Hockings, K.J., Parathian, H., Bessa, J., F
48	Jara-Rojas et al., 202(	2020	Jara-Rojas, Roberto, Russy, Soraya, Roc
50	Driscoll et al., 2012	2012	Driscoll, C.T., Lambert, K. F., Iii, F., Stuart
53	Aggestam & Weiss, 2	2011	Aggestam, F., and Weiss, G. 2011. Innova
54	Arts & Buizer, 2009	2009	Arts, B. and Buizer, M. 2009. Forests, disc
55	Gulbrandsen, 2008	2008	Gulbrandsen, L.H., 2008. The Role of Sci
57	Basnet & Karki, 2020	2020	Basnet, S. and Karki, B. S. 2020. REDD+
58	Mills et al., 1998	1998	Mills, T. J. Everest, F. H. Janik, P., Pendle
59	Janse, 2008	2008	Janse, G. 2008. Communication between
61	Guldin et al., 2004	2004	Guldin, R. W.; Koch, N. E.; Parrotta, J. A.;
64	Heim, Krott & Bacher,	2018	Heim, Janina, Krott, Max, & Bacher, Micha
65	Joyce, 2003	2003	Joyce, L. A. 2003. Improving the flow of s
67	Gonzalez & Kroger, 2(	2020	Gonzalez, N.C., Kroger, M. 2020. The pot
68	Stewart, Edwards & La	2014	Stewart, A., Edwards, D., & Lawrence, A.
70	de Arano, 2014	2014	de Arano, I.M., 2014. EFIMED: Strengthe
71	Reynolds, Johnson &	2003	Reynolds, K. M, Johnson, K. N., & Gordor
74	Hardianti et al., 2020	2020	Hariantia A. L. Permadi, D. B. Rohman 2(
77	Wistbacka et al., 2018	2018	Wistbacka, R., Orell, M., A. Santangeli. 2(
78	Tarbox et al., 2020	2020	Tarbox, B. C., Swisher, M., Calle, Z., Wils
79	Buttoud, 2014	2014	Buttoud, G. 2014. Research and innovatic
81	Ramirez & Belcher, 2(	2019	Ramirez, L.F., Belcher, B.M. 2019. Stakel
85	Schick et al., 2018	2018	Schick, A., Sandig, C., Krause, A., Hobso
87	Krott, 2012	2012	Krott, Max. 2012. Value and risks of the u

88	Klenk & Hickey, 2011	2011 Klenk, N.L., and Hickey, G.M. 2011. Gove
91	Aurenhammer, 2020	2020 Aurenhammer, P.K. 2020. Nudging in the
92	Thompson, 2015	2015 Thompson, Ian D. 2015. An overview of th
94	Joa & Schraml, 2020	2020 Joa, Bettina, & Schraml, Ulrich. 2020. Cor
95	Diver, 2017	2017 Diver, S. 2017. Negotiating Indigenous kn
97	Eden, 2009	2009 Eden, S. 2009. The work of environmenta
98	Peterson & Shriner, 2(	2004 Peterson, C.E, and Shriner D. S. 2004. Co
99	Guldin et al., 2004	2004 Guldin, R., Koch, N.E., Parrotta, J., Gamb
100	Parrotta & Campos Ar	2003 Parrotta, John A, & Campos Arce, José Jo
103	Virkulla et al., 2015	2015 Hamunen K., Virkkula O., Hujala T., Hieda
106	DeYoe & Hollstedt, 20	2004 David DeYoe, & Chris Hollstedt. 2004. A k
107	Guldin et al., 2004	2004 Guldin, R.W., Parrotta, J.A., and Hellstron
110	Arnold et al., 2014	2014 Arnold, F.E., Rametsteiner, E., and Kleinn
111	Tousignant, 2017	2017 Tousignant, Denise. 2017. Publications, tr
113	Vargas, et al., 2017	2017 Vargas, R., Alcaraz-Segura, D., Birdsey, F
116	Hamunen, 2013	2013 Hamunen, K. 2013. Forest owners social
117	Asselin, 2015	2015 Asselin, H. 2015. Indigenous Forest Know
119	Tokola & Mustalahti, 2	2019 Tokola, N., Mustalahti, I. 2019. Rooting fo
121	Krott, 2003	2003 Krott, M. 2003. Catalyst for innovation in E
124	Swartling et al., 2017	2017 Swartling, A. G., Tenggren, S., Andrea K.,
125	Theberge et al., 2019	2019 Theberge, D., Picard, M.A., Leguerrier, J.,
126	D'Eon & MacAfee, 20	2016 D'Eon, S., and K. MacAfee. 2016. Knowle
127	NRCan, 2019	2019 Natural Resources Canada. 2019. Knowle
128	Afxantidis, 2009	2009 Afxantidis, D. 2009. Le transfert: la questi
129	Dimanche, 2009	2009 Dimanche, M. 2009. Quels rÃ©seaux d'ac
130	Conseil canadien des	2012 Conseil canadien des ministres des forÃªt
131	Boutinot, 2000	2000 Boutinot, L. 2000. De la connaissance Ã
132	Knoepp et al., 2019	2019 Knoepp, J.D, Adams, M.B., Harrison, R., V
133	Brischke et al., 2018	2018 Brischke, C., Alfredsen, G., Bollmus, S., H
134	Bayne et al., 2016	2016 Bayne, K.., Moore, J., Fielke, S. 2016. Str
135	Santos, 2018	2018 Santos, V.F. 2018. Knowledge sharing in
136	Newell-Price et al., 20	2015 Newell-Price, J.P. et al. 2015. VALERIE -
137	Duchelle et al., 2009	2009 Duchelle, A.E., Biedenweg, K., Lucas, C.,
139	Fleischman & Briske,	2016 Fleischman, F., and D. D. Briske. 2016. P
140	Oslejs et al., 2007	2007 Oslejs, J. Gamborg C. 2007. Sustainable
141	Tomich et al., 2007	2007 Tomich, T. P., Timmer, D. W., Velarde, S.
142	Carvalho, 2016	2016 Carvalho, P. 2016. Forest science-policy i
143	Ochuodho & Odera, 2	2008 Ochuodho, T.O., J.A., Odera. 2008. The r
145	Kamelarczyk, 2013	2013 Kamelarczyk, K.B.F. 2013. Environmental
146	Meridian Institute, 200	2004 Meridian Institute, 2004. IUFRO Task For
147	Leclerc et Sergent, 20	2013 Leclerc, E., Sergent, A. 2013. Comparaisc
149	Berger & Rey, 2004	2004 Berger, F., and F. Rey. 2004. Mountain pr
150	Mcmorrow, 2013	2013 Mcmorrow, J. 2013. Knowledge for Wildfir
151	Saarela, 2019	2019 Saarela, S. 2019. From pure science to pa
152	Marfo et al., 2009	2009 Marfo, E., Nutakor, E. 2009. Communicati
153	Hviding, 2006	2006 Hviding, E. 2006. ConnaÃ®tre et gÃ©rer l
154	Ruslandi et al., 2014	2014 Ruslandi, R., Roopsind, A., Sist, P., Pena
158	Monnet, 2005	2005 Monnet, Sophie. 2005. L'apprentissage co

159	Young et al., 2004	2004 Young, J., Gray, B., Lambdon, P., Rientje
160	Salvignol, 2011	2011 Salvignol, C. 2011. Exemple de mÃ©thod
161	Poulet, 2008	2008 Poulet, D. 2008. L'association Internationa
162	Bouhedi, 2013	2013 Bouhedi, M.-C. 2013. Le partage des con
164	Marqui & Reynaud, 20	2019 Marqui C., Reynaud L. 2019. ACTAE Reg
165	Dumrongrojwatthana,	2010 Dumrongrojwatthana, P. 2010.Intéraction
166	Innes, 2002	2002 Innis, T. 2002. Improving knowledge exch
167	Martinez, 2015	2015 Martinez, G. 2015. Lâ evolution silencieus
168	Ollivier & Grulois, 200	2009 Ollivier, P., Grulois, S. 2009. Le transfert d
169	Regolini, Gentilini & Lu	2010 Regolini, A., Gentilini, E., & Luque, S. 201
171	Ebakisse, 2014	2014 Ebakisse, S. 2014. Appropriation de la rec
172	de Montgolfier, 2009	2009 de Montgolfier, J. 2009. Le contexte Â« m
174	Landry, 2009	2009 Landry, Marie-Eve. 2009. Approche systÃ
176	Doblas-Miranda et al.,	2015 Doblas-Miranda, E. et al. 2015. Le rÃ©sea
177	Chiasson et al., 2005	2005 Chiasson, G., Boucher, J. L., and Martin,
182	Wurtzebach, 2018	2018 Wurtzebach, Z. P. 2018. Knowledge Mana

FORMAT	KEYWORDS 1	KEYWORDS 2	KEYWORDS 3	KEYWORDS 4
Peer-reviewed article	NA			
Thesis (Undergraduate, Master's,	South-South Coo	Knowledge Exch	Forest Sector	Brazil
Report (e.g. NGO, government, cc	NA			
Peer-reviewed article	Non-timber forest	Forest understor	Gaultheria	
Report (e.g. NGO, government, cc	Science	policy	natural resource	integration
Peer-reviewed article	Research networ	Science-policy ir	Network compe	Research utiliza
Peer-reviewed article	Scientific knowle	Forest managem	Climate change	Decision
Peer-reviewed article	Europe	forest science/pc	good practice	urban forestry
Peer-reviewed article	Conservation pol	Sustainable liveli	Science-policy i	Remote sensing
Peer-reviewed article	Natural resources	Participation	Sustainable ma	Sustainable dev
Peer-reviewed article	family forestry	knowledge excha	policy tools	private forest ow
Peer-reviewed article	Science-policy in	forest science	research comm	developing cour
Peer-reviewed article	Risk assessment	Forest planning	Southeast Alasl	Consistency eva
Peer-reviewed article	Aichi biodiversity	Bonn challenge	environmental p	ecological resto
Peer-reviewed article	Science-policy in	Research-policy	Policy lab	Forest policy
Peer-reviewed article	Public participatic	Science-policy ir	Social inclusive	Urban woodland
Peer-reviewed article	NA			
Peer-reviewed article	Knowledge mana	Adaptation	Governance	Scale
Peer-reviewed article	multifunctionality	ecosystem servic	forest managem	forest products
Peer-reviewed article	Forest policy	forest science	MCPFE	
Peer-reviewed article	NA			
Peer-reviewed article	Interdisciplinarity	Conservation po	Science policy i	Science manage
Conference proceedings or works	forest science-po	REDD+, plantation, forestry industry		
Peer-reviewed article	Decision making	Environmental p	Land managem	Trade-off analys
Peer-reviewed article	Forest policy	Scientific commu	Science-policy interface	
Peer-reviewed article	human-wildlife co	social-ecological	wild resource us	great ape
Peer-reviewed article	agroforestry prac	livestock system	adoption	conservation
Peer-reviewed article	boundary spanni	environmental p	Long Term Eco	science commu
Book chapter	NA			
Peer-reviewed article	Global forest poli	Discourse analys	Institutional ana	Policy arrangem
Peer-reviewed article	NA			
Peer-reviewed article	REDD+	Results-based p	Participatory for	Benefit sharing
Peer-reviewed article	NA			
Peer-reviewed article	Science/policy int	Communication	Forest science	Forest policy
Peer-reviewed article	forest policy, scientific community, science-policy interface, values			
Peer-reviewed article	World Heritage	Multi-level gover	RIU model	Scientific knowle
Peer-reviewed article	Natural resource	Assessment cap	Stakeholder eng	Participatory ap
Peer-reviewed article	Forest definitions	Indigenous know	Agroforestry pra	Political ontolog
Peer-reviewed article	adoption	decision support	forestry	implementation
Editorial	NA			
Peer-reviewed article	Montreal Process	Forest	Ecosystem	Sustainability
Conference proceedings or works	theory of access	social forestry	knowledge	qualitative comp
Peer-reviewed article	Science-policy in	Evidence-based	Conservation et	Environmental le
Peer-reviewed article	adoption	extension	forest and lands	multipurpose tre
Conference proceedings or works	Forest research	forest policy	decision-making	science/policy in
Peer-reviewed article	science-policy int	knowledge-policy	reseach influen	stakeholders pe
Peer-reviewed article	Conservation	Ecosystem-base	Community-bas	ILK
Peer-reviewed article	Forest policy	Science-policy-ir	Analytical theor	Knowledge trans

Peer-reviewed article	Science-policy in	knowledge utililiz	science policy	government labo
Peer-reviewed article	forest intiatives	NEPIs	forest land use	conflicts
Peer-reviewed article	Biodiversity	Climate change	Climate policy	Science policy
Peer-reviewed article	Small-scale fores	Integrated Fores	Biodiversity con	Retention forest
Peer-reviewed article	Co-production of	Traditional ecolo	Forest policy ar	Indigenous right
Peer-reviewed article	Heterogeneous n	Nongovernment	Forest certificati	Environmental g
Peer-reviewed article	NPAP	peer review	quality assuran	science credibili
Peer-reviewed article	forest policy	science-policy in	scientific comm	values
Peer-reviewed article	NA			
Peer-reviewed article	communities of p	forest owner clut	guidance	knowledge shar
Peer-reviewed article	knowledge excha	forest sector	innovation, rese	extension
Report (e.g. NGO, government, ca	NA			
Peer-reviewed article	Evidence based (	forest policy	planning princip	national forest ir
Information brief/summary	NA			
Peer-reviewed article	developing count	measurement re	good practices	adaptive govern
Peer-reviewed article	decision-making	homogeneity	peer learning	non-industrial pr
Book chapter	NA			
Presentation	NA			
Peer-reviewed article	policy analysis	European forest	social sciences	
Peer-reviewed article	climate change a	coproduction of k	climate services	participatory act
Report (e.g. NGO, government, ca	Knowledge	Indigenous	ecological	traditional
Peer-reviewed article	knowledge excha	LiDAR	enhanced forest	inventory
Presentation	NA			
Conference proceedings or works	NA			
Conference proceedings or works	NA			
Report (e.g. NGO, government, ca	NA			
Editorial	NA			
Book chapter	NA			
Report (e.g. NGO, government, ca	Forest wood valu	quality percipien	consumer prefe	knowledge trans
Peer-reviewed article	knowledge excha	social capital	forestry	structural
Peer-reviewed article	Knowledge sharing, knowledge transfer, knowledge			management, fo
Conference proceedings or works	NA			
Peer-reviewed article	Brazilian Amazor	collaborative par	graduate educa	southern Africa
Peer-reviewed article	government ager	knowledge doma	knowledge integ	local knowledge
Peer-reviewed article	environment	forest managem	Latvia	policy
Peer-reviewed article	Tropical forest m	Integrated Natur	Organizational l	Distributed rese
White paper	NA			
Conference proceedings or works	Science/Policy In	Research	Forest Science	Forest Policy
Thesis (Undergraduate, Master's,	NA			
Conference proceedings or works	NA			
Report (e.g. NGO, government, ca	NA			
Peer-reviewed article	Zoning	prevention	hazards	protection forest
Presentation	NA			
Peer-reviewed article	science-policy interface, scientific knowledge, boundary work, resea			
Peer-reviewed article	science-policy int	scientific commu	Ghana forest se	communication
Peer-reviewed article	NA			
Peer-reviewed article	capacity-building	data ownership	data repository	forest policy
Thesis (Undergraduate, Master's,	NA			

Conference proceedings or works	NA			
Information brief/summary	NA			
Information brief/summary	NA			
Thesis (Undergraduate, Master's,	Information scien	travail collaborati	connaissances	communication
Report (e.g. NGO, government, c	NA			
Thesis (Undergraduate, Master's,	companion mode	renewable resou	multi-agent syst	livestock rearing
Editorial	NA			
Peer-reviewed article	NA			
Conference proceedings or works	NA			
Conference proceedings or works	NA			
Peer-reviewed article	communication d	recherche foresti	Cameroun	partage des con
Editorial	NA			
Thesis (Undergraduate, Master's,	NA			
Conference proceedings or works	NA			
Peer-reviewed article	Aboriginal people	forest policies	diversity	participation
Thesis (Undergraduate, Master's,	NA			

KEYWORDS 5	KEYWORDS 6	KEYWORDS 7	KEYWORDS 8	KEYWORDS 9	KEYWORDS 10
Mozambique					
forestry	North America				
Knowledge systems					
Support system					
urbanization					
Vegetation dynar	Natural resource management				
Deforestation					
regulation	technology transfer				
capacity building					
Decision making					
large-scale resto	New York Decla	multidisciplinary	restoration gove	restoration plannir	science-policy inte
Nepal	Evidence-informed policy				
d					
Policy design					
societal demands					
Governance	Socio-ecological systems				
Sustainability					
inter-disciplinary	local ecological	shared landscap	large mammal conservation		
hurdle model					
nication					
nents approach					
South-south lear	transboundary				
Europe					
Policy advice					
Climate change	Language of unc	Likelihood			
Global forest poli	Amazon				
knowledge excha	model	uptake			
Criteria and indic	Logic	Model	Knowledge base	Decision support	
Indonesia					
Decision making	Conservation pc	Forest managem	Forestry legislati	Species conserva	Conservation evic
sustainable cattle	working landscapes				
nterface					
rceptions of research					
MARISCO	Namibia				
sfer					

oratories
wood mobilizatio climate resilience
Traditional knowledge
Local knowledge Germany
Environmental g Cultural and ecc Indigenous mapping
Traceability
science relevanc synthesis and integration

learning commur peer learning social network

stakeholder involvement

ıance
social network ar social position

science-stakeholder processes
Environment climate change traditional ecological knowledge Indigenous

performance-based design
relational formal mechanis informal interacti innovation cluste interactive learning
orestry

scientific knowle science-policy gap
science stakeholders sustainability
Sustainable development

Kenya

mountain

ırchers' roles, forest bioenergy policy
effectiveness

research collaboration

savoirs pluridisciplinaire partage des conr communautÃ© s recherche publique

reforestation northern Thailand

communication

governance traditional knowl Outaouais Anishinabeg

KEYWORDS 11	COUNTRIES	FUNDERS	ITEMTYPE	ITEMTYPE_clean
	Peru	Canada Rese	Case study presenting an example of	Case study presentir
	Brazil; Mozambi	NA	Case study presenting an example of	Case study presentir
	Brazil	NA	Theoretical framework for how knowle	Theoretical framewo
	USA	NA	Theoretical framework for how knowle	Theoretical framewo
	USA; Canada; M	United States	Case study presenting an example of	Case study presentir
	Canada; USA; M	Northern Hard	Theoretical framework for how knowle	Theoretical framewo
	Germany	NA	Theoretical framework for how knowle	Theoretical framewo
	Europe	NA	Theoretical framework for how knowle	Theoretical framewo
	India	NA	Other: This is functionally an empirical	Other
	Iran	NA	Presents recommendations for, or eva	Presents recommen
	Finland; Swede	European Coc	Presents recommendations for, or eva	Presents recommen
	Australia; Chile;	International U	Presents recommendations for, or eva	Presents recommen
	USA	NA	Case study presenting an example of	Case study presentir
erface	NA (intl./UN)	Fellowship fro	Theoretical framework for how knowle	Theoretical framewo
	Nepal	Australian Cer	Theoretical framework for how knowle	Theoretical framewo
	Greater Florenc	EU Fifth Fram	Case study presenting an example of	Case study presentir
	Argentina	National Unive	Case study presenting an example of	Case study presentir
	USA	NA	Presents recommendations for, or eva	Presents recommen
	China; Germany	UM Global Inc	Other: Summary of knowledge and rec	Other
	NA	NA	Theoretical framework for how knowle	Theoretical framewo
	India	NA	Presents recommendations for, or eva	Presents recommen
	Germany	NA	Other: Exploration of "perspectives" or	Other
	Indonesia; Austi	NA	Other: A summary of research findings	Other
	Review of studie	EU's Seventh	Presents recommendations for, or eva	Presents recommen
	NA	NA	Other: Theoretical framework for how	Other
	Guinea-Bissau	Fundao para a	Presents recommendations for, or eva	Presents recommen
	Colombia	NA	Presents recommendations for, or eva	Presents recommen
	USA	Bullard Fellow	Other: Synthesis of 5 case studies	Other
	European Unior	NA	Theoretical framework for how knowle	Theoretical framewo
	NA	NA	Other: Case study presenting discour	Other
	Sweden; Norwa	The work was	Case study presenting an example of	Case study presentir
	Bhutan; Nepal; A	International C	Other: Presents recommendations for	Other
	USA	US Dept. of A	Case study presenting an example of	Case study presentir
	NA	European For	Presents recommendations for, or eva	Presents recommen
	Europe; Africa; I	NA	Case study presenting an example of	Case study presentir
	Germany	Federal Minist	Case study presenting an example of	Case study presentir
	USA	Forest Service	Presents recommendations for, or eva	Presents recommen
	Colombia; Peru;	Academy of F	Theoretical framework for how knowle	Theoretical framewo
	UK	Forestry Com	Presents recommendations for, or eva	Presents recommen
	Algeria; Bulgaria	NA	Other: Describes the history, purpose	Other
	NA	NA	Theoretical framework for how knowle	Theoretical framewo
	Indonesia	NA	Presents recommendations for, or eva	Presents recommen
dence	Finland	Svensk-Ã–ste	Other: They identify a place where pol	Other
	Columbia	Tropical Cons	Presents recommendations for, or eva	Presents recommen
	NA	NA	Theoretical framework for how knowle	Theoretical framewo
	Peru	Social Scien	Case study presenting an example of	Case study presentir
	Namibia	NA	Case study presenting an example of	Case study presentir
	NA	NA	Theoretical framework for how knowle	Theoretical framewo

