

THE PHENOLOGY OF NOVA SCOTIA, 1915—BY A. H. MACKEY, LL.D.

(Read by title 10 May 1916)

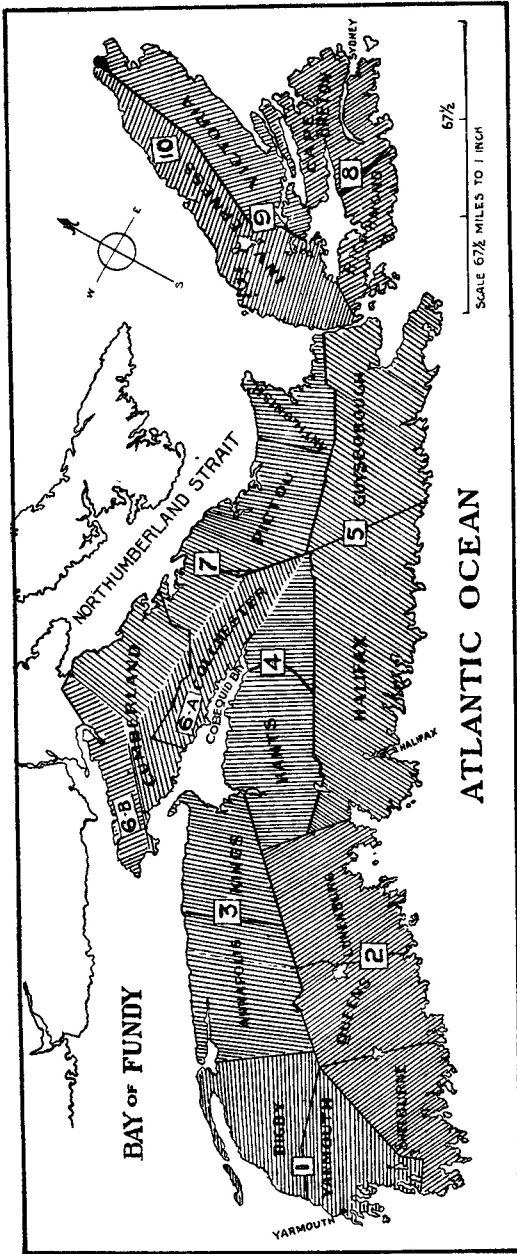
These phenological observations were made in the schools of the province of Nova Scotia as a part of the Nature Study work prescribed. The pupils report or bring in the flowering or other specimens to the teachers when they are first observed. The teachers record the first observation and observer, and vouch for the accurate naming of the species. The schedules from 350 of the best schools form the material of the following system of average dates (phenochrons) for the ten biological regions of the Province, and the phenochrons of the Province as a whole. The selecting and averaging of these schedules was done by Mr. H. R. Shinner, B. A.

The schedules for each year are carefully bound up in a large annual volume which is placed in the Provincial Museum library for the use of students of climatology.

The Province is divided into its main climate slopes or regions not always coterminous with the boundaries of counties. Slopes, especially those to the coast, are subdivided into belts, such as (a) the coast belt, (b) the low inland belt, and (c) the high inland belt, as below:—

No.	Regions or Slopes.	Belts.
I.	Yarmouth and Digby Counties,	(a) Coast, (b) Low Inlands, (c) High Inlands.
II.	Shelburne, Queens & Lunenburg Co's.	" " "
III.	Annapolis and Kings Counties,	(a) Coast, (b) North Mt., (c) Annapolis Valley, (d) Corn- wallis Valley, (e) South Mt.
IV.	Hants and Colchester Counties,	(a) Coast, (b) Low Inlands, (c) High Inlands.
V.	Halifax and Guysboro Counties,	" " "
VI.A.	Cobequid Slope (to the south),	" " "
VI.B.	Chignecto Slope (to the northwest),	" " "
VII.	Northumberland Straits Slope (to the n'h)	" " "
VIII.	Richmond & Cape Breton Co's.,	" " "
IX.	Bras d'Or Slope (to the southeast),	" " "
X.	Inverness Slope (to Gulf, N. W.),	" " "

The ten *regions* are indicated on the outline map on the next page.



THE TEN PHENOLOGICAL REGIONS OF NOVA SCOTIA.

THE PHENOLOGY OF NOVA SCOTIA, 1915.

(Compiled from over 350 local observation schedules.)