	Canada	Sustainable F	Case study presenting an example of	Case study presentir
	Germany	European Uni	Presents recommendations for, or eva	Presents recommen
	NA	NA	Theoretical framework for how knowle	Theoretical framewo
	Germany	German Rese	Presents recommendations for, or eva	Presents recommen
	Canada	Berkeley Fellc	Theoretical framework for how knowle	Theoretical framewo
	UK; USA	Economic and	Case study presenting an example of	Case study presentir
	USA	NA	Case study presenting an example of	Case study presentir
	NA	NA	Presents recommendations for, or eva	Presents recommen
		NA	Other: Network	Other
	Finland	NordPlus Adu	Case study presenting an example of	Case study presentir
	Canada	NA	Other: Theoretical framework for how	Other
	NA	International L	Theoretical framework for how knowle	Theoretical framewo
	Bangladesh; Br	Food and Agri	Presents recommendations for, or eva	Presents recommen
	Canada	NA	Case study presenting an example of	Case study presentir
	Mexico	Division of En	Case study presenting an example of	Case study presentir
	Finland	Graduate Sch	Presents recommendations for, or eva	Presents recommen
	NA	NA	Presents recommendations for, or eva	Presents recommen
	Finland	Strategic Res	Presents recommendations for, or eva	Presents recommen
	NA	NA	Presents recommendations for, or eva	Presents recommen
	Sweden	Swedish Foun	Case study presenting an example of	Case study presentir
ecology.	Canada	NA	Theoretical framework for how knowle	Theoretical framewo
	Canada; USA; A	NA	Case study presenting an example of	Case study presentir
	Canada	NA	Theoretical framework for how knowle	Theoretical framewo
	France	NA	Presents recommendations for, or eva	Presents recommen
	France	NA	Other: Summarizes examples of know	Other
	Canada	Canadian For	Case study presenting an example of	Case study presentir
	NA	NA	Other: Presents recommendations for	Other
	NA	NA	Other: Overview of Soil Science knowl	Other
	NA	NA	Presents recommendations for, or eva	Presents recommen
	New Zealand	New Zealand	Theoretical framework for how knowle	Theoretical framewo
	NA	NA	Case study presenting an example of	Case study presentir
	United Kingdom	NA	Case study presenting an example of	Case study presentir
	South Africa; Br	University of F	Theoretical framework for how knowle	Theoretical framewo
	India; USA	US National S	Theoretical framework for how knowle	Theoretical framewo
	Latvia	Danish Coope	Case study presenting an example of	Case study presentir
	NA	Government c	Theoretical framework for how knowle	Theoretical framewo
	Portugal	NA	Presents recommendations for, or eva	Presents recommen
	Kenya	NA	Presents recommendations for, or eva	Presents recommen
	Zambia	Faculty of Life	Theoretical framework for how knowle	Theoretical framewo
	NA	NA	Theoretical framework for how knowle	Theoretical framewo
	France; Canada	NA	Case study presenting an example of	Case study presentir
	France	NA	Theoretical framework for how knowle	Theoretical framewo
	UK	Natural Envirc	Presents recommendations for, or eva	Presents recommen
	Finland	Academy of F	Presents recommendations for, or eva	Presents recommen
	Ghana	Government c	Presents recommendations for, or eva	Presents recommen
	Solomon Island	NA	Case study presenting an example of	Case study presentir
	NA	Future of Proc	Other: Presents the benefits of open d	Other
	Canada	NA	Case study presenting an example of	Case study presentir

NA	EU European	Other: Established future research pric	Other
NA	NA	Case study presenting an example of l	Case study presentir
NA	NA	Case study presenting an example of l	Case study presentir
France	NA	Case study presenting an example of l	Case study presentir
NA	Agence Franc	Presents recommendations for, or eva	Presents recommenc
Thailand	Challenge Prc	Case study presenting an example of l	Case study presentir
Canada	NA	Other: Opinion- and experience-based	Other
France	NA	Case study presenting an example of l	Case study presentir
France	NA	Presents recommendations for, or eva	Presents recommenc
NA	NA	Other: Proposal for knowledge exchan	Other
Cameroon	Centre de Rec	Presents recommendations for, or eva	Presents recommenc
NA	NA	Other: Presents recommendations for	Other
Costa Rica; Car	ForÃªt modÃ¨l	Presents recommendations for, or eva	Presents recommenc
France; Spain	NA	Case study presenting an example of l	Case study presentir
Canada	Social Scienc	Case study presenting an example of l	Case study presentir
USA	US Forest Ser	Presents recommendations for, or eva	Presents recommenc

ITEMTYPE_clean_short	EFFECT	KETERM 1	KETERM 2	KETERM 3	KETERM 4	KETERM 5
Case study	No	knowledge tra	co-production of knowledge			
Case study	No	knowledge exchange				
Theoretical framework	No	Knowledge e	Knowledge hub			
Theoretical framework	Yes	Knowledge inclusion				
Case study	No	integration				
Theoretical framework	No	knowledge m	knowledge br	knowledge e	knowledge tra	knowledge tra
Theoretical framework	Yes	knowledge transfer				
Theoretical framework	No	knowledge brokers				
Other	No	Science-policy research				
Original research	No	extension				
Original research	Yes	knowledge tra	forest advisor	knowledge e	technology transfer	
Original research	No	science-polic	communicatic	knowledge tra	knowledge transaction	
Case study	No	Scientific knowledge for decision-making				
Theoretical framework	No	knowledge tra	knowledge clients			
Theoretical framework	Yes	research-poli	science-polic	co-productior	co-inquiry	knowing-doin
Case study	Yes	communicatic	science-policy interface			
Case study	No	co-production				
Original research	No	knowledge m	knowledge in	transfer		
Other	No	NA				
Theoretical framework	No	consultative p	science-policy interface			
Original research	Yes	knowledge integration				
Other	No	knowledge transfer				
Other	No	Science-polic	Professional integrators			
Original research	Yes	science-policy interface				
Other	No	boundary-spa	transfer			
Original research	No	shared knowl	merge traditional practice and knowledge with solution			
Original research	No	knowledge exchange				
Other	No	boundary-spanning				
Theoretical framework	No	Cooperation	Networking	Flow of Knowledge		
Other	No	discourse analysis				
Case study	Yes	interactions between knowledge producers and policy-makers				
Other	No	knowledge sh	knowledge e	information sl	south-south l	research excl
Case study	No	science-polic	science-management collaboration			
Original research	No	NA				
Case study	No	NA				
Case study	No	science-polic	knowledge tra	scientific kno		
Original research	No	assessment p	communication flow			
Theoretical framework	No	transferable l	transferable practices			
Original research	No	knowledge tra	knowledge e	knowledge interaction		
Other	No	multilateral kr				
Theoretical framework	No	communication				
Original research	No	NA				
Other	No	science-policy interface				
Original research	No	knowledge tra	knowledge tra	knowledge extension		
Theoretical framework	No	science/polic	translation	transfer		
Case study	No	knowledge tra	transactional	science-polic	science-polic	knowledge-pc
Case study	Yes	knowledge cc	information exchange			
Theoretical framework	No	knowledge transfer				

Case study	No	knowledge utilization				
Original research	Yes	NA				
Theoretical framework	No	local ecological knowledge				
Original research	No	knowledge tra	knowledge extension			
Theoretical framework	No	Knowledge s	co-creating K	Knowledge linkages		
Case study	No	NA				
Case study	No	NA				
Original research	No	science-polic	information flow			
Other	No	forest science	sound scientific information in policy			
Case study	Yes	Knowledge e	transfer of kn	knowledge sharing		
Other	No	knowledge exchange				
Theoretical framework	No	NA				
Original research	No	information provision				
Case study	No	diffusion scie	transfert de connaissances			
Case study	No	knowledge tra	knowledge sharing			
Original research	No	communicatic	extension	knowledge-transfer		
Original research	No	integration of indigenous knowledge and needs in forestry				
Original research	No	living knowle	knowledge cc	knowledge cr	over-generational knowled	
Original research	No	open networking				
Case study	No	coproduction of knowledge				
Theoretical framework	No	knowledge cc	participative r	co-productior	collaborative	
Case study	Yes	knowledge exchange				
Theoretical framework	No	knowledge exchange				
Original research	No	transfert des connaissances				
Other	No	transfert des	échanges de savoir-faire			
Case study	No	échange des connaissances				
Other	No	la conaissanc	intégrer les savoirs			
Other	No	Research Ne	Experimental Forests			
Original research	No	networking	scientific exc	knowledge transfer		
Theoretical framework	Yes	knowledge e	knowledge transfer			
Case study	No	knowledge sh	knowledge tra	knowledge management		
Case study	No	knowledge exchange				
Theoretical framework	No	knowledge exchange				
Theoretical framework	No	knowledge e	knowledge integration			
Case study	No	NA				
Theoretical framework	No	integration	knowledge integration			
Original research	No	transfer mode	transaction model			
Original research	No	Science/Polic	participatory	joint problem	knowledge broker	
Theoretical framework	Yes	science-polic	knowledge tra	science-polic	rational model	
Theoretical framework	No	communication between forest scientists and policy-makers				
Case study	No	la gestion du	developpment durable			
Theoretical framework	No	Research-practitioner transfer				
Original research	No	knowledge exchange				
Original research	No	science-polic	co-design	co-productior	co-dissemina	solution-orien
Original research	Yes	science-polic	linkage	bridging mechanism		
Case study	No	intégration du	transmission des savoirs			
Other	No	data-sharing				
Case study	Yes	échange d'inf	partage de cc	collaboration	acquisition de connaisance	

Other	No	Biodiversity	trade	tourism	transport	science-policy	
Case study	No	Communicati	transfert des connaissances				
Case study	No	échange de connaissances					
Case study	Yes	partage des connaissances					
Original research	Yes	knowledge sharing					
Case study	Yes	knowledge e›	knowledge in	information sl	shared learning		
Other	No	Knowledge e:	knowledge m	extension			
Case study	No	NA					
Original research	Yes	transfert des	communication des résultats				
Other	No	exchange					
Original research	Yes	partage de connaissances					
Other	No	transfert des connaissances					
Original research	No	horizontal col	knowledge sh	networking	knowledge e›	knowledge tra	
Case study	No	échanges de connaissances					
Case study	No	intégration de	savoir pluriel				
Original research	Yes	knowledge m	knowledge brokering				

KETERM 6	KETERM 7	KETYPE	KETYPE_clean_typology	IK	KEBETWEEN	KEWITHIN
		Loading do	Collaborative	No	Yes	No
		Network: T	Network	No	Yes	Yes
		Network: T	Network	No	Yes	No
		Coproducti	Collaborative	Yes	Yes	No
		Not applica	Not applicable	No	No	No
ansfer		Network: T	Network	No	No	No
		Other: This	One-way	No	Yes	No
		Network: T	Network	No	Yes	Yes
		Not applica	Not applicable	Yes	No	No
		Not applica	Not applicable	No	No	No
		Loading do	Collaborative	No	Yes	Yes
		Coproducti	Collaborative	No	No	Other: Yes
		Coproducti	Collaborative	No	No	Yes
		Other: Loa	One-way	No	Other: No	No
ıg gap		Coproducti	Collaborative	No	Yes	No
		Solicited: K	Solicited	No	Yes	No
		Loading do	Collaborative	No	Yes	Yes
		Coproducti	Collaborative	No	Yes	Yes
		Network: T	Network	No	Yes	No
		Loading do	Collaborative	No	Yes	No
		Loading do	Collaborative	Yes	No	No
		Not applica	Not applicable	No	No	No
		Other: The	Multiple	Yes	Other: Yes, but it largel	Yes
		Loading do	Collaborative	No	Yes	No
		Other: Net	Network	No	Yes	No
ıs		Network: T	Network	Yes	Yes	No
		Loading do	Collaborative	No	No	No
		Other: othe	Multiple	Yes	Yes	Yes
		Network: T	Network	No	No	Yes
		Loading do	Collaborative	No	Other: Article is part of	No
		Coproducti	Collaborative	No	Yes	Yes
hange		Network: T	Network	No	Yes	No
		Coproducti	Collaborative	No	Yes	Yes
		Not applica	Not applicable	No	Yes	No
		Network: T	Network	Yes	Yes	Yes
		Coproducti	Collaborative	No	Yes	No
		Network: T	Network	No	Yes	Yes
		Not applica	Not applicable	Yes	No	No
		Not applica	Not applicable	No	No	Yes
		Network: T	Network	No	Yes	Yes
		Network: T	Network	No	No	No
		Not applica	Not applicable	No	No	No
		Loading do	Collaborative	No	Other: This paper itself	No
		Not applica	Not applicable	Yes	No	No
		Solicited: K	Solicited	No	Yes	Other
knowledge di	co-productior	Network: T	Network	No	Yes	No
		Coproducti	Collaborative	Yes	No	No
		Network: T	Network	No	No	No

	Coproducti	Collaborative	No	No	Yes
	Coproducti	Collaborative	No	No	Yes
	Coproducti	Collaborative	Yes	No	No
	Not applica	Not applicable	Yes	No	No
	Coproducti	Collaborative	Yes	Yes	No
	Not applica	Not applicable	No	No	Yes
	Coproducti	Collaborative	No	Yes	Yes
	Loading do	Collaborative	No	Yes	No
	Other: Net	Network	No	Other: No	Other: Yes
	Network: T	Network	No	No	Yes
	Other: Soli	Solicited	No	Other: No	Other: No
	Loading do	Collaborative	Yes	No	Yes
	Other: Not	Not applicable	No	Yes	Yes
	Not applica	Not applicable	No	Other: Yes	Other: No
	Not applica	Not applicable	No	No	No
	Network: T	Network	No	No	No
	Not applica	Not applicable	Yes	No	No
ge transfer	Coproducti	Collaborative	No	Yes	No
	Loading do	Collaborative	No	No	Yes
	Loading do	Collaborative	No	No	Yes
	Coproducti	Collaborative	Yes	Yes	No
	Coproducti	Collaborative	No	Yes	Yes
	Loading do	Collaborative	Yes	No	Yes
	Network: T	Network	No	Yes	No
	Network: T	Network	No	Yes	No
	Solicited: K	Solicited	No	Yes	No
	Coproducti	Collaborative	Yes	Yes	No
	Network: T	Network	No	Yes	Yes
	Loading do	Collaborative	No	No	Yes
	Solicited: K	Solicited	No	No	Yes
	Network: T	Network	No	Yes	Yes
	Other: Loa	One-way	No	Other: No	Other: No
	Loading do	Collaborative	Yes	Yes	No
	Solicited: K	Solicited	Yes	Yes	Yes
	Loading do	Collaborative	No	Yes	No
	Network: T	Network	Yes	No	No
	Not applica	Not applicable	No	Yes	Yes
	Network: T	Network	No	Yes	No
	Network: T	Network	No	No	No
	Network: T	Network	Yes	No	Yes
	Other: Lool	Not applicable	No	No	No
	Solicited: K	Solicited	No	Other: Provides theoret	No
	Loading do	Collaborative	No	Yes	Yes
boundary work	Solicited: K	Solicited	No	Yes	Yes
	Loading do	Collaborative	Yes	Yes	No
	Coproducti	Collaborative	Yes	Yes	No
	Loading do	Collaborative	No	Yes	No
es	Coproducti	Collaborative	No	Yes	No

y interface	Coproducti	Collaborative	No	Yes	Other
	Coproducti	Collaborative	No	Yes	No
	Network: T	Network	No	No	Yes
	Network: T	Network	No	No	Yes
	Solicited: K	Solicited	Yes	No	No
	Coproducti	Collaborative	Yes	Yes	No
	Other: Not	Not applicable	No	No	Yes
	Loading do	Collaborative	No	No	No
	Coproducti	Collaborative	No	No	No
	Not applica	Not applicable	No	No	No
	Network: T	Network	No	Yes	No
	Network: T	Network	No	Yes	No
knowledge-based networks	Other: Net	Network	No	No	Yes
	Network: T	Network	No	Yes	No
	Solicited: K	Solicited	Yes	No	Yes
	Solicited: K	Solicited	No	Yes	Yes

PRODUCERS

Brazil Nut Project, NGO, 0%;
Maastricht University, academia, 100%; International Union for the Conservation of Nature, NGO,
FAO, 50%; Universities, NA; NGOs, NA; Governments, NA
The main focus of this article is on knowledge production sources. It doesn't name names but talks
NA
NA
NA
NA
NA
NA
University of the Highlands and Islands, academia, 8.3%; INRAE, government, 8.3%; University of
International Union of Forest Research Organizations (IUFRO) 100%
U.S. Forest Service, 100%
NA
EnLiFT Policy Lab, NGO, 100%
the public 0%
National University of Cordoba, academia, 100%
Southwest Ecological Restoration Institutes (SWERIs) 0%; Nature Conservancy and Conservation
NA
International Union of Forest Research Organization, NGO, 50%; Institute of Forest, Environmenta
NA
NA
NA
Swiss Federal Institute of Technology, academia, 100%
NA
University of Exeter, academia, 25%; Centre for Research in Anthropology, academia, 25%; New
NA
LTER Network, 100%
NA
Wageningen University, academia, 100%
NA
NA
USDA, government, 100%
NA
NA
Bundesamt far Naturschutz (BfN), 33%; International Union for Conservation of Nature (IUCN), 0%
USDA Forest Service 0%, National Science and Technology Council (NSTC) 0%, US Global Chan
University of Helsinki, academia, 100%; Colombian Amazon Indigenous people, NA
Forest Research, 100%
Mediterranean Regional Office of the European Forest Institute (EFIMED), 100%
NA
NA
NA
NA
International Union of Forest Research Organizations (IUFRO), NGO, 100%; Center for Internatior
NGOS, NA; Government, NA; Associations & Concessionaires, NA; Researchers/Field Assistants,
NA
NA

Ontario Ministry of Natural Resources, government, 0%
Technical University of Munich, academia, 50%; Bavarian State Institute of Forestry, academia, 50
NA
NA
NA
NA
NA
International Union of Forest Research Organizations Forest Science-Policy Interface, consortium,
International Union of Forest Research Organizations (IUFRO), 0%
NA
No
IUFRO, NGO, 100%
Food and Agriculture Organization (FAO) funded projects, NGO, 33%; Faculty of Forest SCiences
Gouvernement de Quebec; 100%
NA
NA
NA
University of Eastern Finland, academia, 100%
Institute for Forest Policy and Nature Conservation, academia, 100%
NA
Laval University, academia, 80%; Natural Resources Canada (Canadian Forest Service, Laurentia
Canadian Wood Fibre Centre, Canadian Forest Service, Natural Resources Canada, government,
Natural Resources Canada, government, 100%
NA
NA
NA
NA
US Forest Service, 50%; USA Universities, 50%
International Research Group on Wood Protection (IRG), NGO, NA; University of Goettingen, acad
University of Canterbury, academia, 33%; Scion, academia, 33%; AgResearch, academia, 33%
Food and Agricultural Organization of the United Nations, agency, 100%

University of Florida, academia, 100%
Indian forest officials, government, 0%; USDA, government, 0
NA
NA
NA
Kenya Forestry Research Institute, government, NA
University of Copenhagen, academia, 50%; Danish Council for Development Research, governme
International Union of Forest Research Organizations (IUFRO), consortium, 0%
NA
NA
University of Manchester, academia, 100%
Finnish Environment Institute, government, 100%
Forestry Research Institute of Ghana, government, 100%
NA
NA
Members of the Table de Concertation AC 043-20 including approximately 17 participants from go

University Bourgogone, Franche-COmte, academic, 25%; University of Malta, academic, 25%; UK
Centre Forestier, training organization, 100%
l'Association Internationale ForÃªts MÃ©diterranÃ©ennes, NGO, 100%
lâ€™UnitÃ© de Recherches ForestiÃ¨res MÃ©diterranÃ©enne de lâ€™Institut National de Reche
NA
Doi Tiew villagers, community, NA; Universite Paris Ouest Nanterre-La Defense, academia, 100;
FORREX, 100%
NA
NA
NA

NA
NA
NA
NA
The Nature Conservancy, 0%; The Wilderness Society, 0%; Defenders of Wildlife, 0%; Western W

USERS	NOTES
Department of Madre de Dios (Peru), government,	NA
International Union for the Conservation of Nature,	Thesis examined four knowledge exchange initiative
Governments, NA; Forest Sector, NA; Not specifie	NO
NA	no
NA	NA
NA	Article based on a desk review of research organizat
NA	This article is sound and provides a very thorough fra
NA	Good overview of the knowledge exchange process
NA	
NA	NA
University of the Highlands and Islands, academia, 8.3%; INRAE, government, 8.3%; University of East	
NA	
U.S. Forest Service, 100%	NA
NA	Although a model like 'loading dock' was proposed, v
Department of Forests and Soil Conservation, government, 0%	
NeighbourWoods 0%	No
NA	NA
US Forest Service 0%; National Park Service 0%;	NA
NA	This article is a summary of knowledge exchange co
International Union of Forest Research Organization, NGO, 50%; Institute of Forest, Environmental and	
NA	NA
NA	NA
NA	Since this paper was a summary of so many differen
CIFOR, NGO, NA	No
NA	No
NA	
NA	NA
Harvard Forest, 15%; US Dept of Agriculture, 15%	This is a paper that presents relevant details from fiv
NA	This study is a summary of a panel discussion during
NA	NA
NA	Solid article evaluating the integration of policy into s
NA	Definition: "Participatory forestry is a management pr
USDA, government, 100%	NA
NA	The article reported on a survey of forest scientists a
NA	I really enjoyed reading this article and I agree with th
UNESCO World Heritage Committee (WHC) 0%; I	NA
US federal government 0%, US Secretary of Agric	No
NA	No
Forestry Commission (FC), 0%; Institute of Charte	NA
EFIMED, government, 100%	NA
NA	NA
NA	The methods are strange to me in this one - using qu
NA	This paper is interesting because it mentions the scie
NA	NA
European Union, government, NA	No
NGOS, NA; Government, NA; Associations & Con	NA
NA	NA
NA	

Ontario Ministry of Natural Resources, governmen	NA
Technical University of Munich, academia, 50%; B	This article is so unintelligible and poorly written that
NA	
NA	No
NA	This article is a very good example of knowledge exc
NA	NA
NA	Good overview of a successful past experience and
International Union of Forest Research Organizations	Forest Science-Policy Interface, consortium, 20%
International Union of Forest Research Organizati	No
NA	Interesting case study on knowledge exchange betw
No	No
IUFRO, NGO, 100%	IUFRO is a global association of forestry research or
National forest programmes, government, NA; FA(	None
NA	
NA	NA
NA	
NA	
NA	No
Institute for Forest Policy and Nature Conservatior	Poor English made comprehension difficult.
NA	No
Laval University, academia, 80%; Natural Resourc	NA
Canadian Wood Fibre Centre, Canadian Forest Service, Natural Resources Canada, government, 100	
NA	It's a talk from a conference, a powerpoint slide deck
NA	The word used to capture the idea of 'knowledge bro
NA	
NA	
NA	
NA	
IRG, NGO, NA; University of Goettingen, academia, 33.2%; Norwegian Institute of Bioeconomy Resear	
NA	None
Food and Agricultural Organization of the United N	No
NA	The authors developed a framework for knowledge e
Indian forest officials, government, 0%; USDA, government, 0	
NA	NA
NA	NA
NA	
Kenya Forest Services, government, NA	
University of Copenhagen, academia, 50%; Danisl	NA
International Union of Forest Research Organizations (IUFRO), consortium, 0%	
NA	More on the policy side than science. Not much abou
NA	No
University of Manchester, academia, 100%	
NA	This paper may be very useful in how we structure o
Forestry Research Institute of Ghana, government, 100%	
NA	
NA	NA
Members of the Table de Concertation AC 043-20	No

NA Proceedings from an international (EU-centred) conf
NA
NA NA
NA
NA NA
Doi Tiew villagers, NA; Universite Paris Ouest Nanterre-La Defense, academia, 100;
NA The paper focuses on then-emerging technology too
NA Non
NA
NA NA

NA
NA No
NA
La Corporation de gestion de la ForÃªt de lâ€™Aigle (CGFA), socially-owned enterprise, NA
US Forest Service, 0%; US Fish & Wildlife Service NA

s but didn't provide enough detail about the initiatives.

tions in three countries, however, I think it is worth noting that two of the reviewed organizations (CIFOI
amework for knowledge transfer together with a very interesting case study. This is a solid reference.
for Urban forestry with several examples from North America and Europe

tern Finland, academia, 8.3%; Natural Resources Institute Finland, academia, 8.3%; University Stefan

whereby knowledge producers answer defined questions, the authors advocated for deliberate and mo

rroborated by presenting several case studies. Each case study has a unique structure in terms of gen
d Natural Resource Policy, academia, 50%

t regions and sectors, and the author did not describe their involvement with any of them, I have electe

e case studies conducted by members of the LTER network. They collectively cut across many situatic
g a conference on policy-science interactions in Europe for Small- and Medium Enterprises (SME)

science in Norway and Sweden.
ractice in which forests are controlled as common property by forest dependent communities who shar

and policy makers from Europe. Questionnaires were mailed to 229 participants, 77 participants from 4(
heir important concluding paragraph: "Finally, although the design of the scientific process is intended

ualitative interviews and doing statistical analysis on them. It's not to discredit it, just to flag that it's stra
ence-policy gap and produces information to fill a specific part of that gap, but it does so by creating an

: it is hard to properly assess.

change between indigenous people and provincial governments (i.e. BC) and the many challenges of ir

learnings from it.
%; Division 6 - Social, Economic, Information and Policy Sciences, NGO, 20%; Division 1 - Silviculture,

veen forest owners in Finland.

rganizations. I put it in the NGO sector but I am not sure whether it is a good fit.

%; Canadian Institute of Forestry, NA; Canadian Woodlands Forum, consortium, NA; Partenariat Innov
.
oker' is 'un transporteur' ou 'un transporteur professionel'

rch, government, 16.6%; University of Ljubljana, academia, 16.6%; DJ Timber Consultancy Limited, inc

exchange from Monroe et al 2007, the framework has three levels, information sharing, skills building, a

ut knowledge exchange here.

ur analysis for CFS

ference. Distribution of knowledge producers ID'ed above are co-authors only. Contributions list include

ols to use with knowledge exchange, but the focus is really on knowledge management within and betw

R and IUFRO) are international thus extending the focus of the article.

cel Mare, academia, 8.3%; University of Aberdeen, academia, 8.3%; Forest Research Institute, governme

ıre effective means of knowledge transfer to users

ıerating the knowledge and sharing it; however, it remains a very high level summary of existing knowledg

ed not the fill out the above to questions.

ons within the USA and highlight different models/approaches. Shows that outreach and uptake activities a

e decision-making authority among themselves, and use those resources to support their subsistence-orie

0 European countries responded. However the participants' countries were not listed to provide anonymity
to promote rational thought and exploration of the unknown, assuming that the policy-making process is e

ınge. Mainly that's because it's trying to quantify qualitative data. I don't understand the benefit of that.
ıother loading-dock style paper

ntegrating TEK (Traditional Ecological Knowledge) and "western science" into forest policy.

International Union of Forest Research Organizations, Vienna, Austria, NGO, 20%; United States Develop

vation ForÃªt, NA; House of Commons Standing Committee on Natural Resources, government, NA; US F

dustry, 16.6%; Heinz-Piest-Intitute for Skilled Crafts, government, 16.6%; LNEC, academia, 16.6%

and knowledge generation. The framework was used to analyse the knowledge exchange activities of grad

ed in document is extensive.

veen organizations.

ent, 8.3%; Swedish University of Agricultural Sciences, academia, 8.3%; Wildlife and Forestry Department

e on specific topics rather then advancing our understanding of knowledge exchange per se.

are quantifiable; however, impact remains obscure to measure.

ented agricultural lands and household economies"

. In addition, it is not clear whether there was a respondent from the author's institute.
qually rational may be unwarranted. People who successfully span the boundaries between the scientific a

ɔment of Agriculture, Forest Service, Research and Development, Washington, DC, USA, government, 20

orest Service, government, NA; Tembec, industry, NA; J.D. Irving Ltd., industry, NA; Corner Brooker Pulp

duate students and then develop guidelines and strategies for effective knowledge exchange

:, Belgium, government, 8.3%; Karelia University of Applied Sciences, academia, 8.3%; Estonian Universit

arena and the policy arena have learned to live with this dichotomy. That does not make one right and the

%; Skov & Landskab, Danish Centre for Forest, Landscape and Planning, NGO, 20%

and Paper, industry, NA

:y of Life Sciences, academia, 8.3%; Latvia University of Life Sciences and Technologies, academia, 8.3%

; other wrong. It just makes them different. Scientists who hope to be effective boundary spanners betwee

n forest science and forest policy need to learn how to celebrate the differences between the two."

COVNUM	YEAR	ITEMTYPE_clean_short	EFFECT	KETYPE_clean_typology
57	2020	Other	No	Network
70	2014	Other	No	Network
29	2016	Case study	No	Collaborative
42	2018	Other	No	Multiple
19	2009	Original research	No	Collaborative
19	2009	Original research	No	Collaborative
126	2016	Case study	Yes	Collaborative
110	2014	Original research	No	Not applicable
57	2020	Other	No	Network
27	2007	Case study	Yes	Solicited
17	2020	Original research	Yes	Collaborative
57	2020	Other	No	Network
110	2014	Original research	No	Not applicable
137	2009	Theoretical framework	No	Collaborative
3	2016	Case study	No	Network
67	2020	Theoretical framework	No	Not applicable
4	2017	Theoretical framework	No	Network
70	2014	Other	No	Network
27	2007	Case study	Yes	Solicited
171	2014	Original research	Yes	Network
6	1998	Case study	No	Not applicable
147	2013	Case study	No	Not applicable
174	2009	Original research	No	Network
126	2016	Case study	Yes	Collaborative
7	2015	Theoretical framework	No	Network
166	2002	Other	No	Not applicable
111	2017	Case study	No	Not applicable
158	2005	Case study	Yes	Collaborative
130	2012	Case study	No	Solicited
88	2011	Case study	No	Collaborative
125	2019	Theoretical framework	No	Collaborative
95	2017	Theoretical framework	No	Collaborative
177	2005	Case study	No	Solicited
127	2019	Theoretical framework	No	Collaborative
106	2004	Other	No	Solicited
110	2014	Original research	No	Not applicable
19	2009	Original research	No	Collaborative
35	2020	Other	No	Network
57	2020	Other	No	Network
67	2020	Theoretical framework	No	Not applicable
48	2020	Original research	No	Collaborative
78	2020	Original research	No	Not applicable
110	2014	Original research	No	Not applicable
174	2009	Original research	No	Network
70	2014	Other	No	Network
27	2007	Case study	Yes	Solicited
110	2014	Original research	No	Not applicable
19	2009	Original research	No	Collaborative

17	2020	Original research	Yes	Collaborative
110	2014	Original research	No	Not applicable
136	2015	Case study	No	One-way
27	2007	Case study	Yes	Solicited
17	2020	Original research	Yes	Collaborative
151	2019	Original research	No	Solicited
77	2018	Other	No	Collaborative
103	2015	Case study	Yes	Network
116	2013	Original research	No	Network
119	2019	Original research	No	Collaborative
70	2014	Other	No	Network
147	2013	Case study	No	Not applicable
136	2015	Case study	No	One-way
176	2015	Case study	No	Network
17	2020	Original research	Yes	Collaborative
162	2013	Case study	Yes	Network
168	2009	Original research	Yes	Collaborative
167	2015	Case study	No	Collaborative
129	2009	Other	No	Network
128	2009	Original research	No	Network
149	2004	Theoretical framework	No	Solicited
110	2014	Original research	No	Not applicable
35	2020	Other	No	Network
64	2018	Case study	No	Collaborative
39	2014	Other	No	Not applicable
11	2014	Theoretical framework	Yes	One-way
91	2020	Original research	Yes	Collaborative
94	2020	Original research	No	Not applicable
19	2009	Original research	No	Collaborative
152	2009	Original research	Yes	Collaborative
70	2014	Other	No	Network
137	2009	Theoretical framework	No	Collaborative
42	2018	Other	No	Multiple
47	2020	Original research	No	Network
57	2020	Other	No	Network
139	2016	Theoretical framework	No	Solicited
38	2020	Original research	Yes	Collaborative
15	2012	Other	No	Not applicable
42	2018	Other	No	Multiple
74	2020	Original research	No	Not applicable
16	2020	Original research	No	Not applicable
70	2014	Other	No	Network
136	2015	Case study	No	One-way
27	2007	Case study	Yes	Solicited
42	2018	Other	No	Multiple
19	2009	Original research	No	Collaborative
143	2008	Original research	No	Network
17	2020	Original research	Yes	Collaborative
140	2007	Case study	No	Collaborative
19	2009	Original research	No	Collaborative

6	1998	Case study	No	Not applicable
113	2017	Case study	No	Not applicable
70	2014	Other	No	Network
3	2016	Case study	No	Network
57	2020	Other	No	Network
61	2004	Case study	No	Network
160	2011	Case study	No	Collaborative
135	2018	Case study	No	Network
99	2004	Original research	No	Collaborative
121	2003	Original research	No	Collaborative
133	2018	Original research	No	Collaborative
36	2004	Theoretical framework	No	Collaborative
79	2014	Theoretical framework	No	Solicited
161	2008	Case study	No	Network
154	2014	Other	No	Collaborative
172	2009	Other	No	Network
71	2003	Theoretical framework	No	Network
87	2012	Theoretical framework	No	Network
169	2010	Other	No	Not applicable
59	2008	Original research	No	Not applicable
45	2003	Other	No	Network
159	2004	Other	No	Collaborative
132	2019	Other	No	Network
54	2009	Other	No	Collaborative
146	2004	Theoretical framework	No	Network
107	2004	Theoretical framework	No	Collaborative
131	2000	Other	No	Collaborative
92	2015	Theoretical framework	No	Collaborative
141	2007	Theoretical framework	No	Network
117	2015	Original research	No	Not applicable
164	2019	Original research	Yes	Solicited
24	2017	Theoretical framework	No	One-way
100	2003	Other	No	Network
85	2018	Case study	Yes	Collaborative
57	2020	Other	No	Network
25	2020	Theoretical framework	Yes	Collaborative
136	2015	Case study	No	One-way
7	2015	Theoretical framework	No	Network
134	2016	Theoretical framework	Yes	Solicited
110	2014	Original research	No	Not applicable
55	2008	Case study	Yes	Collaborative
57	2020	Other	No	Network
110	2014	Original research	No	Not applicable
67	2020	Theoretical framework	No	Not applicable
1	2020	Case study	No	Collaborative
81	2019	Case study	No	Network
136	2015	Case study	No	One-way
17	2020	Original research	Yes	Collaborative

70	2014	Other	No	Network
17	2020	Original research	Yes	Collaborative
142	2016	Original research	No	Not applicable
17	2020	Original research	Yes	Collaborative
70	2014	Other	No	Network
153	2006	Case study	No	Collaborative
137	2009	Theoretical framework	No	Collaborative
70	2014	Other	No	Network
136	2015	Case study	No	One-way
176	2015	Case study	No	Network
19	2009	Original research	No	Collaborative
27	2007	Case study	Yes	Solicited
55	2008	Case study	Yes	Collaborative
17	2020	Original research	Yes	Collaborative
124	2017	Case study	No	Collaborative
110	2014	Original research	No	Not applicable
165	2010	Case study	Yes	Collaborative
70	2014	Other	No	Network
43	2017	Original research	Yes	Collaborative
27	2007	Case study	Yes	Solicited
17	2020	Original research	Yes	Collaborative
97	2009	Case study	No	Not applicable
68	2014	Original research	No	Not applicable
150	2013	Original research	No	Collaborative
136	2015	Case study	No	One-way
43	2017	Original research	Yes	Collaborative
110	2014	Original research	No	Not applicable
6	1998	Case study	No	Not applicable
126	2016	Case study	Yes	Collaborative
7	2015	Theoretical framework	No	Network
97	2009	Case study	No	Not applicable
139	2016	Theoretical framework	No	Solicited
98	2004	Case study	No	Collaborative
31	2019	Original research	No	Collaborative
182	2018	Original research	Yes	Solicited
21	2000	Case study	No	Collaborative
65	2003	Original research	No	Network
58	1998	Case study	No	Collaborative
50	2012	Other	No	Multiple
5	2011	Theoretical framework	Yes	Collaborative
110	2014	Original research	No	Not applicable
110	2014	Original research	No	Not applicable
145	2013	Theoretical framework	Yes	Network

IK	COUNTRIES_SIMPLIFIED	UNIQUE COUNTRIES
No	Afghanistan	Afghanistan
No	Algeria	Algeria
No	Argentina	Argentina
Yes	Australia	Australia
No	Australia	Bangladesh
No	Australia	Belgium
No	Australia	Bhutan
No	Bangladesh	Brazil
No	Bangladesh	Bulgaria
No	Belgium	Cameroon
No	Belgium	Canada
No	Bhutan	Canada
No	Brazil	Chile
Yes	Brazil	China
No	Brazil	Colombia
Yes	Brazil	Columbia
No	Brazil	Costa Rica
No	Bulgaria	Croatia
No	Bulgaria	Denmark
No	Cameroon	Ecuador
No	Canada	Estonia
No	Canada	Finland
No	Canada	France
No	Canada	Gambia
No	Canada	Germany
No	Canada	Ghana
No	Canada	Greece
No	Canada	Guatemala
No	Canada	Guinea-Bissau
No	Canada	India
Yes	Canada	Indonesia
Yes	Canada	Iran
Yes	Canada	Italy
Yes	Canada	Java
No	Canada	Kenya
No	Chile	Latvia
No	Chile	Malaysia
No	China	Mexico
No	China	Morocco
Yes	Colombia	Mozambique
No	Colombia	Myanmar
Yes	Columbia	NA
No	Costa Rica	Namibia
No	Costa Rica	Nepal
No	Croatia	Netherlands
No	Denmark	New Zealand
No	Ecuador	Nicaragua
No	Ecuador	Norway

No	Estonia
No	Finland
No	Finland
No	Finland
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No	France
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No	France
No	Gambia
No	Germany
No	Germany
No	Germany
No	Germany
No	Germany
Yes	Germany
No	Ghana
Yes	Ghana
No	Greece
Yes	Guatemala
Yes	Guinea-Bissau
Yes	Guinea-Bissau
No	India
Yes	India
Yes	India
Yes	India
Yes	Indonesia
No	Indonesia
No	Iran
No	Italy
No	Italy
No	Italy
Yes	Java
No	Kenya
No	Kenya
No	Latvia
No	Latvia
No	Malaysia
	Pakistan
	Peru
	Poland
	Portugal
	Portugal
	Romania
	Slovenia
	Solomon Islands
	South Africa
	Spain
	Sweden
	Tanzania
	Thailand
	Tunisia
	UK
	USA
	Vietnam
	Zambia

No	Mexico
No	Mexico
No	Morocco
No	Mozambique
No	Myanmar
Yes	NA
No	NA
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Yes	NA
Yes	NA
Yes	NA
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Yes	NA
Yes	NA
Yes	NA
No	NA
No	NA
Yes	Namibia
No	Nepal
No	Nepal
No	Netherlands
No	New Zealand
No	New Zealand
No	Nicaragua
No	Norway
No	Pakistan
No	Peru
Yes	Peru
No	Peru
No	Peru
No	Poland
No	Poland

No	Portugal
No	Portugal
No	Portugal
No	Romania
No	Slovenia
Yes	Solomon Islands
Yes	South Africa
No	Spain
No	Spain
No	Spain
No	Sweden
No	Sweden
No	Sweden
No	Sweden
No	Sweden
No	Tanzania
Yes	Thailand
No	Tunisia
No	UK
No	UK
No	UK
No	UK
No	UK
No	UK
No	UK
No	USA
No	USA
No	USA
No	USA
No	USA
No	USA
Yes	USA
No	USA
No	USA
No	USA
No	USA
No	USA
No	USA
Yes	USA
Yes	USA
No	Vietnam
No	Zambia
No	Zambia