WHEN FIRST SEEN.		WHEN BECOMING COMMON.	
OBSERVATION REGIONS.		OBSERVATION REGIONS.	
YEAR 1915.		YEAR 1915.	
Day of the year corresponding to the last day of each month.		Average Dates	
Jan. .... 31 July ..... 212		111	
Feb. .... 59 Aug. .... 243		129	
March. .... 90 Sept. .... 273		113	
April. .... 120 Oct. .... 304		120	
May. .... 151 Nov. .... 334		136	
June. .... 181 Dec. .... 365		134	
For leap year add one to each except January.		137	
1	Yarmouth and Digby	104	111
2	Shelburne, Queens and Lunenburg	117	128
3	Annapolis and Kings	120	100
4	Hants and South Colchester	127	132
5	Halifax and Guysboro	131	133
6	G. (S. Cumb. & Col.)	131	134
7	N. Cumb. Col. Pictou and Antigonish	132	135
8	Richmond and Cape Breton	132	136
9	Bras d'Or Slope, Inverness and Victoria	133	135
10	Inverness Slope to Gulf	134	135
1	Abus incanus, Wild.	105	105
2	Populus tremuloides.	123	123
3	Empetrum L.	104	111
4	Equisetum arvense.	129	125
5	Sanguinaria Canadensis.	131	131
6	Viola blanda.	128	130
7	Viola palmata, coccinea.	132	132
8	Hepatica trilobis, etc.	136	134
9	Acer rubrum.	152	136
10	Fragaria Virginiana.	130	134
11	Taraxacum officinale. fruit ripe	167	170
12	Erythronium Americanum	132	134
13	Copos triflora.	143	136
14	Clytonia Caroliniana.	131	143
15	Nepeta Glechoma.	141	132
16	Nepeta Glechoma.	143	143

PHENOLOGICAL OBSERVATIONS IN

THE PHENOLOGY OF NOVA SCOTIA, 1915.—Continued.

WHEN FIRST SEEN.										WHEN BECOMING COMMON																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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THE PHENOLOGY OF NOVA SCOTIA, 1915.—Continued.