COVNUM	YEAR	ITEMTYPE_clean_short	EFFECT	KETYPE_clean_typology
58	1998	Case study	No	Collaborative
21	2000	Case study	No	Collaborative
98	2004	Case study	No	Collaborative
158	2005	Case study	Yes	Collaborative
153	2006	Case study	No	Collaborative
55	2008	Case study	Yes	Collaborative
165	2010	Case study	Yes	Collaborative
88	2011	Case study	No	Collaborative
160	2011	Case study	No	Collaborative
126	2016	Case study	Yes	Collaborative
64	2018	Case study	No	Collaborative
85	2018	Case study	Yes	Collaborative
131	2000	Other	No	Collaborative
159	2004	Other	No	Collaborative
19	2009	Original research	No	Collaborative
168	2009	Original research	Yes	Collaborative
31	2019	Original research	No	Collaborative
119	2019	Original research	No	Collaborative
91	2020	Original research	Yes	Collaborative
5	2011	Theoretical framework	Yes	Collaborative
92	2015	Theoretical framework	No	Collaborative
95	2017	Theoretical framework	No	Collaborative
125	2019	Theoretical framework	No	Collaborative
25	2020	Theoretical framework	Yes	Collaborative
140	2007	Case study	No	Collaborative
167	2015	Case study	No	Collaborative
29	2016	Case study	No	Collaborative
124	2017	Case study	No	Collaborative
1	2020	Case study	No	Collaborative
54	2009	Other	No	Collaborative
154	2014	Other	No	Collaborative
77	2018	Other	No	Collaborative
121	2003	Original research	No	Collaborative
99	2004	Original research	No	Collaborative
152	2009	Original research	Yes	Collaborative
150	2013	Original research	No	Collaborative
43	2017	Original research	Yes	Collaborative
133	2018	Original research	No	Collaborative
38	2020	Original research	Yes	Collaborative
48	2020	Original research	No	Collaborative
17	2020	Original research	Yes	Collaborative
107	2004	Theoretical framework	No	Collaborative
36	2004	Theoretical framework	No	Collaborative
137	2009	Theoretical framework	No	Collaborative
127	2019	Theoretical framework	No	Collaborative
61	2004	Case study	No	Network
161	2008	Case study	No	Network
162	2013	Case study	Yes	Network

176	2015	Case study	No	Network
103	2015	Case study	Yes	Network
3	2016	Case study	No	Network
135	2018	Case study	No	Network
81	2019	Case study	No	Network
172	2009	Other	No	Network
129	2009	Other	No	Network
70	2014	Other	No	Network
132	2019	Other	No	Network
57	2020	Other	No	Network
35	2020	Other	No	Network
65	2003	Original research	No	Network
143	2008	Original research	No	Network
128	2009	Original research	No	Network
116	2013	Original research	No	Network
171	2014	Original research	Yes	Network
47	2020	Original research	No	Network
71	2003	Theoretical framework	No	Network
13	2004	Theoretical framework	No	Network
146	2004	Theoretical framework	No	Network
141	2007	Theoretical framework	No	Network
53	2011	Theoretical framework	No	Network
87	2012	Theoretical framework	No	Network
145	2013	Theoretical framework	Yes	Network
7	2015	Theoretical framework	No	Network
4	2017	Theoretical framework	No	Network
6	1998	Case study	No	Not applicable
97	2009	Case study	No	Not applicable
113	2017	Case study	No	Not applicable
111	2017	Case study	No	Not applicable
169	2010	Other	No	Not applicable
15	2012	Other	No	Not applicable
39	2014	Other	No	Not applicable
59	2008	Original research	No	Not applicable
68	2014	Original research	No	Not applicable
117	2015	Original research	No	Not applicable
142	2016	Original research	No	Not applicable
94	2020	Original research	No	Not applicable
16	2020	Original research	No	Not applicable
74	2020	Original research	No	Not applicable
78	2020	Original research	No	Not applicable
67	2020	Theoretical framework	No	Not applicable
147	2013	Case study	No	Not applicable
136	2015	Case study	No	One-way
166	2002	Other	No	Not applicable
45	2003	Other	No	Network
100	2003	Other	No	Network
106	2004	Other	No	Solicited

50	2012	Other	No	Multiple
42	2018	Other	No	Multiple
174	2009	Original research	No	Network
110	2014	Original research	No	Not applicable
11	2014	Theoretical framework	Yes	One-way
24	2017	Theoretical framework	No	One-way
177	2005	Case study	No	Solicited
27	2007	Case study	Yes	Solicited
130	2012	Case study	No	Solicited
182	2018	Original research	Yes	Solicited
164	2019	Original research	Yes	Solicited
151	2019	Original research	No	Solicited
149	2004	Theoretical framework	No	Solicited
79	2014	Theoretical framework	No	Solicited
139	2016	Theoretical framework	No	Solicited
134	2016	Theoretical framework	Yes	Solicited

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Yes
No

COVNUM	YEAR	KEYWORD_SIMP	KEYWORD_ORIG	LANG
125	2019	Indigenous	Indigenous	EN
25	2020	Research-policy linkage	Research-policy linkage	EN
91	2020	forest intiatives	forest intiatives	EN
21	2000	Forest planning	Forest planning	EN
57	2020	REDD+	REDD+	EN
71	2003	Ecosystem	Ecosystem	EN
125	2019	knowledge	knowledge	EN
50	2012	science communication	science communication	EN
47	2020	shared landscapes	shared landscapes	EN
77	2018	Conservation effectivenes	Conservation effectiveness	EN
77	2018	Environmental legislation	Environmental legislation	EN
21	2000	Risk assessment	Risk assessment	EN
45	2003	Forest policy	Forest policy	EN
113	2017	good practices	good practices	EN
3	2016	Brazil	Brazil	EN
99	2004	science-policy interface	science-policy interface	EN
125	2019	Environment	Environment	EN
77	2018	Conservation policy	Conservation policy	EN
71	2003	Sustainability	Sustainability	EN
94	2020	Integrated Forest Manage	Integrated Forest Manager	EN
99	2004	scientific community	scientific community	EN
126	2016	knowledge exchange	knowledge exchange	EN
116	2013	homogeneity	homogeneity	EN
133	2018	knowledge transfer	knowledge transfer	EN
85	2018	ILK	ILK	EN
68	2014	knowledge exchange	knowledge exchange	EN
124	2017	coproduction of knowledg	coproduction of knowledge	EN
74	2020	Indonesia	Indonesia	EN
126	2016	LiDAR	LiDAR	EN
65	2003	Likelihood	Likelihood	EN
19	2009	forest science	forest science	EN
97	2009	Environmental governanc	Environmental governance	EN
94	2020	Local knowledge	Local knowledge	EN
78	2020	adoption	adoption	EN
61	2004	forest policy	forest policy	EN
78	2020	extension	extension	EN
116	2013	social position	social position	EN
11	2014	Decision	Decision	EN
61	2004	science-policy interface	science-policy interface	EN
59	2008	Europe	Europe	EN
91	2020	wood mobilization	wood mobilization	EN
15	2012	Vegetation dynamics	Vegetation dynamics	EN
47	2020	human-wildlife conflict	human-wildlife conflict	EN
106	2004	forest sector	forest sector	EN
125	2019	traditional	traditional	EN
95	2017	Co-production of knowledge	Co-production of knowledge	EN
21	2000	Southeast Alaska	Southeast Alaska	EN
95	2017	Cultural and ecological res	Cultural and ecological resi	EN
61	2004	scientific community	scientific community	EN

27	2007	Urban woodland	Urban woodland	EN
68	2014	model	model	EN
116	2013	non-industrial private fores	non-industrial private fores	EN
95	2017	Indigenous rights	Indigenous rights	EN
65	2003	Natural resource assessmen	Natural resource assessment	EN
45	2003	science-policy interface	Science-policy interface	EN
92	2015	Traditional knowledge	Traditional knowledge	EN
88	2011	science policy	science policy	EN
65	2003	Participatory approaches	Participatory approaches	EN
24	2017	multidisciplinary research	multidisciplinary research	EN
16	2020	Sustainable development	Sustainable development	EN
61	2004	values	values	EN
67	2020	Forest definitions	Forest definitions	EN
113	2017	measurement reporting ar	measurement reporting an	EN
79	2014	forest policy	forest policy	EN
57	2020	Results-based payment	Results-based payment	EN
74	2020	knowledge	knowledge	EN
74	2020	qualitative comparative an	qualitative comparative ana	EN
85	2018	MARISCO	MARISCO	EN
19	2009	Science-policy interface	Science-policy interfacing	EN
24	2017	New York Declaration on I	New York Declaration on F	EN
78	2020	multipurpose trees	multipurpose trees	EN
31	2019	Adaptation	Adaptation	EN
35	2020	forest products	forest products	EN
3	2016	Forest Sector	Forest Sector	EN
97	2009	Forest certification	Forest certification	EN
6	1998	forestry	forestry	EN
35	2020	multifunctionality	multifunctionality	EN
65	2003	Stakeholder engagement	Stakeholder engagement	EN
97	2009	Traceability	Traceability	EN
5	2011	Gaultheria	Gaultheria	EN
77	2018	Evidence-based conserva	Evidence-based conservati	EN
116	2013	peer learning	peer learning	EN
13	2004	good practices	good practice	EN
91	2020	forest land use	forest land use	EN
25	2020	science-policy interface	Science-policy interface	EN
103	2015	forest owner clubs	forest owner clubs	EN
71	2003	Logic	Logic	EN
99	2004	values	values	EN
39	2014	Interdisciplinarity	Interdisciplinarity	EN
85	2018	Namibia	Namibia	EN
110	2014	national forest inventory	national forest inventory	EN
79	2014	Forest research	Forest research	EN
92	2015	Biodiversity	Biodiversity	EN
39	2014	Science management inte	Science management inter	EN
43	2017	Sustainability	Sustainability	EN
68	2014	uptake	uptake	EN
59	2008	Forest policy	Forest policy	EN
95	2017	Forest policy and manage	Forest policy and managen	EN
57	2020	transboundary	transboundary	EN

78	2020	sustainable cattle ranchinç	sustainable cattle ranching	EN
78	2020	working landscapes	working landscapes	EN
64	2018	Scientific knowledge trans	Scientific knowledge transf	EN
98	2004	NPAP	NPAP	EN
121	2003	policy analysis	policy analysis	EN
88	2011	government laboratories	government laboratories	EN
98	2004	peer review	peer review	EN
47	2020	large mammal conservatic	large mammal conservatio	EN
77	2018	Forest management	Forest management	EN
106	2004	innovation	innovation	EN
6	1998	integration	integration	EN
98	2004	quality assurance	quality assurance	EN
39	2014	science-policy interface	Science policy interface	EN
110	2014	Evidence based decision mal	Evidence based decision mak	EN
64	2018	Multi-level governance	Multi-level governance	EN
103	2015	knowledge sharing	knowledge sharing	EN
87	2012	Analytical theory	Analytical theory	EN
99	2004	forest policy	forest policy	EN
7	2015	Knowledge systems	Knowledge systems	EN
71	2003	Forest	Forest	EN
71	2003	Model	Model	EN
68	2014	decision support systems	decision support systems	EN
36	2004	forest science	forest science	EN
54	2009	Global forest policy	Global forest policy	EN
39	2014	Socio-ecological systems	Socio-ecological systems	EN
24	2017	Bonn challenge	Bonn challenge	EN
103	2015	social network	social network	EN
87	2012	Forest policy	Forest policy	EN
95	2017	Traditional ecological kno	Traditional ecological know	EN
124	2017	participatory action resear	participatory action researc	EN
43	2017	Trade-off analysis	Trade-off analysis	EN
42	2018	forest science-policy interfac	forest science-policy interfac	EN
77	2018	Forestry legislation	Forestry legislation	EN
64	2018	Policy advice	Policy advice	EN
71	2003	Criteria and indicators	Criteria and indicators	EN
31	2019	Policy design	Policy design	EN
91	2020	NEPIs	NEPIs	EN
59	2008	Forest science	Forest science	EN
64	2018	RIU model	RIU model	EN
110	2014	planning principles	planning principles	EN
3	2016	Mozambique	Mozambique	EN
124	2017	science-stakeholder proce	science-stakeholder proces	EN
24	2017	ecological restoration	ecological restoration	EN
31	2019	Governance	Governance	EN
48	2020	livestock systems	livestock systems	EN
67	2020	Global forest politics	Global forest politics	EN
88	2011	science-policy interface	Science-policy interface	EN
54	2009	Policy arrangements appr	Policy arrangements appro	EN
15	2012	Natural resource manager	Natural resource manager	EN
6	1998	natural resources	natural resources	EN

24	2017	restoration governance	restoration governance	EN
74	2020	social forestry	social forestry	EN
7	2015	Network competence skills	Network competence skills	EN
24	2017	environmental policy	environmental policy	EN
79	2014	science-policy interface	science/policy interface	EN
92	2015	Climate change	Climate change	EN
5	2011	Non-timber forest products	Non-timber forest products	EN
6	1998	North America	North America	EN
106	2004	knowledge exchange	knowledge exchange	EN
133	2018	quality percipience	quality percipience	EN
133	2018	consumer preferences	consumer preferences	EN
94	2020	Retention forestry	Retention forestry	EN
57	2020	Benefit sharing	Benefit sharing	EN
47	2020	social-ecological systems	social-ecological systems	EN
87	2012	Knowledge transfer	Knowledge transfer	EN
81	2019	science-policy interface	science-policy interface	EN
91	2020	climate resilience	climate resilience	EN
35	2020	societal demands	societal demands	EN
121	2003	social sciences	social sciences	EN
6	1998	policy	policy	EN
50	2012	boundary spanning	boundary spanning	EN
94	2020	Biodiversity conservation	Biodiversity conservation	EN
47	2020	local ecological knowledge	local ecological knowledge	EN
27	2007	science-policy interface	Science-policy interface	EN
24	2017	science-policy interface	science-policy interface	EN
16	2020	Sustainable management	Sustainable management	EN
59	2008	Communication	Communication	EN
110	2014	stakeholder involvement	stakeholder involvement	EN
17	2020	family forestry	family forestry	EN
113	2017	adaptive governance	adaptive governance	EN
25	2020	Forest policy	Forest policy	EN
65	2003	Assessment capacity	Assessment capacity	EN
97	2009	Nongovernment organizat	Nongovernment organizati	EN
133	2018	performance-based desig	performance-based design	EN
124	2017	climate change adaptation	climate change adaptation	EN
36	2004	Forest policy	Forest policy	EN
125	2019	ecological	ecological	EN
17	2020	knowledge exchange	knowledge exchange	EN
98	2004	science credibility	science credibility	EN
15	2012	Remote sensing	Remote sensing	EN
125	2019	ecology	ecology	EN
68	2014	forestry	forestry	EN
110	2014	forest policy	forest policy	EN
121	2003	European forest policy	European forest policy	EN
19	2009	capacity building	capacity building	EN
7	2015	Research network governan	Research network governanc	EN
7	2015	Research utilization	Research utilization	EN
116	2013	decision-making situations	decision-making situations	EN
25	2020	Evidence-informed policy	Evidence-informed policy	EN
88	2011	knowledge utililization	knowledge utililization	EN

24	2017	large-scale restoration	large-scale restoration	EN
47	2020	wild resource use	wild resource use	EN
77	2018	science-policy interface	Science-policy interface	EN
50	2012	environmental policy and r	environmental policy and m	EN
133	2018	Forest wood value chain	Forest wood value chain	EN
27	2007	Social inclusiveness	Social inclusiveness	EN
47	2020	great ape	great ape	EN
85	2018	Community-based conser	Community-based conserv	EN
71	2003	Montreal Process	Montreal Process	EN
85	2018	Conservation	Conservation	EN
71	2003	Knowledge base	Knowledge base	EN
94	2020	Small-scale forestry	Small-scale forestry	EN
116	2013	social network analysis	social network analysis	EN
39	2014	Governance	Governance	EN
103	2015	peer learning	peer learning	EN
11	2014	Scientific knowledge transfe	Scientific knowledge transfer	EN
42	2018	forestry industry	forestry industry	EN
77	2018	Species conservation	Species conservation	EN
98	2004	science relevancy	science relevancy	EN
65	2003	Climate change	Climate change	EN
25	2020	Nepal	Nepal	EN
87	2012	Science-policy interface	Science-policy-interface	EN
92	2015	Climate policy	Climate policy	EN
92	2015	Science policy	Science policy	EN
94	2020	Germany	Germany	EN
42	2018	plantation	plantation	EN
31	2019	Knowledge management	Knowledge management	EN
35	2020	forest management	forest management	EN
21	2000	Decision making	Decision making	EN
103	2015	communities of practice	communities of practice	EN
3	2016	South-South Cooperation	South-South Cooperation	EN
48	2020	adoption	adoption	EN
67	2020	Agroforestry practices	Agroforestry practices	EN
91	2020	conflicts	conflicts	EN
68	2014	implementation	implementation	EN
98	2004	synthesis and integration	synthesis and integration	EN
11	2014	Support system	Support system	EN
36	2004	MCPFE	MCPFE	EN
67	2020	Indigenous knowledge	Indigenous knowledge	EN
16	2020	Natural resources	Natural resources	EN
15	2012	science-policy interface	Science-policy interface	EN
16	2020	Participation	Participation	EN
85	2018	Ecosystem-based	Ecosystem-based	EN
65	2003	Language of uncertainty	Language of uncertainty	EN
81	2019	knowledge-policy models	knowledge-policy models	EN
39	2014	Conservation policy	Conservation policy	EN
95	2017	Indigenous mapping	Indigenous mapping	EN
79	2014	Decision making	decision-making	EN
77	2018	Decision making	Decision making	EN
48	2020	agroforestry practices	agroforestry practices	EN

106	2004	research-to-operations co	research-to-operations con	EN
59	2008	science-policy interface	Science/policy interface	EN
13	2004	urban forestry	urban forestry	EN
25	2020	Policy lab	Policy lab	EN
13	2004	urbanization	urbanization	EN
48	2020	hurdle model	hurdle model	EN
43	2017	Environmental policy	Environmental policy	EN
17	2020	private forest owners	private forest owners	EN
11	2014	Climate change adaptatio	Climate change adaptation	EN
48	2020	conservation	conservation	EN
43	2017	Land management	Land management	EN
17	2020	regulation	regulation	EN
95	2017	Environmental governanc	Environmental governance	EN
78	2020	forest and landscape rest	forest and landscape resto	EN
24	2017	Aichi biodiversity targets	Aichi biodiversity targets	EN
13	2004	Europe	Europe	EN
67	2020	Amazon	Amazon	EN
17	2020	technology transfer	technology transfer	EN
13	2004	forest science-policy inter	forest science/policy interfa	EN
47	2020	inter-disciplinary science	inter-disciplinary science	EN
31	2019	Scale	Scale	EN
103	2015	guidance	guidance	EN
3	2016	Knowledge Exchange	Knowledge Exchange	EN
54	2009	Institutional analysis	Institutional analysis	EN
45	2003	Scientific community	Scientific community	EN
71	2003	Decision support	Decision support	EN
125	2019	climate change	climate change	EN
81	2019	reseach influence in decis	reseach influence in decisi	EN
16	2020	Deforestation	Deforestation	EN
97	2009	Heterogeneous networks	Heterogeneous networks	EN
81	2019	stakeholders perceptions	stakeholders perceptions o	EN
21	2000	Consistency evaluation	Consistency evaluation	EN
6	1998	Science	Science	EN
7	2015	science-policy interface	Science-policy interface	EN
19	2009	developing countries	developing countries	EN
106	2004	extension	extension	EN
17	2020	policy tools	policy tools	EN
124	2017	climate services	climate services	EN
43	2017	Decision making	Decision making	EN
54	2009	Discourse analysis	Discourse analysis	EN
15	2012	Conservation policy	Conservation policy	EN
57	2020	South-south learning	South-south learning	EN
27	2007	Public participation	Public participation	EN
103	2015	learning communities	learning communities	EN
57	2020	Participatory forest manag	Participatory forest manage	EN
19	2009	research communication	research communication	EN
11	2014	Forest management	Forest management	EN
68	2014	adoption	adoption	EN
5	2011	Forest understory	Forest understory	EN
64	2018	World Heritage	World Heritage	EN

126	2016	enhanced forest inventory	enhanced forest inventory	EN
35	2020	ecosystem services	ecosystem services	EN
15	2012	Sustainable livelihood	Sustainable livelihood	EN
42	2018	REDD+	REDD+	EN
74	2020	theory of access	theory of access	EN
67	2020	Political ontology	Political ontology	EN
50	2012	Long Term Ecological Res	Long Term Ecological Res	EN
113	2017	developing countries	developing countries	EN
134	2016	forestry	forestry	EN
134	2016	formal mechanisms	formal mechanisms	EN
134	2016	informal interaction	informal interaction	EN
134	2016	innovation cluster	innovation cluster	EN
134	2016	interactive learning	interactive learning	EN
134	2016	knowledge exchange	knowledge exchange	EN
134	2016	relational	relational	EN
134	2016	social capital	social capital	EN
134	2016	structural	structural	EN
135	2018	knowledge sharing	knowledge sharing	EN
135	2018	knowledge transfer	knowledge transfer	EN
135	2018	knowledge management	knowledge management	EN
135	2018	forestry	forestry	EN
137	2009	Brazilian Amazon	Brazilian Amazon	EN
137	2009	collaborative partnerships	collaborative partnerships	EN
137	2009	graduate education	graduate education	EN
137	2009	southern Africa	southern Africa	EN
139	2016	government agencies	government agencies	EN
139	2016	knowledge domains	knowledge domains	EN
139	2016	knowledge integration	knowledge integration	EN
139	2016	local knowledge	local knowledge	EN
139	2016	science-policy gap	science-policy gap	EN
139	2016	scientific knowledge	scientific knowledge	EN
140	2007	environment	environment	EN
140	2007	forest management	forest management	EN
140	2007	Latvia	Latvia	EN
140	2007	policy	policy	EN
140	2007	science	science	EN
140	2007	stakeholders	stakeholders	EN
140	2007	sustainability	sustainability	EN
141	2007	Distributed research netw	Distributed research netwo	EN
141	2007	Integrated Natural Resour	Integrated Natural Resourc	EN
141	2007	Organizational learning	Organizational learning	EN
141	2007	Sustainable development	Sustainable development	EN
141	2007	Tropical forest margins	Tropical forest margins	EN
143	2008	Forest Policy	Forest Policy	EN
143	2008	Forest Science	Forest Science	EN
143	2008	Kenya	Kenya	EN
143	2008	Research	Research	EN
143	2008	science-policy interface	Science/Policy Interface	EN
149	2004	hazards	hazards	EN
149	2004	mountain	mountain	EN

149	2004	prevention	prevention	EN
149	2004	protection forests	protection forests	EN
149	2004	Zoning	Zoning	EN
151	2019	boundary work	boundary work	EN
151	2019	forest bioenergy policy	forest bioenergy policy	EN
151	2019	researchers' roles	researchers' roles	EN
151	2019	scientific knowledge	scientific knowledge	EN
152	2009	communication channels	communication channels	EN
152	2009	effectiveness	effectiveness	EN
152	2009	Ghana forest sector	Ghana forest sector	EN
152	2009	science-policy interface	science-policy interface	EN
152	2009	scientific communication	scientific communication	EN
154	2014	capacity building	capacity-building	EN
154	2014	data ownership	data ownership	EN
154	2014	forest policy	forest policy	EN
154	2014	research collaboration	research collaboration	EN
162	2013	communication	communication	EN
162	2013	Information scientifique	Information scientifique	EN
162	2013	pluridisciplinaire	pluridisciplinaire	EN
162	2013	recherche publique	recherche publique	EN
162	2013	travail collaboratif	travail collaboratif	EN
165	2010	companion modelling	companion modelling	EN
165	2010	livestock rearing	livestock rearing	EN
165	2010	multi-agent systems	multi-agent systems	EN
165	2010	northern Thailand	northern Thailand	EN
165	2010	reforestation	reforestation	EN
165	2010	renewable resource mana	renewable resource manag	EN
171	2014	Cameroun	Cameroun	EN
177	2005	Aboriginal peoples	Aboriginal peoples	EN
177	2005	Anishinabeg	Anishinabeg	EN
177	2005	diversity	diversity	EN
177	2005	forest policy	forest policies	EN
177	2005	governance	governance	EN
177	2005	participation	participation	EN
177	2005	traditional knowledge	traditional knowledge	EN
162	2013	communauté scientifique	communauté scientifique	FR
162	2013	connaissances	connaissances	FR
162	2013	partage des connaissance	partage des connaissances	FR
162	2013	savoirs	savoirs	FR
171	2014	communication de la recher	communication de la recherc	FR
171	2014	partage des connaissance	partage des connaissances	FR
171	2014	recherche forestière	recherche forestière	FR
177	2005	Outaouais	Outaouais	FR

UNIQUE_KEYWORD	COUNT	KE_RELATED
Aboriginal peoples	1	0
Adaptation	1	0
adaptive governance	1	0
Aichi biodiversity targets	1	0
Amazon	1	0
Analytical theory	1	0
Anishinabeg	1	0
Assessment capacity	1	0
Benefit sharing	1	0
Biodiversity	1	0
Biodiversity conservation	1	0
Bonn challenge	1	0
boundary spanning	1	1
boundary work	1	1
Brazil	1	0
Brazilian Amazon	1	0
Cameroun	1	0
Climate policy	1	0
climate resilience	1	0
climate services	1	0
collaborative partnerships	1	1
communauté scientifique	1	0
communication channels	1	1
communication de la recherche	1	1
communities of practice	1	1
Community-based conservati	1	0
companion modelling	1	0
conflicts	1	0
connaissances	1	1
Conservation effectiveness	1	0
Consistency evaluation	1	0
consumer preferences	1	0
coproduction of knowledge	1	1
Co-production of knowledge an	1	1
Criteria and indicators	1	0
Cultural and ecological restor	1	0
data ownership	1	0
Decision	1	0
Decision support	1	0
decision support systems	1	0
decision-making situations	1	0
Deforestation	1	0
Discourse analysis	1	0
Distributed research network	1	0
diversity	1	0
ecological	1	0
ecological restoration	1	0
ecology	1	0
Ecosystem	1	0

ecosystem services	1	0
Ecosystem-based	1	0
effectiveness	1	0
enhanced forest inventory	1	0
Environmental legislation	1	0
environmental policy and mar	1	0
European forest policy	1	0
Evidence based decision making	1	0
Evidence-based conservatior	1	0
Evidence-informed policy	1	0
family forestry	1	0
Forest	1	0
forest and landscape restorat	1	0
forest bioenergy policy	1	0
Forest certification	1	0
Forest definitions	1	0
forest intiatives	1	0
forest land use	1	0
forest owner clubs	1	0
Forest planning	1	0
Forest policy and manageme	1	0
forest products	1	0
Forest research	1	0
Forest understory	1	0
Forest wood value chain	1	0
forestry industry	1	0
Forestry legislation	1	0
formal mechanisms	1	0
Gaultheria	1	0
Germany	1	0
Ghana forest sector	1	0
Global forest policy	1	0
Global forest politics	1	0
government agencies	1	0
government laboratories	1	0
graduate education	1	0
great ape	1	0
guidance	1	0
hazards	1	0
Heterogeneous networks	1	0
homogeneity	1	0
human-wildlife conflict	1	0
hurdle model	1	0
ILK	1	0
implementation	1	0
Indigenous	1	0
Indigenous knowledge	1	0
Indigenous mapping	1	0
Indigenous rights	1	0
Indonesia	1	0

informal interaction	1	1
Information scientifique	1	0
innovation	1	0
innovation cluster	1	0
Institutional analysis	1	0
Integrated Forest Manageme	1	0
Integrated Natural Resource	1	0
integration	1	1
interactive learning	1	0
Interdisciplinarity	1	0
inter-disciplinary science	1	0
Kenya	1	0
Knowledge base	1	0
knowledge domains	1	0
knowledge integration	1	1
Knowledge systems	1	0
knowledge utililization	1	1
knowledge-policy models	1	1
Land management	1	0
Language of uncertainty	1	0
large mammal conservation	1	0
large-scale restoration	1	0
Latvia	1	0
learning communities	1	0
LiDAR	1	0
Likelihood	1	0
livestock rearing	1	0
livestock systems	1	0
local ecological knowledge	1	0
Logic	1	0
Long Term Ecological Resea	1	0
MARISCO	1	0
MCPFE	1	0
measurement reporting and v	1	0
Montreal Process	1	0
mountain	1	0
Mozambique	1	0
multi-agent systems	1	0
multidisciplinary research	1	0
multifunctionality	1	0
Multi-level governance	1	0
multipurpose trees	1	0
Namibia	1	0
national forest inventory	1	0
Natural resource assessments	1	0
Natural resource managemer	1	0
Nepal	1	0
NEPIs	1	0
Network competence skills	1	0
New York Declaration on For	1	0

Nongovernment organization	1	0
non-industrial private forest o	1	0
Non-timber forest products	1	0
North America	1	0
northern Thailand	1	0
NPAP	1	0
Organizational learning	1	0
Outaouais	1	0
participatory action research	1	1
Participatory approaches	1	1
Participatory forest managem	1	1
peer review	1	0
performance-based design	1	0
planning principles	1	0
plantation	1	0
pluridisciplinaire	1	0
Policy advice	1	0
policy analysis	1	0
Policy arrangements approac	1	0
Policy design	1	0
Policy lab	1	0
policy tools	1	0
Political ontology	1	0
prevention	1	0
private forest owners	1	0
protection forests	1	0
Public participation	1	1
qualitative comparative analy	1	0
quality assurance	1	0
quality percipience	1	0
recherche forestière	1	0
recherche publique	1	0
reforestation	1	0
regulation	1	0
relational	1	0
Remote sensing	1	0
renewable resource manager	1	0
reseach influence in decision	1	1
Research	1	0
research collaboration	1	0
research communication	1	1
Research network governance	1	0
Research utilization	1	1
researchers' roles	1	0
Research-policy linkage	1	1
research-to-operations contin	1	1
restoration governance	1	0
Results-based payment	1	0
Retention forestry	1	0
Risk assessment	1	0

RIU model	1	0
savoirs	1	0
Scale	1	0
science communication	1	1
science credibility	1	0
Science management interfac	1	1
science relevancy	1	1
science-policy gap	1	1
science-stakeholder processe	1	1
scientific communication	1	1
shared landscapes	1	0
Small-scale forestry	1	0
social capital	1	0
social forestry	1	0
Social inclusiveness	1	0
social network	1	0
social network analysis	1	0
social position	1	0
social sciences	1	0
social-ecological systems	1	0
societal demands	1	0
Socio-ecological systems	1	0
Southeast Alaska	1	0
southern Africa	1	0
South-South Cooperation	1	0
South-south learning	1	0
Species conservation	1	0
Stakeholder engagement	1	0
stakeholder involvement	1	1
stakeholders	1	0
stakeholders perceptions of r	1	0
structural	1	0
Support system	1	0
sustainable cattle ranching	1	0
Sustainable livelihood	1	0
Sustainable management	1	0
synthesis and integration	1	0
technology transfer	1	1
theory of access	1	0
Traceability	1	0
Trade-off analysis	1	0
traditional	1	0
Traditional ecological knowle	1	0
transboundary	1	0
travail collaboratif	1	1
Tropical forest margins	1	0
uptake	1	0
urban forestry	1	0
Urban woodland	1	0
urbanization	1	0

Vegetation dynamics	1	0
wild resource use	1	0
wood mobilization	1	0
working landscapes	1	0
World Heritage	1	0
Zoning	1	0
agroforestry practices	2	0
capacity building	2	0
Climate change adaptation	2	0
Communication	2	1
conservation	2	0
developing countries	2	0
Environment	2	0
Environmental governance	2	0
environmental policy	2	0
Europe	2	0
extension	2	1
forest science-policy interface	2	1
Forest Sector	2	0
good practices	2	0
knowledge	2	0
Knowledge management	2	1
knowledge sharing	2	1
Local knowledge	2	0
model	2	0
natural resources	2	0
partage des connaissances	2	1
Participation	2	0
peer learning	2	1
policy	2	0
REDD+	2	0
Science	2	0
science policy	2	0
scientific knowledge	2	0
Scientific knowledge transfer	2	1
Sustainable development	2	0
Traditional knowledge	2	0
values	2	0
adoption	3	1
Climate change	3	0
Conservation policy	3	0
Governance	3	0
Knowledge transfer	3	1
Scientific community	3	0
Sustainability	3	0
Decision making	4	0
Forest management	4	0
forest science	4	0
forestry	4	0
Knowledge Exchange	6	1

Forest policy	12	0
science-policy interface	18	1

COVNUM	YEAR	ITEMTYPE_cleaned	EFFECT	IK
58	1998	Case study presenting an exam	No	No
6	1998	Case study presenting an exam	No	No
21	2000	Case study presenting an exam	No	No
131	2000	Other	No	Yes
166	2002	Other	No	No
45	2003	Other	No	No
65	2003	Presents recommendations for	No	No
100	2003	Other	No	No
71	2003	Theoretical framework for how	No	No
121	2003	Presents recommendations for	No	No
149	2004	Theoretical framework for how	No	No
106	2004	Other	No	No
107	2004	Theoretical framework for how	No	Yes
61	2004	Case study presenting an exam	No	Yes
99	2004	Presents recommendations for	No	No
13	2004	Theoretical framework for how	No	No
36	2004	Theoretical framework for how	No	No
146	2004	Theoretical framework for how	No	Yes
98	2004	Case study presenting an exam	No	No
159	2004	Other	No	No
177	2005	Case study presenting an exam	No	Yes
158	2005	Case study presenting an exam	Yes	No
153	2006	Case study presenting an exam	No	Yes
27	2007	Case study presenting an exam	Yes	No
141	2007	Theoretical framework for how	No	Yes
140	2007	Case study presenting an exam	No	No
55	2008	Case study presenting an exam	Yes	No
59	2008	Presents recommendations for	No	No
143	2008	Presents recommendations for	No	No
161	2008	Case study presenting an exam	No	No
128	2009	Presents recommendations for	No	No
54	2009	Other	No	No
172	2009	Other	No	No
129	2009	Other	No	No
137	2009	Theoretical framework for how	No	Yes
97	2009	Case study presenting an exam	No	No
19	2009	Presents recommendations for	No	No
174	2009	Presents recommendations for	No	No
152	2009	Presents recommendations for	Yes	Yes
168	2009	Presents recommendations for	Yes	No
169	2010	Other	No	No
165	2010	Case study presenting an exam	Yes	Yes
53	2011	Theoretical framework for how	No	No
5	2011	Theoretical framework for how	Yes	Yes
88	2011	Case study presenting an exam	No	No
160	2011	Case study presenting an exam	No	No
87	2012	Theoretical framework for how	No	No
130	2012	Case study presenting an exam	No	No

50	2012	Other	No	Yes
15	2012	Other	No	Yes
116	2013	Presents recommendations for	No	No
162	2013	Case study presenting an exam	Yes	No
145	2013	Theoretical framework for how	Yes	No
147	2013	Case study presenting an exam	No	No
150	2013	Presents recommendations for	No	No
68	2014	Presents recommendations for	No	No
39	2014	Other	No	No
110	2014	Presents recommendations for	No	No
11	2014	Theoretical framework for how	Yes	No
79	2014	Theoretical framework for how	No	No
70	2014	Other	No	No
171	2014	Presents recommendations for	Yes	No
154	2014	Other	No	No
92	2015	Theoretical framework for how	No	Yes
117	2015	Presents recommendations for	No	Yes
176	2015	Case study presenting an exam	No	No
7	2015	Theoretical framework for how	No	No
167	2015	Case study presenting an exam	No	No
136	2015	Case study presenting an exam	No	No
103	2015	Case study presenting an exam	Yes	No
142	2016	Presents recommendations for	No	No
139	2016	Theoretical framework for how	No	Yes
3	2016	Case study presenting an exam	No	No
134	2016	Theoretical framework for how	Yes	No
29	2016	Case study presenting an exam	No	No
126	2016	Case study presenting an exam	Yes	No
113	2017	Case study presenting an exam	No	No
4	2017	Theoretical framework for how	No	No
24	2017	Theoretical framework for how	No	No
95	2017	Theoretical framework for how	No	Yes
43	2017	Presents recommendations for	Yes	No
124	2017	Case study presenting an exam	No	No
111	2017	Case study presenting an exam	No	No
64	2018	Case study presenting an exam	No	No
85	2018	Case study presenting an exam	Yes	Yes
182	2018	Presents recommendations for	Yes	No
133	2018	Presents recommendations for	No	No
42	2018	Other	No	Yes
135	2018	Case study presenting an exam	No	No
77	2018	Other	No	No
164	2019	Presents recommendations for	Yes	Yes
31	2019	Presents recommendations for	No	No
132	2019	Other	No	No
127	2019	Theoretical framework for how	No	Yes
81	2019	Case study presenting an exam	No	No
151	2019	Presents recommendations for	No	No

125	2019	Theoretical framework for how	No	Yes
119	2019	Presents recommendations for	No	No
94	2020	Presents recommendations for	No	Yes
38	2020	Presents recommendations for	Yes	Yes
16	2020	Presents recommendations for	No	No
91	2020	Presents recommendations for	Yes	No
57	2020	Other	No	No
35	2020	Other	No	No
67	2020	Theoretical framework for how	No	Yes
74	2020	Presents recommendations for	No	No
47	2020	Presents recommendations for	No	Yes
48	2020	Presents recommendations for	No	No
17	2020	Presents recommendations for	Yes	No
25	2020	Theoretical framework for how	Yes	No
1	2020	Case study presenting an exam	No	No
78	2020	Presents recommendations for	No	Yes

COVNUM	YEAR	FORMAT	ITEMTYPE_cleaned	EFFECT
58	1998	Peer-reviewed article	Case study presenting an exar	No
6	1998	Report (e.g. NGO, gove	Case study presenting an exar	No
21	2000	Peer-reviewed article	Case study presenting an exar	No
131	2000	Editorial	Other	No
166	2002	Editorial	Other	No
45	2003	Peer-reviewed article	Other	No
65	2003	Peer-reviewed article	Presents recommendations fo	No
100	2003	Peer-reviewed article	Other	No
71	2003	Peer-reviewed article	Theoretical framework for ho	No
121	2003	Peer-reviewed article	Presents recommendations fo	No
149	2004	Peer-reviewed article	Theoretical framework for ho	No
106	2004	Peer-reviewed article	Other	No
107	2004	Report (e.g. NGO, gove	Theoretical framework for ho	No
61	2004	Peer-reviewed article	Case study presenting an exar	No
99	2004	Peer-reviewed article	Presents recommendations fo	No
13	2004	Peer-reviewed article	Theoretical framework for ho	No
36	2004	Peer-reviewed article	Theoretical framework for ho	No
146	2004	Conference proceeding	Theoretical framework for ho	No
98	2004	Peer-reviewed article	Case study presenting an exar	No
159	2004	Conference proceeding	Other	No
177	2005	Peer-reviewed article	Case study presenting an exar	No
158	2005	Thesis (Undergraduate,	Case study presenting an exar	Yes
153	2006	Peer-reviewed article	Case study presenting an exar	No
27	2007	Peer-reviewed article	Case study presenting an exar	Yes
141	2007	Peer-reviewed article	Theoretical framework for ho	No
140	2007	Peer-reviewed article	Case study presenting an exar	No
55	2008	Peer-reviewed article	Case study presenting an exar	Yes
59	2008	Peer-reviewed article	Presents recommendations fo	No
143	2008	Conference proceeding	Presents recommendations fo	No
161	2008	Information brief/sumr	Case study presenting an exar	No
128	2009	Conference proceeding	Presents recommendations fo	No
54	2009	Peer-reviewed article	Other	No
172	2009	Editorial	Other	No
129	2009	Conference proceeding	Other	No
137	2009	Peer-reviewed article	Theoretical framework for ho	No
97	2009	Peer-reviewed article	Case study presenting an exar	No
19	2009	Peer-reviewed article	Presents recommendations fo	No
174	2009	Thesis (Undergraduate,	Presents recommendations fo	No
152	2009	Peer-reviewed article	Presents recommendations fo	Yes
168	2009	Conference proceeding	Presents recommendations fo	Yes
169	2010	Conference proceeding	Other	No
165	2010	Thesis (Undergraduate,	Case study presenting an exar	Yes
53	2011	Book chapter	Theoretical framework for ho	No
5	2011	Peer-reviewed article	Theoretical framework for ho	Yes
88	2011	Peer-reviewed article	Case study presenting an exar	No
160	2011	Information brief/sumr	Case study presenting an exar	No
87	2012	Peer-reviewed article	Theoretical framework for ho	No
130	2012	Report (e.g. NGO, gove	Case study presenting an exar	No

50	2012	Peer-reviewed article	Other	No
15	2012	Peer-reviewed article	Other	No
116	2013	Peer-reviewed article	Presents recommendations fo	No
162	2013	Thesis (Undergraduate,	Case study presenting an exar	Yes
145	2013	Thesis (Undergraduate,	Theoretical framework for ho	Yes
147	2013	Report (e.g. NGO, gove	Case study presenting an exar	No
150	2013	Presentation	Presents recommendations fo	No
68	2014	Peer-reviewed article	Presents recommendations fo	No
39	2014	Peer-reviewed article	Other	No
110	2014	Peer-reviewed article	Presents recommendations fo	No
11	2014	Peer-reviewed article	Theoretical framework for ho	Yes
79	2014	Conference proceeding	Theoretical framework for ho	No
70	2014	Editorial	Other	No
171	2014	Peer-reviewed article	Presents recommendations fo	Yes
154	2014	Peer-reviewed article	Other	No
92	2015	Peer-reviewed article	Theoretical framework for ho	No
117	2015	Book chapter	Presents recommendations fo	No
176	2015	Conference proceeding	Case study presenting an exar	No
7	2015	Peer-reviewed article	Theoretical framework for ho	No
167	2015	Peer-reviewed article	Case study presenting an exar	No
136	2015	Conference proceeding	Case study presenting an exar	No
103	2015	Peer-reviewed article	Case study presenting an exar	Yes
142	2016	White paper	Presents recommendations fo	No
139	2016	Peer-reviewed article	Theoretical framework for ho	No
3	2016	Thesis (Undergraduate,	Case study presenting an exar	No
134	2016	Peer-reviewed article	Theoretical framework for ho	Yes
29	2016	Peer-reviewed article	Case study presenting an exar	No
126	2016	Peer-reviewed article	Case study presenting an exar	Yes
113	2017	Peer-reviewed article	Case study presenting an exar	No
4	2017	Report (e.g. NGO, gove	Theoretical framework for ho	No
24	2017	Peer-reviewed article	Theoretical framework for ho	No
95	2017	Peer-reviewed article	Theoretical framework for ho	No
43	2017	Peer-reviewed article	Presents recommendations fo	Yes
124	2017	Peer-reviewed article	Case study presenting an exar	No
111	2017	Information brief/sumr	Case study presenting an exar	No
64	2018	Peer-reviewed article	Case study presenting an exar	No
85	2018	Peer-reviewed article	Case study presenting an exar	Yes
182	2018	Thesis (Undergraduate,	Presents recommendations fo	Yes
133	2018	Report (e.g. NGO, gove	Presents recommendations fo	No
42	2018	Conference proceeding	Other	No
135	2018	Peer-reviewed article	Case study presenting an exar	No
77	2018	Peer-reviewed article	Other	No
164	2019	Report (e.g. NGO, gove	Presents recommendations fo	Yes
31	2019	Peer-reviewed article	Presents recommendations fo	No
132	2019	Book chapter	Other	No
127	2019	Presentation	Theoretical framework for ho	No
81	2019	Peer-reviewed article	Case study presenting an exar	No
151	2019	Peer-reviewed article	Presents recommendations fo	No

125	2019	Report (e.g. NGO, gove	Theoretical framework for ho	No
119	2019	Presentation	Presents recommendations fo	No
94	2020	Peer-reviewed article	Presents recommendations fo	No
38	2020	Peer-reviewed article	Presents recommendations fo	Yes
16	2020	Peer-reviewed article	Presents recommendations fo	No
91	2020	Peer-reviewed article	Presents recommendations fo	Yes
57	2020	Peer-reviewed article	Other	No
35	2020	Peer-reviewed article	Other	No
67	2020	Peer-reviewed article	Theoretical framework for ho	No
74	2020	Conference proceeding	Presents recommendations fo	No
47	2020	Peer-reviewed article	Presents recommendations fo	No
48	2020	Peer-reviewed article	Presents recommendations fo	No
17	2020	Peer-reviewed article	Presents recommendations fo	Yes
25	2020	Peer-reviewed article	Theoretical framework for ho	Yes
1	2020	Peer-reviewed article	Case study presenting an exar	No
78	2020	Peer-reviewed article	Presents recommendations fo	No

KETYPE_cleaned	IK
Coproduction: Knowledge producers and users were .	No
Not applicable	No
Coproduction: Knowledge producers and users were .	No
Coproduction: Knowledge producers and users were .	Yes
Other	No
Other	No
Network: The formal or informal convening of knowle	No
Other	No
Network: The formal or informal convening of knowle	No
Loading dock: Knowledge producers initiated a projec	No
Solicited: Knowledge users requested and/or funded	No
Other	No
Loading dock: Knowledge producers initiated a projec	Yes
Network: The formal or informal convening of knowle	Yes
Loading dock: Knowledge producers initiated a projec	No
Network: The formal or informal convening of knowle	No
Loading dock: Knowledge producers initiated a projec	No
Network: The formal or informal convening of knowle	Yes
Coproduction: Knowledge producers and users were .	No
Coproduction: Knowledge producers and users were .	No
Solicited: Knowledge users requested and/or funded	Yes
Coproduction: Knowledge producers and users were .	No
Coproduction: Knowledge producers and users were .	Yes
Solicited: Knowledge users requested and/or funded	No
Network: The formal or informal convening of knowle	Yes
Loading dock: Knowledge producers initiated a projec	No
Coproduction: Knowledge producers and users were .	No
Not applicable	No
Network: The formal or informal convening of knowle	No
Network: The formal or informal convening of knowle	No
Network: The formal or informal convening of knowle	No
Loading dock: Knowledge producers initiated a projec	No
Network: The formal or informal convening of knowle	No
Network: The formal or informal convening of knowle	No
Loading dock: Knowledge producers initiated a projec	Yes
Not applicable	No
Coproduction: Knowledge producers and users were .	No
Other	No
Loading dock: Knowledge producers initiated a projec	Yes
Coproduction: Knowledge producers and users were .	No
Not applicable	No
Coproduction: Knowledge producers and users were .	Yes
Network: The formal or informal convening of knowle	No
Coproduction: Knowledge producers and users were .	Yes
Coproduction: Knowledge producers and users were .	No
Coproduction: Knowledge producers and users were .	No
Network: The formal or informal convening of knowle	No
Solicited: Knowledge users requested and/or funded	No

Other	Yes
Not applicable	Yes
Network: The formal or informal convening of knowle	No
Network: The formal or informal convening of knowle	No
Network: The formal or informal convening of knowle	No
Other	No
Loading dock: Knowledge producers initiated a projec	No
Not applicable	No
Not applicable	No
Other	No
Other	No
Solicited: Knowledge users requested and/or funded	No
Network: The formal or informal convening of knowle	No
Network: The formal or informal convening of knowle	No
Loading dock: Knowledge producers initiated a projec	No
Coproduction: Knowledge producers and users were .	Yes
Not applicable	Yes
Network: The formal or informal convening of knowle	No
Network: The formal or informal convening of knowle	No
Loading dock: Knowledge producers initiated a projec	No
Other	No
Network: The formal or informal convening of knowle	No
Not applicable	No
Solicited: Knowledge users requested and/or funded	Yes
Network: The formal or informal convening of knowle	No
Solicited: Knowledge users requested and/or funded	No
Loading dock: Knowledge producers initiated a projec	No
Coproduction: Knowledge producers and users were .	No
Not applicable	No
Network: The formal or informal convening of knowle	No
Other	No
Coproduction: Knowledge producers and users were .	Yes
Loading dock: Knowledge producers initiated a projec	No
Loading dock: Knowledge producers initiated a projec	No
Not applicable	No
Coproduction: Knowledge producers and users were .	No
Coproduction: Knowledge producers and users were .	Yes
Solicited: Knowledge users requested and/or funded	No
Loading dock: Knowledge producers initiated a projec	No
Other	Yes
Network: The formal or informal convening of knowle	No
Loading dock: Knowledge producers initiated a projec	No
Solicited: Knowledge users requested and/or funded	Yes
Coproduction: Knowledge producers and users were .	No
Network: The formal or informal convening of knowle	No
Loading dock: Knowledge producers initiated a projec	Yes
Network: The formal or informal convening of knowle	No
Solicited: Knowledge users requested and/or funded	No

Coproduction: Knowledge producers and users were .	Yes
Coproduction: Knowledge producers and users were .	No
Not applicable	Yes
Loading dock: Knowledge producers initiated a projec	Yes
Not applicable	No
Coproduction: Knowledge producers and users were .	No
Network: The formal or informal convening of knowle	No
Network: The formal or informal convening of knowle	No
Not applicable	Yes
Not applicable	No
Network: The formal or informal convening of knowle	Yes
Loading dock: Knowledge producers initiated a projec	No
Loading dock: Knowledge producers initiated a projec	No
Coproduction: Knowledge producers and users were .	No
Loading dock: Knowledge producers initiated a projec	No
Not applicable	Yes

ID	Label
1	Bundesamt für Naturschutz (Federal Agency for Nature Conservation)
2	International Union for Conservation of Nature
3	Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit (Fed
4	UNESCO World Heritage Committee
5	Länder (Federal states)
6	Natural Resources Canada
7	Partenariat Innovation Forêt (FPInnovations)
8	University of British Columbia
9	Canadian Institute of Forestry
10	Canadian Woodlands Forum
11	House of Commons Standing Committee on Natural Resources
12	US Forest Service
13	Tembec Industries Inc.
14	J.D. Irving Ltd.
15	Corner Brook Pulp and Paper Ltd.
16	EnLift Policy Lab
17	Department of Forests and Soil Conservation
18	Faculty of Forest Sciences and Forest Ecology (Burckhardt-Institute)
19	Food and Agriculture Organization (United Nations)
20	International Union of Forest Research Organizations
21	United States Department of Agriculture
22	Skov and Landskab: Danish Centre for Forest, Landscape and Planning
23	International Research Group on Wood Protection
24	University of Gôttingen
25	Norwegian Institute of Bioeconomy Research
26	University of Ljubjana
27	DJ Timber Consultancy Ltd.
28	Heinz-Piest-Institute for Skilled Crafts
29	Laboratório Nacional de Engenharia Civil
30	University of Natural Resources and Applied Life Sciences
31	Center for International Forest Research
32	European Forest Institute
33	European Union
34	Kenya Forestry Research Institute
35	Kenya Forest Services
36	Maastricht University
37	Agroforestry Centre of Machipanda
38	Universidade Federal do Paraná (Federal University of Paraná)
39	Brazilian Cooperation Agency
40	Southwest Ecological Restoration Institutes
41	Nature Conservancy
42	Conservation Science Partners
43	Western Watersheds Project
44	Mountain Studies Institute
45	Wyoming Natural Diversity Database

46 National Park Service
47 The Bureau of Land Management
48 US Fish and Wildlife Service
49 Swiss Federal Institute of Technology
50 The Wilderness Society
51 Defenders of Wildlife
52 Forest Guild
53 Bird Conservancy of the Rockies (formerly Rocky Mountain Bird Observatory)
54 US Geologic Survey
55 Natural Resources Conservation Service
56 Bureau of Reclamation
57 Environmental Protection Agency
58 Long Term Ecological Research Network
59 Harvard Forest
60 University of the Highlands and Islands
61 National Research Institute for Agriculture, Food and Environment
62 University of Eastern Finland
63 Natural Resources Institute Finland
64 University "Stefan cel Mare" Suceava
65 University of Aberdeen
66 Forest Research Institute
67 Swedish University of Agricultural Sciences
68 Wildlife and Forestry Department
69 Karelia University of Applied Sciences
70 Estonian University of Life Sciences
71 Latvia University of Life Sciences and Technologies
72 National Science and Technology Council
73 US Global Change Research Program
74 US Federal Government
75 International Panel on Climate Change
76 Laval University
77 Pessamit
78 Doi Tiew villagers
79 Université Paris Nanterre (Paris Nanterre University)

Type	Countries	Province/State	Cities	Latitude
Government	Germany	North Rhine-Wes	Bonn	50.7374
International Organization	Switzerland		Gland	46.4203
Government	Germany	North Rhine-Wes	Bonn	50.7374
International Organization	France		Paris	48.8566
Government	Germany			51.1657
Government	Canada	Ontario	Ottawa	45.4215
NGO	Canada	Quebec	Pointe-Claire	45.472
Academia	Canada	British Columbia	Vancouver	49.2827
NGO	Canada	Ontario	Mattawa	46.3175
NGO	Canada	Nova Scotia	Brookfield	45.2538
Government	Canada	Ontario	Ottawa	45.4215
Government	United States	Washington D.C.		38.9072
Industry	Canada	Quebec	Montreal	45.5017
Industry	Canada	New Brunswick	Saint John	45.2733
Industry	Canada	Newfoundland	Corner Brook	48.949
NGO	Nepal		Bagdol	27.6683
Government	Nepal	Kathmandu	Babarmahal	27.6935
Academia	Germany	Lower Saxony	Gôttingen	51.5413
International Organization	Italy		Rome	41.9028
NGO	Austria		Vienna	48.2082
Government	United States	Washington D.C.		38.9072
NGO	Denmark		Hørsholm	55.8835
International Organization	Sweden		Stockholm	59.3293
Academia	Germany		Gôttingen	51.5413
Government	Norway		Ås	59.6864
Academia	Slovenia		Ljubljana	46.0569
Industry	Sweden		Skellefteå	64.7502
NGO	Germany		Hannover	52.3759
Academia	Portugal		Angra do Her	38.6635
Academia	Austria		Vienna	48.2082
NGO	Indonesia		Bogor	-6.5971
International Organization	Finland		Joensuu	62.601
International Organization	Belgium		Brussels	50.8503
Government	Kenya		Nairobi	-1.2921
Government	Kenya		Nairobi	-1.2921
Academia	Netherlands		Maastricht	50.8514
Academia	Mozambique		Machipanda	-18.9996
Academia	Brazil		Curitiba	-25.4372
Government	Brazil		Brasília	-15.7975
Academia	United States	Arizona	Flagstaff	35.1983
NGO	United States	Virginia	Arlington Cou	38.8816
NGO	United States	Colorado	Fort Collins	40.5853
NGO	United States	Idaho	Hailey	43.5196
NGO	United States	Colorado	Silverton	37.8119
Academia	United States	Wyoming	Laramie	41.3114

Government	United States	Washington D.C.		38.9072
Government	United States	Washington D.C.		38.9072
Government	United States	Washington D.C.		38.9072
Academia	Switzerland	Zurich	Zurich	47.3769
NGO	United States	Colorado	Denver	39.7392
NGO	United States	Washington D.C.		38.9072
NGO	United States	New Mexico	Santa Fe	35.687
NGO	United States	Colorado	Fort Collins	40.5853
Government	United States	Virginia	Reston	38.9586
Government	United States	Washington D.C.		38.9072
Government	United States	Washington D.C.		38.9072
Government	United States	Washington D.C.		38.9072
NGO	United States	California	Santa Barbara	34.4208
Academia	United States	Massachusetts	Petersham	42.4838
Academia	Scotland		Inverness	57.4778
Government	France		Paris	48.8566
Academia	Finland		Kuopio	62.898
NGO	Finland		Helsinki	60.1699
Academia	Romania		Suceava	47.6635
Academia	Scotland		Aberdeen	57.1497
Government	Poland		Sękocin Stary	52.102
Academia	Sweden		Uppsala	59.8586
Government	Belgium		Namur	50.4674
Academia	Finland		Joensuu	62.601
Academia	Estonia		Tartu	58.378
Academia	Latvia		Jelgava	56.6511
Government	United States	Washington D.C.		38.9072
Government	United States	Washington D.C.		38.9072
Government	United States	Washington D.C.		38.9072
International Organization	Switzerland		Geneva	46.2044
Academia	Canada		Quebec city	46.8139
Local/Indigenous Community	Canada		Côte-Nord	48.95
Local/Indigenous Community	Thailand			15.87
Academia	France		Nanterre	48.8924

Longitude
7.0982
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Source	Target	Type	Weight
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42	47	Directed	1

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Label
University of Gôttingen
University of Ljubjana
Laboratório Nacional de Engenharia Civil
University of Natural Resources and Applied Life Sciences
Agroforestry Centre of Machipanda
Universidade Federal do Paraná (Federal University of Paraná)
University of the Highlands and Islands
University of Eastern Finland
University "Stefan cel Mare" Suceava
University of Aberdeen
Swedish University of Agricultural Sciences
Karelia University of Applied Sciences
Estonian University of Life Sciences
Latvia University of Life Sciences and Technologies
Laval University
Université Paris Nanterre (Paris Nanterre University)
Natural Resources Canada
US Forest Service
United States Department of Agriculture
Norwegian Institute of Bioeconomy Research
National Research Institute for Agriculture, Food and Environment
Forest Research Institute
Wildlife and Forestry Department
DJ Timber Consultancy Ltd.
International Union for Conservation of Nature
Food and Agriculture Organization (United Nations)
International Research Group on Wood Protection
Doi Tiew villagers
International Union of Forest Research Organizations
Skov and Landskab: Danish Centre for Forest, Landscape and Planning
Heinz-Piest-Institute for Skilled Crafts
Natural Resources Institute Finland
University of British Columbia
Faculty of Forest Sciences and Forest Ecology (Burckhardt-Institute)
Maastricht University
Southwest Ecological Restoration Institutes
Wyoming Natural Diversity Database
Swiss Federal Institute of Technology
Bundesamt für Naturschutz (Federal Agency for Nature Conservation)
Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit (Federal Ministry for the Env
Kenya Forestry Research Institute
National Science and Technology Council
US Global Change Research Program
European Forest Institute
EnLift Policy Lab

Center for International Forest Research
Nature Conservancy
Conservation Science Partners
Western Watersheds Project
Mountain Studies Institute
The Wilderness Society
Defenders of Wildlife
Forest Guild
Bird Conservancy of the Rockies (formerly Rocky Mountain Bird Observatory)
Long Term Ecological Research Network
Harvard Forest
Länder (Federal states)
House of Commons Standing Committee on Natural Resources
Department of Forests and Soil Conservation
Kenya Forest Services
Brazilian Cooperation Agency
National Park Service
The Bureau of Land Management
US Fish and Wildlife Service
US Geologic Survey
Natural Resources Conservation Service
Bureau of Reclamation
Environmental Protection Agency
US Federal Government
Tembec Industries Inc.
J.D. Irving Ltd.
Corner Brook Pulp and Paper Ltd.
UNESCO World Heritage Committee
European Union
International Panel on Climate Change
Pessamit
Partenariat Innovation Forêt (FPInnovations)
Canadian Institute of Forestry
Canadian Woodlands Forum

Producer/User/Both	Type
Both	Academia
Both	Academia
Both	Academia
Both	Academia
Both	Academia
Both	Academia
Both	Academia
Both	Academia
Both	Academia
Both	Academia
Both	Academia
Both	Academia
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Both	Academia
Both	Academia
Both	Academia
Both	Academia
Both	Government
Both	Government
Both	Government
Both	Government
Both	Government
Both	Government
Both	Government
Both	Industry
Both	International Organization
Both	International Organization
Both	International Organization
Both	Local/Indigenous Community
Both	NGO
Both	NGO
Both	NGO
Both	NGO
Producer	Academia
Producer	Academia
Producer	Academia
Producer	Academia
Producer	Academia
Producer	Academia
Producer	Government
Producer	Government
Producer	Government
Producer	Government
Producer	Government
Producer	International Organization
Producer	NGO

Producer	NGO
Producer	NGO
Producer	NGO
Producer	NGO
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Producer	NGO
Producer	NGO
Producer	NGO
Producer	NGO
Producer	NGO
User	Academia
User	Government
User	Government
User	Government
User	Government
User	Government
User	Government
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User	Government
User	Government
User	Government
User	Government
User	Government
User	Government
User	Industry
User	Industry
User	Industry
User	International Organization
User	International Organization
User	International Organization
User	Local/Indigenous Community
User	NGO
User	NGO
User	NGO

Knowledge Exchang	Organization	Percentage
Producer	Government	14.3
Producer	International Organization	4.8
Producer	NGO	52.4
Producer	Academia	28.6
Producer	Industry	0.0
Producer	Local/Indigenous Community	0.0
User	Government	52.2
User	International Organization	13.0
User	NGO	13.0
User	Academia	4.3
User	Industry	13.0
User	Local/Indigenous Community	4.3
Both	Government	28.6
Both	International Organization	8.6
Both	NGO	11.4
Both	Academia	45.7
Both	Industry	2.9
Both	Local/Indigenous Community	2.9

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This datasheet includes qualitative analysis data and results for Westwood et al. (in revision) A s

Sheet	Description
Codebook	Gives a category and definition for each of the code
Coded major findings	The qualitative codes assigned to the 'major findings
Code totals	Summed totals of qualitative codes

systematic map of knowledge exchange across the science-policy interface for forest scien

es used during qualitative analysis
s' extracted data for each included item.

ıce: How can we improve consistency and effectiveness? *Ecological Solutions and Evidenc*

ce.

Code group	Code
KE techniques	Capacity building
	Collaboration
	Evaluations/best practices
	Informal communication
	KE activities
	KE broker
	Knowledge transfer
	Multidisciplinary
	Networking
	Relationship building
	Science communication
	Targeted research
	Value
Enabling conditions for KE	Access to science-policy dialogue
	Established relationships
	Funding
	KE framework
	Knowledge management system
	Neutrality
	Technology
	Trust
Barriers to KE	Competing terminology
	Science translation
	Time
Success	Improved relationships
	Increased KE
	Influenced human behaviour
	Influenced policy or products
	Influenced research
	Sense of ownership

Definition
The approaches taken to do the KE. This could be something concrete, like a fact sheet or conference proceedi
Involves developing or strengthening skills, processes, or resources for an organization to perform KE.
References to collaborating or working with groups and organizations outside of their current work group.
Involves reflection at end of KE project to improve and refine project activities. There is communication of KE k
Knowledge producers are able to share additional information with knowledge users or understand perspectiv
activities for the purpose of knowledge exchange like workshops, conferences, etc.
Acting as an intermediary between producers and users of knowledge. May be signified by a person with brok
The specific, intentional, and targeted transfer of knowledge from producers to users (e.g. from scientists to c
References to working with more than one field of knowledge, e.g. economic, academic, policy, local, Indigenc
Establishing networks with the intent of supporting or undertaking KE.
Individuals are engaging in KE across organizations or disciplines because of the personal or professional relati
Knowledge producer communicates or translates information either of their own volition or based on the nee
Collaboration with stakeholders or end-users conducted to target or modify the research to address the specif
Aligning values between knowledge producers and user and/or understanding the values and practices of enga
Processes, factors, or characteristics that make KE work possible
Team members have access to all available information needed to make informed decisions
Having relationships already established between project partners or institutions prior to KE activity being und
Adequate funding in place to conduct KE work
Participants having an existing institutionalized or “accepted” framework for how to do KE work
An existing, working system in place for knowledge management (e.g. leaders directing the work for KE broker
When individuals engaging in KE remain unbiased, their work is perceived as more credible.
The specific use of technology (like mapping or modelling systems) in a collaborative way with producers and u
Trusting relationships built between the knowledge producer and user to help do KE work
Any barriers or limitations to doing KE work
Refers to any difficulty or confusion exchanging knowledge across organizations or disciplines due to differing
Difficulty translating science from producers to users in an approachable and/or understandable way
Insufficient time available to build trust and strong networks for research or projects
Any evidence of whether the KE methods used were successful/not successful, and if so, how that success was
Strengthening relationships with all KE actors led to a shared understanding of KE work and project objectives.
Facilitated collective learning through exchange of information between knowledge producers and users.
Individuals were deemed more inclined to act in a certain manner due to increased knowledge or understandi
A new product of theory was adopted. Also includes perceptions that human or environmental welfare was in
A project or research was altered or modified based on the KE to improve the research practices or processes.
A KE project was considered impactful when knowledge users felt a sense of ownership, or that they contribut

COVNUM	SHORTCIT	FINDINGS
58	Mills et al., 1998	Shares challenges faced by scientists and land managers in the c
6	Clark & Meidinger, 1998	"We found that we have much to learn from one another. We n
21	Shaw, Everest & Swanston,	" Scientists provide managers and policymakers with the founda
131	Boutinot, 2000	A multidisciplinary approach to forest-related research that rec
166	Innes, 2002	Last paragraph, p. 5"A thorough knowledge management asses
45	Guldin, 2003	"Research programs that practice continuous innovation and ad
65	Joyce, 2003	"When the periodic assessment process is institutionalized, it of
100	Parrotta & Campos Arce, 20	"It is our hope that this Special Issue will provide new perspectiv
71	Reynolds, Johnson & Gordo	The proposed model "can make evaluation of sustainability mor
121	Krott, 2003	"program area 3 has not been able to produce outstanding resu
149	Berger & Rey, 2004	"The attribution of subsidies is a good means of achieving these
106	DeYoe & Hollstedt, 2004	"To capitalize on the benefits that can be derived from employi
107	Guldin et al., 2004	"I. In conducting research, researchers should address question
61	Guldin et al., 2004	The 6 major findings are:"People's values about forests, and hov
99	Guldin et al., 2004	"People's values about forests, and how they protect, manage a
13	Konijnendijk, 2004	"Although policy/science links in urban forestry have so far beer
36	Mayer et al., 2004	Five Resolutions are identified to serve as starting points for fut
146	Meridian Institute, 2004	"PRELIMINARY DRAFT GUIDANCE Improving Communication be
98	Peterson & Shriner, 2004	"Most explicitly, the FRP legacies in Forest Service research inclu
159	Young et al., 2004	Biodiversity related to trade: "It was evident in this session that
177	Chiasson et al., 2005	La Forêt de l'Aigle is largely considered a success story in terms
158	Monnet, 2005	"Les gains obtenus par la Table de concertation sont importants
153	Hviding, 2006	For western organizations/scientists looking to implement cons
27	Janse & Konijnendijk, 2007	"a set of tools comprising a step-wise process from informing th
141	Tomich et al., 2007	"ASB's processes and structures have weaknesses as well as stre
140	Oslejs et al., 2007	Provides recommendations for creating tangible products to sha
55	Gulbrandsen, 2008	"This study strongly supports the political-institutional propositi
59	Janse, 2008	"the importance of increasing personal contact and networking
143	Ochuodho & Odera, 2008	"If it is clear that most forest research information and knowled
161	Poulet, 2008	NA
128	Afxantidis, 2009	Societal demands and expectations of the forest sector have cha
54	Arts & Buizer, 2009	NA
172	de Montgolfier, 2009	Creating a knowledge exchange network between different acto
129	Dimanche, 2009	NA
137	Duchelle et al., 2009	Recommended strategies for integrating knowledge exchange w
97	Eden, 2009	NA
19	Kleine, 2009	"interaction between the science community and decision-make
174	Landry, 2009	"While the MFs have the responsibility of communicating the le
152	Marfo et al., 2009	"face-to-face meetings and informal networks are two strategic
168	Ollivier & Grulois, 2009	"Actuellement, on constate un très gros déficit général de comn
169	Regolini, Gentilini & Luque,	FragForNet has been a success in terms of facilitating workshop
165	Dumrongrojwatthana, 2010	"In relation to the third objective of the workshop, the gaming a
53	Aggestam & Weiss, 2011	Support for innovation should move away from project-based su
5	Fortmann & Ballard, 2011	We have demonstrated how the partial and situated knowledge
88	Klenk & Hickey, 2011	Main findings:"Policy developers/analysts indicated that the mo

160	Salvignol, 2011	The article gives recommendations for knowledge transfer prod
87	Krott, 2012	"even if stakeholders always dominate knowledge transfer, stric
130	Conseil canadien des minist	NA
50	Driscoll et al., 2012	In all of the case studies, boundary-spanning efforts were built c
15	Nautiyal & Nidamanuri, 201	"People in the RGNP are found to have developed a negative at
116	Hamunen, 2013	"To keep owners actively making forest-related decisions, it is ir
162	Bouhedi, 2013	"les outils mis à la disposition du personnel [de l'Unité de Reche
145	Kamelarczyk, 2013	"policy was more influenced by: changing international policy di
147	Leclerc et Sergent, 2013	"L'analyse contrastée des deux cas montre qu'en France, le con
150	Mcmorrow, 2013	NA
68	Stewart, Edwards & Lawren	"Thus, in conclusion, we would argue for the DSS development c
39	Winkel & Jump, 2014	NA
110	Arnold et al., 2014	The paper recommended six principles for developing user-orie
11	Boecher & Krott, 2014	This paper showed that, based on current research on scientific
79	Buttoud, 2014	"However, research and public decision-making are very contra
70	de Arano, 2014	NA
171	Ebakisse, 2014	"Les analyses effectuées ont permis de constater que malgré de
154	Ruslandi et al., 2014	"At one extreme, raw plot data might be made avail-able on pul
92	Thompson, 2015	"local knowledge of how ecosystems function, accumulated by l
117	Asselin, 2015	"ecosystem-based forest management is probably the best mee
176	Doblas-Miranda et al., 2015	"faire entrer les entreprises dans les forets : la chaîne de valeur
7	Klenk & Wyatt, 2015	Recommendations:"... an effective knowledge mobilization stra
167	Martinez, 2015	See conclusionFindings suggest different evolutions and approa
136	Newell-Price et al., 2015	NA
103	Virkulla et al., 2015	"The role of expert-led encounters is strong in Finland and owne
142	Carvalho, 2016	There are existing mechanisms currently being employed at anc
139	Fleischman & Briske, 2016	"government agencies responsible for natural resource manage
3	Amorelli Ribeiro Kornexl 20	"Include Brazilian forest sector lessons in other Brazilian SSC pro
134	Bayne et al., 2016	"it appears that the key success factor in enhancing uptake and
29	Caceres et al., 2016	Four considerations or "working hypotheses" to support the use
126	D'Eon & MacAfee, 2016	That collaboration between governments and industry is a fruitf
113	Vargas, et al., 2017	" improving the multiple facets of interoperability could facilitat
4	Amorelli Ribeiro Kornexl 20	Definition of goals and expectations for the knowledge exchang
24	Chazdon et al., 2017	Knowledge generation projects, regardless of their funding sour
95	Diver, 2017	"Aligning with Jasanoffs(2004) co-production of social order, thi
43	Gret-Regamey et al., 2017	"While for some policy sectors such as agriculture or forestry se
124	Swartling et al., 2017	"ensure representation from all relevant actor groups and that p
111	Tousignant, 2017	NA
64	Heim, Krott & Bacher, 2018	" The different roles played by the actors involved could be sepa
85	Schick et al., 2018	"working with local communities in an open and transparent pa
182	Wurtzebach, 2018	"In the U.S. Forest Service, I found that limited capacity, decentr
133	Brischke et al., 2018	" it seems indispensable to intensify networking between: 1)diff
42	Elliott, 2018	These conclusions are from the summarized talks and papers at
135	Santos, 2018	"It is important to highlight the significance of the knowledge sh
77	Wistbacka et al., 2018	"Our study exposes the wide gap between science and policy wi
164	Marqui & Reynaud, 2019	"The ACTAE project has produced a significant set of results bot
31	Wurtzebach et al., 2019	"decentralized decision-making structures, limited formalizatior
132	Knoepp et al., 2019	"Most EFRs have served as focal points for education and demo
127	NRCan, 2019	There is a diversity of activities and work being done by all six re
81	Ramirez & Belcher, 2019	Their conclusion was: "The analysis presented here shows that t

151	Saarela, 2019	" On a practical level, they explained, the contribution of scienc
125	Theberge et al., 2019	"Co-creation of knowledge is a complex process. Among other t
119	Tokola & Mustalahti, 2019	"Youth may not be able to find solutions and create the new inr
94	Joa & Schraml, 2020	Despite the frequently stated need for more evidence-based inf
38	Purse, et al., 2020	"Our approach of using co-production to guide production of ris
16	Savari, Eskandari Damaneh	"The results indicated that nearly 70% of local communities did
91	Aurenhammer, 2020	"GFIs indeed used a broad variety of instruments, both, traditio
57	Basnet & Karki, 2020	The authors recommend a participatory forest management sys
35	Benz et al., 2020	3.1. Multifunctionality of Forests as a Target for a Modern, Sust
67	Gonzalez & Kroger, 2020	"This article has highlighted forest relations that may be helpful
74	Hardianti et al., 2020	From abstract:"The results showed that two configurations of re
47	Hockings et al., 2020	"Overall, local people and chimpanzees at CNP used fruits from
48	Jara-Rojas et al., 2020	"Decisions about adopting agroforestry and the intensity of ado
17	Lawrence et al., 2020	"analysis of the FOKIS in these ten European countries reveals a
25	Ojha et al., 2020	"The EPL outcomes have also been compared with other standa
1	Ramirez & Belcher, 2020	"... direct communication with policymakers was effective to pr
78	Tarbox et al., 2020	"[We] found that the ability to identify native trees and describe

					KE TECHNI
COLLAB-ORATION	NETWORKING	MULTI-DISCIPLINARY	RELATIONSHIP BUILDING	SCIENCE COMMUNICATION	EVALUATIONS/BEST PRACTICES
1	0	0	0	0	1
0	0	0	0	0	0
0	0	0	0	1	0
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0	0	1	0	0	0
1	0	1	0	0	0
0	1	0	0	0	0
1	0	0	0	0	0
0	0	1	0	0	0
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0	0	0	0	0	0
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0	0	0	0	1	0

0	0	1	1	0	0
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1	0	0	0	0	0
1	0	0	1	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
1	1	1	0	0	1
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0	0	0	0	0	0
0	1	0	0	0	0
0	0	1	0	0	0
1	0	1	1	0	0
0	0	1	1	0	0
0	0	0	0	0	0

QUES

INFORMAL COMMUNICATION	VALUE	KE BROKER	CAPACITY BUILDING	KE ACTIVITIES	TARGETED RESEARCH	KNOWLEDGE TRANSFER
0	0	0	0	0	0	0
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0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
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0	0	0	0	0	0	0
1	1	0	1	1	1	0
0	0	1	0	0	0	0
0	0	0	0	0	0	0
0	1	0	0	0	1	0

0	0	0	0	0	1	0
0	0	0	0	0	1	0
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0	0	0	0	0	1	0
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0	0	0	0	0	0	0
0	0	0	0	0	0	0

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1	0	0	0	0	1	0
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1	1	0	0	0	1	0
0	0	0	0	0	1	0
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1	1	0	0	0	1	0
0	0	0	0	0	0	0

SUCCESS					
INFLUENCE POLICY/PRODUCTS	INFLUENCE HUMAN BEHAVIOUR	INFLUENCE RESEARCH	IMPROVED RELATIONSHIPS	INCREASED KE	SENSE OF OWNERSHIP
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
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0	0	0	0	0	0

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0	0	0	0	0	0
0	0	0	0	0	0
0	1	0	0	0	0
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0	0	0	0	0	0
0	0	0	1	0	1
0	0	0	0	0	0
0	0	0	0	0	0

			KE ENABLING CONDITIONS		
KE FRAMEWORK	FUNDING	TRUST	ACCESS TO SCIENCE/POLICY DIALOGUE	ESTABLISHED RELATIONSHIPS	NEUTRALITY
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0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
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1	1	0	0	0	0
0	0	0	0	1	1
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0	0	0	0	0	0
0	0	0	0	0	0
0	0	1	1	1	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	1	0	0	0
0	0	1	0	1	0
0	0	0	0	0	0
0	0	0	0	0	0
0	1	1	1	0	0
0	0	1	0	1	0
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0	0	1	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0

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0	0	0	0	0	0
0	1	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
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0	1	0	0	0	0
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0	0	0	0	0	0
0	0	0	0	0	1

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0	0	0	0	0	0
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0	0	0	0	0	0
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0	0	1	0	0	0
0	0	1	0	0	0
0	0	0	0	0	0

		KE BARRIERS		
KNOWLEDGE MANAGEMENT SYSTEM	TECHNOLOGY	SCIENCE TRANSLATION	TIME	COMPETING TERMINOLOGY
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0	0	0	0	0
0	0	1	0	0
0	0	0	0	0
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0	0	1	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	0
0	0	0	0	0
0	0	1	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
1	0	0	0	0
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0	0	0	0	0
0	0	1	0	0

0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	0
0	0	1	0	0

Code group	Code	Frequency (English and French)
KE barriers	science translation	8
KE barriers	time	2
KE barriers	competing terminology	1
KE enabling conditions	trust	12
KE enabling conditions	funding	9
KE enabling conditions	established relationships	8
KE enabling conditions	KE framework	6
KE enabling conditions	neutrality	4
KE enabling conditions	access to science/policy dialogue	2
KE enabling conditions	knowledge management system	2
KE enabling conditions	technology	1
KE techniques	collaboration	44
KE techniques	multidisciplinary	31
KE techniques	targeted research	23
KE techniques	relationship building	21
KE techniques	value	19
KE techniques	science communication	17
KE techniques	informal communication	15
KE techniques	evaluations/best practices	13
KE techniques	networking	12
KE techniques	KE broker	12
KE techniques	capacity building	7
KE techniques	KE activities	4
KE techniques	knowledge transfer	2
Success	influenced human behaviour	4
Success	influenced research	3
Success	increased KE	3
Success	improved relationships	2
Success	influenced policy/products	2
Success	sense of ownership	2

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REGISTERED REPORT STAGE 1: STUDY DESIGN

A systematic mapping protocol for understanding knowledge exchange in forest science

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Abstract

1. When making decisions about forest and environmental management, managers and policymakers often rely upon scientific knowledge. There is a well-documented 'knowledge–integration gap' where often the production of knowledge and its use are not aligned. Though there are several theoretical frameworks that conceptualize how knowledge is exchanged between producers of scientific knowledge and users of that information, there has been little attention to documenting knowledge exchange practices and their effectiveness, especially about forests.
2. In the systematic map, we will examine the peer-reviewed academic and grey literature to document and classify the knowledge exchange techniques suggested and adopted by knowledge producers and users in the forest sciences globally. Characterizing this knowledge exchange landscape will provide new information about which techniques are used and their frequency, if there is evidence of effectiveness for particular techniques, and recommendations for best practices. This map will also show whether approaches to knowledge exchange differ between sectors (e.g. academia, government).
3. We will create a systematic literature map as defined by the Collaboration for Environmental Evidence to capture case studies of, or theories about, knowledge exchange related to forest science. The search of peer-reviewed academic and grey literature will be conducted in English and French in two academic databases (BASE and Scopus) and one specialist database (ResearchGate). Candidate search strings will be evaluated against a test list of documents to determine strings with maximum sensitivity and specificity. Eligibility criteria will be applied to items at two screening stages: (1) title and abstract and (2) full-text. All screening decisions will be recorded in a database with 15% of full-text screening decisions validated. Items retained for inclusion will have data extracted according to a standardized strategy. Each reviewer conducting data extraction will have at least three of their extractions validated.

4. The systematic map will employ a narrative synthesis approach that includes descriptive statistics, tables, and figures which describe the types and frequency of knowledge exchange techniques theorized or described, a network map displaying the institutions within and between which knowledge exchange occurs, as well as summarizing any available evidence of effectiveness for particular knowledge exchange techniques.

KEYWORDS
forest management, forest science, forestry, knowledge exchange, knowledge mobilization, knowledge production, science transfer, science–policy interface

1 | INTRODUCTION

Management of natural resources and the environment, including forest management, requires tackling problems that are becoming increasingly complex and involve growing levels of risk (Cvitanovic et al., 2015; Engels, 2005; Lubchenco, 1998). To make decisions about such problems, natural resource managers and policymakers (henceforth 'knowledge users') must identify and choose between possible outcomes while weighing potentially competing evidence and trying to fulfil their environmental, social and economic objectives (Douglas, 2012). In forest management, there have been calls to increase the effectiveness of communication between scientific knowledge producers (which for the purposes of this protocol we consider as inclusive of natural and social scientists and researchers) and prospective knowledge users (Guldin et al., 2005; Kleine, 2009; Parrotta & Campos Arce, 2003). These knowledge users may include governments, Indigenous land stewards and/or rights-holders, industrial managers, landowners, educators, non-governmental organizations and others with a role and interest in the management, conservation and restoration of forest ecosystems.

Many of the world's forests are managed for a variety of values, which include conservation, food, natural and industrial resources, tourism and cultural values and climate risk management (Dhar et al., 2018; Eriksson, 2018). The needs and constraints felt by communities reliant on forest resources vary based on global and cultural context, norms, cultural values and the hierarchy of actors involved in forest management (Elliott, 2018). The complexity of resources, values, stakeholders and governments involved in forest management necessitates understanding into what evidence is used to make decisions and by whom as well as how knowledge about forests is transferred between actors (D'Eon & MacAfee, 2016). Knowledge exchange, generally, describes the interchange between producers of scientific knowledge (in our case, scientists) and users who apply this knowledge.[1] Knowledge exchange activities can improve the integration of scientific knowledge into policies and management activities, particularly if the knowledge is credible, salient and legitimate (Hering, 2016; Nguyen et al., 2017; Posner & Cvitanovic, 2019).

Scientific evidence about natural resources, including forests, is linked to policy and management outcomes in many ways. These outcomes include (but are not limited to) raising awareness, issuing warnings, defining problems, assessing policy and management options before and/or after implementation and monitoring implemented policies (Douglas, 2012; Engels, 2005). Science can also be used to legitimize or justify policy or management decisions (Engels, 2005; Girling & Gibbs, 2019). However, science is often unused or underused in policy and management processes (Cvitanovic & Hobday, 2018; Hisschemöller et al., 2001; Sutherland & Wordley, 2017), including forest science (Parrotta & Campos Arce, 2003).

Though the mismatch between produced evidence and its use in policymaking is often referred to as the 'science–policy gap' (Bradshaw & Borchers, 2000; Snow, 1959), we generalize this concept to the 'knowledge–integration gap' to be inclusive of management uses. There are multiple suggested causes for this gap, with a predominant one being that scientists and knowledge users operate in different cultures, with different timelines, expectations and motivations (Cash et al., 2003; Engels, 2005; Girling & Gibbs, 2019; Guston, 2001; Nguyen et al., 2018). Knowledge users often lack scientific training, whereas scientists often lack understanding of policymaking or management styles, including how and when to share their work (Brisbois et al., 2018; Fazey et al., 2014; Girling & Gibbs, 2019). Communities of scientists and knowledge users alike have called for bridging the knowledge–integration gap (Lubchenco, 1998). In light of this, Cvitanovic and Hobday (2018) called on researchers to go beyond identifying barriers to knowledge integration and to instead focus on available solutions to integrating science into decision-making.

We are not aware of an existing taxonomic classification of terms and models for knowledge exchange in science, but we identified four a priori categories based on existing literature and our prior experience. These include (1) 'One-way exchange', where scientists independently produce a scientific report or paper and deliver it to

[1] Knowledge exchange is related to concepts such as knowledge mobilization, knowledge transfer, tech transfer, knowledge translation, knowledge brokerage, knowledge uptake, knowledge diffusion and knowledge dissemination (Fazey et al., 2014; Mitton et al., 2007). We chose 'knowledge exchange' rather than 'knowledge mobilization' because our intent is to study the bidirectional transfer of knowledge between knowledge producers and knowledge users rather than the transfer of knowledge to a wider range of recipients than targeted users (Nguyen et al., 2016; Social Sciences and Humanities Research Council, 2019).

knowledge users. Included under this model are the 'loading dock' (Cash et al., 2006) or 'deficit' (Fernández, 2016) approaches to knowledge translation. (2) 'Solicited exchange', in which a knowledge user expressly invites knowledge producers to tackle a pre-identified knowledge gap, which is sometimes done through contracts to researchers or competitions for research funding or opportunities. (3) 'Network exchange', whereby two or more actors come together for the explicit purposes of exchanging knowledge generated independently by each. This is often done through workshops, conferences or professional networks. Finally, (4) 'participatory exchange', in which prospective users of scientific information are engaged and involved in its generation. This is sometimes termed 'coproduction' or 'cocreation' (Beier et al., 2017; Norström et al., 2020; Wall et al., 2017). Participatory exchange is sometimes considered an intrinsic part of 'transdisciplinary research' (Lang et al., 2012), 'community-based research' or 'community science' (Grant, 2015; Lang et al., 2012), 'social-ecological systems' (Balvanera et al., 2017) or, when related to ecology, 'translational ecology' (Enquist et al., 2017; Safford et al., 2017; Schlesinger, 2010). However, the aforementioned terms are also conceptualized without explicit or implicit inclusion of knowledge exchange.

Whereas one-way exchange has been considered relatively ineffective (Cash et al., 2006), integrative/participatory models have been proposed to increase effectiveness of knowledge exchange (Beier et al., 2017; Salomon et al., 2018; Westwood et al., 2020). Though there exists some theoretical guidance on best practices for knowledge exchange between scientists and knowledge users in the natural sciences (e.g. Gibbons et al., 2008; Nguyen et al., 2017; Westwood et al., 2020), it is not grounded in empirical evidence. Overall, relatively little attention has been paid to characterizing existing approaches to knowledge exchange, their commonness and their effectiveness. It is not known what knowledge exchange techniques are commonly employed in the forest sector, with what frequency or if evidence of effectiveness has been previously collected for any of these techniques.

We examine the integration of science into policies and management practices regarding forests from the lens of knowledge exchange. The aim of this paper is to create a systematic map that provides a better understanding of existing theories and practices regarding knowledge exchange in forest science. To do so, we will record and categorize the knowledge techniques identified in articles related to forest science and compare them to our a priori taxonomy. We will generate a network map to describe the institutions that use each knowledge exchange technique, their sector and their relationships with each other. We will also document whether the authors collected evidence of effectiveness of presented techniques (or if evidence is absent, elucidate gaps in knowledge about technique effectiveness). We present our methods in this protocol as part one of a registered report. Our methodology will be equally useful for characterizing the knowledge exchange landscape in other scientific disciplines, the vast majority of whom are also plagued by the knowledge–integration gap.

1.1 | Objective

Our proposed systematic map will examine the published peer-reviewed academic and grey literature to describe the techniques used to exchange forest science knowledge between producers and users. We aim to describe the type and frequency of techniques used and/or theorized, the distribution of these techniques within and among institution types as well as reported evidence of their effectiveness. In doing so, we will provide a first-ever characterization of the global knowledge exchange landscape in forest sciences (in English and French). We hope this work enables researchers and practitioners to move towards a shared language for knowledge exchange endeavours, highlight lessons learned in implementation of knowledge exchange as well as provide a typology which can be used in future to test and compare the effectiveness of different models for knowledge exchange.

1.2 | Primary question

The question guiding the systematic map of techniques used to exchange knowledge in forestry is: What techniques have been used and/or theorized by those producing new knowledge about forests, forest ecology, forest policy, forestry and silviculture to engage in knowledge exchange with potential knowledge users?

Our *population of interest* includes cases of knowledge exchange in forestry and forest sciences and reported in English or French and our *approaches of interest* are the ways that knowledge exchange methods are categorized, described and evaluated.

2 | MATERIALS AND METHODS

This systematic map will follow the Collaboration for Environmental Evidence's guidelines (CEE, 2018) and the ROSES reporting standards (Haddaway et al., 2018; Appendix S1).

2.1 | Search strategy

The search intends to capture all available peer-reviewed journal articles, reports, presentations, policy briefs, white papers, conference proceedings, book chapters and other peer-reviewed and grey literature in English and French relevant to the research question. We limited the search to English and French as these are languages read fluently by the authors. Preliminary searches were used to identify search strings and databases with the best performance (see below), and the final search to inform the systematic map will use three databases focussed on peer-reviewed publications and/or grey literature.

We compiled an initial set of 55 unique search terms (24 in English and 32 in French; Appendix S2). Terms were combined using Boolean operators to generate a set of eight candidate search strings for preliminary testing (four English strings and four French strings; Appendix

S2). The test list of documents known to be relevant to the research question consisted of 15 documents (Appendix S2) and was compiled based on author knowledge of the field. We initially identified 10 potential databases to search for peer-reviewed studies and grey literature. We rejected five of these for one or more of the following a priori reasons: heavily biased towards Canadian content; behind paywall; does not allow full use of Boolean operators and/or parentheses; and/or redundant as it is indexed by a retained database (Appendix S2).

To further narrow down the search strings and databases, we conducted preliminary searches to evaluate the specificity and sensitivity for search strings in each database. 'Specificity' reflects the proportion of the sample returned by the search that is relevant to the research question, whereas 'sensitivity' reflects the proportion of the test list returned by the sample in a given search (CEE, 2018). Preliminary searches included the testing of eight search strings in five databases (Appendix S2). For each string in each database, we recorded how many of the items were relevant as well as how many of the 15 test list items were returned in the first 100 results. We used this information to calculate specificity and sensitivity of each string in each database per first 50 and first 100 returned results, using the following formulae:

Specificity for first 50 results :

# of relevant items in first 50 returned results/50 ∗ 100,

Specificity for first 100 results :

# of relevant items in first 100 returnedresults/100 ∗ 100,

Sensitivity for first 50 results :

# of items from the test list returned in first 50 results/15 ∗ 100,

and Sensitivity for first100 results :

# of items from the test list returned in first 100 results/15 ∗ 100.

We also recorded which keywords were returned in relevant results (Appendix S2). Of the eight search strings tested, we selected the two strings in each language showing the highest specificity and sensitivity at both the 50-item and 100-item stages. We then modified these strings to remove keywords that were not returned in any relevant results during preliminary searching (e.g. *arbor*; Appendix S2), resulting in our four final search strings for executing the search strategy (Table 1).

Of the five databases used during preliminary searching, two were eliminated after showing specificity below 10% and sensitivity below 1% (unable to return any of the test list) after 100 hits (Table 2; Appendix S2). The three retained databases are Bielefeld Academic Search Engine (BASE), ResearchGate and Scopus. These three will be accessed using the following entry points: BASE is free for any user to search, ResearchGate will be searched with personal registration accounts and Scopus will be searched using library access via Carleton University.

TABLE 1 Proposed search strings for the execution of the search strategy

String #	String
1	(forest* OR silvicultur*) AND (knowledge trans* OR knowledge exchang* OR knowledge mobiliz* OR knowledge shar* OR "knowledge broker" OR "knowledge uptake" OR extension)
2	(forest* OR silvicultur*) AND ("science-policy integration" OR science policy integration OR science-policy interface OR coproduction OR co-produc* OR coprod* OR co-creat* OR cocreat* OR "forest information")
3	(forêt* OR forest* OR sylvicultur*) AND (utilisation de connaissances OR trans* de connaissances OR échange de connaissances OR fusion de connaissances OR trans* du savoir* OR échange du savoir*)
4	(forêt* OR forest* OR sylvicultur*) AND (intégration des sciences et des politiques OR "Politique forestière" OR co-construction) AND (connaissance* OR savoir* OR information)

Note: The asterisk (*) can represent any characters (e.g. forest* can represent forestry, forests, forested).

TABLE 2 Preliminary searching of candidate databases to test for average specificity and sensitivity across eight search strings for the first 100 hits

Candidate database	Average specificity (%)	Average sensitivity (%)	Final status
Bielefeld Academic Search Engine	18	1	Retained
Google Scholar	8	0	Rejected
JSTOR Life Sciences Collection	2	0	Rejected
ResearchGate	28	5	Retained
Scopus	21	7	Retained

2.2 | Item screening and eligibility criteria

Eligibility screening of returned results will occur in two stages: (1) title and abstract and (2) full-text. Each of the three databases will be searched with all four search strings (with the exception of Scopus which does not allow searching in French) for a total of 10 unique searches to screen results. Each search will be conducted by one individual. The title, author and year of each result will be copied into a Google Sheet and the title and abstract screened for relevance according to the eligibility criteria. All title and abstract screening decisions will be recorded in the Google Sheet, and the full results and summary statistics will be included in an appendix to the final published report.

Given that part of the study objective is to determine the most appropriate keywords for use in this developing field of inquiry, it is necessary to use general terms to capture relevant results. Due to the generality of many keywords and their high use in English and French (e.g. 'forest', 'transfer'), we are expecting high numbers of returned

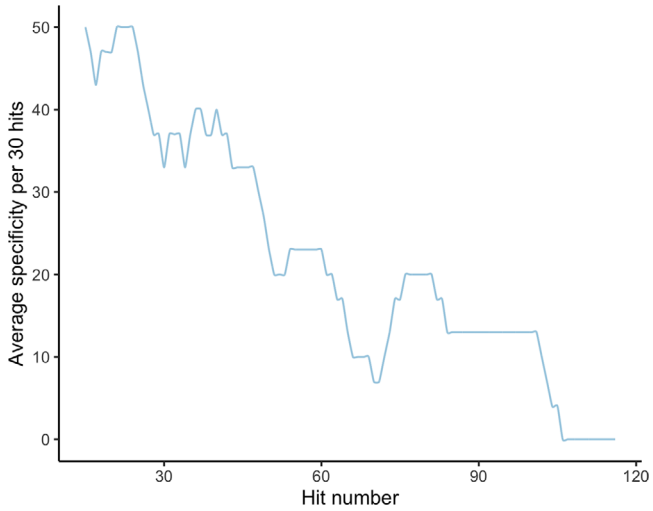

FIGURE 1 Example graph of rolling average specificity, showing average specificity (% of retained results per 30 hits) at each hit number. In this case, the stopping condition has been met (25 consecutive hits were deemed not relevant and average specificity remained below 20% over the 25 final hits)

hits from each search with relatively low total specificity. Preliminary search strings retrieved hit numbers in the thousands, but specificity declined sharply within the first hundred results (Appendix S2). Therefore, it is necessary to provide stopping criteria to maximize search effort. To determine the number of hits to be screened for relevance, the assessor will stop screening the title and abstract additional hits once one of the following conditions is met:

Stopping condition 1: All returned hits have been screened.

Stopping condition 2: Thirty consecutive hits were deemed not relevant 'and' the rolling average of specificity per 30 hits has been below 20% for those 30 hits. For example if hit numbers 1–31 return 15 relevant results, average specificity at hit 21 is 50%. If hit numbers 2–32 include 14 relevant results, average specificity at hit #22 is 47% (see Figure 1 for an example graph of rolling average specificity). Thus, the 'stopping point' for screening will be a different number of hits for each unique search.

If the item passes title and abstract screening, the full-text will be saved into a Mendeley (Mendeley Ltd., 2019) database and uploaded into the literature review program Covidence (Veritas Health Innovation, n.d.) for full-text eligibility screening. Covidence allows for (1) input of the literature database and automatic removal of duplicates, (2) guided screening according to user-specified settings (e.g. setting the number of screeners per item; forcing users to select from a list of reasons why an item is excluded and recording this decision), (3) data extraction by pairing a questionnaire alongside each document PDF, which the extractor must answer and (4) recording all screening decisions and data extraction, and outputting this as a spreadsheet. Covidence also tracks which reviewers have screened or extracted which documents and allows contentious items to be flagged for attention by additional reviewers.

Each item uploaded for full-text screening will be screened by one reviewer. If this reviewer is unsure about whether the document meets the eligibility criteria, they will flag it for attention by a second reviewer. If the second reviewer is still unsure, it will be discussed by the research team in full during bimonthly team meetings. Covidence generates a number for each entry, and the study lead (AW) will use a random number generator to validate 15% of full-text screening decisions. Four individuals will conduct full-text screening (including co-authors on this protocol). An output spreadsheet of full-text screening decisions from Covidence, with full results and their summary statistics, will also be included in an appendix.

2.2.1 | Eligibility criteria

Population

Included items will concern forest ecology, forestry, silviculture, forest informatics, dendroecology, dendrochronology or other natural or social sciences related to forests. Studies concerning natural resources or environmental studies in general will be excluded.

Item content

Items must include one or more of the following: (a) positing a theory or conceptual framework about knowledge exchange, or critically responding to such a theory or framework, (b) studying the use or effectiveness of methods in knowledge exchange, (c) presenting a case study of knowledge exchange or (d) presenting a plan of action for knowledge exchange. 'Knowledge exchange' is defined as per the definition given in Section 1.

Geographical and language scope

Studies may originate anywhere in the world and will be included if written in English or French.

2.3 | Study validity assessment

In this study, we do not intend to appraise the validity of research conducted in the items, nor the effectiveness of the knowledge exchange activity. Rather, we intend to capture descriptive information.

2.4 | Data extraction strategy

Each item which has passed full-text screening will be subject to data extraction by one reviewer. The reviewer will read the item in full and complete a questionnaire (Appendix S3) consisting of 18 questions. The questionnaire will capture information in four categories: (1) terms and approaches used related to knowledge exchange; (2) recommendations for effective knowledge exchange; (3) whether or not the item collected evidence about, or empirically tested, the

effectiveness of knowledge exchange; and (4) information about knowledge-generating and/or knowledge-using institutions. Missing information in any of these categories will be recorded as not reported, unspecified or not applicable, as warranted.

To categorize knowledge exchange terms and approaches, we ask 'Would the approach to knowledge exchange in this item be best described as: (A) Coproduction: Knowledge producers and users were jointly involved in the design and execution of a project; (B) Loading dock: Knowledge producers initiated a project, generated knowledge, and then delivered it to potential knowledge users; (C) Solicited: Knowledge users requested and/or funded specific knowledge, which knowledge producers were contracted to generate; (D) Network: The formal or informal convening of knowledge producers and knowledge users for the explicit purposes of knowledge exchange; (E) Not applicable; or (F) Other (write in short answer)'. This question was based on our a priori taxonomy of knowledge exchange models, with the specific language being more general than presented in our taxonomy so as to be easily understandable for the reviewers extracting the data. Data extraction will be completed by nine reviewers, which include five co-authors from the present protocol and four additional experts in forest science and/or knowledge exchange. The data extraction questionnaire will be filled out for each item in Covidence, which automatically compiles extracted data into a tabular form for analysis. A 1-h training session on data extraction will be provided by the study lead (AW) to all reviewers, which will include completing an example extraction together. To ensure that data extraction meets quality standards, AW will validate the first three items extracted by each reviewer and rate their agreement with the reviewer's assessment as follows: full (all questions in agreement), good (validator has additions or adjustments to one to two questions), fair (additions or adjustments to three to eight questions), or poor (adjustments or additions to nine or more questions).

If a reviewer's first three extractions all score 'good' or above during validation, that reviewer will be given feedback on these extractions and asked to continue extracting items without further oversight. If any of the extractions score 'fair' or below, the study lead will provide detailed feedback, make corrections and instruct the reviewer to conduct two more extractions which will then be validated. If either of these validations scores 'fair' or below, this process will be repeated indefinitely until all extractions score 'good' or above. Reviewers may ask the study lead for validation at any time on any items for which they are unsure. By following the above procedures, data extraction will be validated for a minimum of 27 items.

2.5 | Study mapping and presentation

A framework-based synthesis (Carroll et al., 2011) will be used to structure the categorization of knowledge exchange techniques. The systematic map will describe and categorize knowledge exchange techniques used by institutions related to forest science and forestry. Following other systematic map examples (e.g. Alexander et al., 2019; McKinnon et al., 2016), this approach will be partly structured according to our categories defined a priori from existing conceptual literature about knowledge exchange. It will also be an unstructured approach in that additional categories that emerge through the extraction process will also be included. Data will be available in a tabular format as an appendix to the article. Descriptive statistics, including charts and tables, will be used to elucidate patterns of knowledge exchange categories in terms of their proposal and use frequency, time span, location and commonalities between and within institution types. A network map visually representing linkages between institutions and sectors in relation to the knowledge exchange categories used will be presented. If and where available, evidence of effectiveness for particular knowledge exchange approaches will be presented and summarized. We will also identify evidence gaps for future research.

The systematic map will be submitted as a Stage 2 article in Ecological Solutions & Evidence once complete.

3 | DISCUSSION

Despite the ongoing efforts of scientists to have their research reflected in forest management and policy outcomes, scientific evidence is often unused or underused in environmental policy and management processes (Hisschemöller et al., 2001; Lubchenco, 1998; Sutherland & Wordley, 2017). We seek to answer the call of many experts to move past identification of problems contributing to the knowledge–integration gap, and instead, focus on solutions (Cash et al., 2006; Cvitanovic & Hobday, 2018). Our provision of the first-known characterization of the knowledge exchange landscape in forest science will generate new insights about which knowledge exchange techniques are used in relation to forest science, report on evidence of their effectiveness, gaps in knowledge about the approaches and recommendations for best practices. This map will also elucidate whether models for knowledge exchange differ between sectors (e.g. academia, government). Our dissemination plan extends beyond the peer-reviewed literature and will leverage the interdisciplinary research networks of the co-authors. Our review will immediately inform the approaches of forest scientists and managers of forest resources by providing considerations for effective knowledge exchange, with the aim of ensuring that policy and management decisions about forests are better informed by scientific evidence.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHORS' CONTRIBUTIONS

The study was conceived by AW, VN and MF. Preliminary searching and database testing were conducted by AW, TK, JW and KK. JS developed Figure 1. The manuscript was drafted by AW. VN, MF, TK, JW, JH and KK provided comments and revisions on all manuscript drafts. Bimonthly project guidance meetings were facilitated by AW with MF, TK, JW, KK, JS, VBN and JH attending and providing direction and feedback. All authors have read and approved the final manuscript.

DATA AVAILABILITY STATEMENT

There are no data associated with this Stage 1 article. The data for the Stage 2 article will be stored in Dalspace, Dalhousie University's publicly accessible official repository on Alana Westwood's collection page at https://dalspace.library.dal.ca/handle/10222/80512.

PEER REVIEW

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of the article.

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