WHEN FIRST SEEN.										WHEN BECOMING COMMON.																																					
OBSERVATION REGIONS.										OBSERVATION REGIONS.																																					
1. Yarmouth and Digby					2. Shelburne, Queens and Lunenburg					3. Annapolis and Kings					4. Hants and South Colchester					5. Halifax and Guysboro					6. S. Cobequid Slope, (S. Cumb. & Col.)					7. N. Cumb. Col. Pictou and Antigonish					8. Richmond and Cape Breton					9. Bras d'Or Slope, Inverness Slope to Gulf							
YEAR 1915.																																															
Day of the year corresponding to the last day of each month.																																															
Jan. ....		31		July .....		212		Feb. ....		59		Aug. ....		243		Mar. ....		90		Sept. ....		273		Apr. ....		120		Oct. ....		304		May. ....		151		Nov. ....		334		June. ....		181		Dec. ....		365	
For leap year add one to each except January.																																															
Average Dates										Average Dates																																					
82b Wild geese migrating	300	289	264	254	239	230	226	222	218	82b Wild geese migrating	300	289	264	254	239	230	226	222	218	S. North	300	289	264	254	239	230	226	222	218	S. North	300	289	264	254	239	230	226	222	218								
83 Melospiza fasciata	96	97	106	96	88	90	88	85	82	83 Melospiza fasciata	96	97	106	96	88	90	88	85	82	" "	96	97	106	96	88	90	88	85	82	" "	96	97	106	96	88	90	88	85	82								
84 Turdus migratorius	90	88	91	87	89	92	89	85	81	84 Turdus migratorius	90	88	91	87	89	92	89	85	81	" "	90	88	91	87	89	92	89	85	81	" "	90	88	91	87	89	92	89	85	81								
85 Junco hiemalis	91	89	101	94	91	94	92	89	84	85 Junco hiemalis	91	89	101	94	91	94	92	89	84	" "	91	89	101	94	91	94	92	89	84	" "	91	89	101	94	91	94	92	89	84								
86 Acritis macularia	124	134	128	132	134	134	128	125	121	86 Acritis macularia	124	134	128	132	134	134	128	125	121	" "	124	134	128	132	134	134	128	125	121	" "	124	134	128	132	134	134	128	125	121								
87 Sturnella magna	129	151	124	151	145	124	151	127	123	87 Sturnella magna	129	151	124	151	145	124	151	127	123	" "	129	151	124	151	145	124	151	127	123	" "	129	151	124	151	145	124	151	127	123								
88 Ceryle Alcyon	123	130	122	127	131	130	122	125	123	88 Ceryle Alcyon	123	130	122	127	131	130	122	125	123	" "	123	130	122	127	131	130	122	125	123	" "	123	130	122	127	131	130	122	125	123								
89 Dendroica coronata	137	147	145	125	133	147	145	125	137	89 Dendroica coronata	137	147	145	125	133	147	145	125	137	" "	137	147	145	125	133	147	145	125	137	" "	137	147	145	125	133	147	145	125	137								
90 D. aestiva	139	141	130	142	143	141	130	142	139	90 D. aestiva	139	141	130	142	143	141	130	142	139	" "	139	141	130	142	143	141	130	142	139	" "	139	141	130	142	143	141	130	142	139								
91 Zonotrichia alba	120	120	117	113	120	120	117	113	120	91 Zonotrichia alba	120	120	117	113	120	120	117	113	120	" "	120	120	117	113	120	120	117	113	120	" "	120	120	117	113	120	120	117	113	120								
92 Trochilus colubris	149	160	156	138	160	156	138	142	149	92 Trochilus colubris	149	160	156	138	160	156	138	142	149	" "	149	160	156	138	160	156	138	142	149	" "	149	160	156	138	160	156	138	142	149								
93 Tyrannus Carolinensis	124	139	115	134	145	139	115	134	124	93 Tyrannus Carolinensis	124	139	115	134	145	139	115	134	124	" "	124	139	115	134	145	139	115	134	124	" "	124	139	115	134	145	139	115	134	124								
94 Dolychonyx oryzivorus	140	141	141	141	141	141	141	141	140	94 Dolychonyx oryzivorus	140	141	141	141	141	141	141	141	140	" "	140	141	141	141	141	141	141	141	140	" "	140	141	141	141	141	141	141	141	140								
95 Spinus tristis	143	140	153	155	149	140	153	155	143	95 Spinus tristis	143	140	153	155	149	140	153	155	143	" "	143	140	153	155	149	140	153	155	143	" "	143	140	153	155	149	140	153	155	143								
96 Sceloporus ruficilla	149	142	142	142	142	142	142	142	149	96 Sceloporus ruficilla	149	142	142	142	142	142	142	142	149	" "	149	142	142	142	142	142	142	142	149	" "	149	142	142	142	142	142	142	142	149								
97 Ampelis cedrorum	132	137	137	137	137	137	137	137	132	97 Ampelis cedrorum	132	137	137	137	137	137	137	137	132	" "	132	137	137	137	137	137	137	137	132	" "	132	137	137	137	137	137	137	137	132								
98 Chordeiles Virginianus	108	108	108	108	108	108	108	108	108	98 Chordeiles Virginianus	108	108	108	108	108	108	108	108	108	" "	108	108	108	108	108	108	108	108	108	" "	108	108	108	108	108	108	108	108	108								
99 First piping of frogs	106	103	123	115	125	106	103	123	106	99 First piping of frogs	106	103	123	115	125	106	103	123	106	" "	106	103	123	115	125	106	103	123	106	" "	106	103	123	115	125	106	103	123	106								
100 First appearance, snakes	106	103	120	122	126	106	103	120	106	100 First appearance, snakes	106	103	120	122	126	106	103	120	106	" "	106	103	120	122	126	106	103	120	106	" "	106	103	120	122	126	106	103	120	106								

## THUNDERSTORMS—PHENOLOGICAL OBSERVATIONS, NOVA SCOTIA, 1915.

The indices indicate the number of stations from which the Thunderstorms were reported on the day of the year specified.

## OBSERVATION REGIONS.

1. Yarmouth and Digby.	2. Shelburne, Queens and Lunenburg.	3. Annapolis and Kings.	4. Hants and South Colchester.	5. Halifax and Guysboro.	6. S. Cobequid Slope (S. Cum. and Col.)	7. North Cum., Col., Pictou and Antig.	8. Richmond and Cape Breton	9. Bras d'Or Slope (Inv. & Victoria) . .	10. Inverness Slope to Gulf.	Total Year 1915.
.....	.....	.....	.....	94 <sup>3</sup>	.....	.....	89	.....	.....	89
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	94 <sup>3</sup>
100 <sup>4</sup>	.....	.....	100	.....	.....	.....	.....	.....	.....	100 <sup>5</sup>
101	.....	.....	101	.....	101 <sup>3</sup>	101	.....	.....	.....	101 <sup>5</sup>
.....	.....	.....	.....	.....	.....	106	.....	.....	.....	106 <sup>5</sup>
116 <sup>4</sup>	116	.....	.....	.....	.....	.....	.....	106	.....	116 <sup>5</sup>
117	.....	.....	.....	.....	.....	.....	.....	.....	.....	117
121 <sup>3</sup>	121	.....	.....	.....	.....	.....	.....	.....	.....	121 <sup>4</sup>
.....	.....	.....	.....	.....	.....	.....	.....	122	.....	122
.....	.....	129 <sup>2</sup>	.....	129	129 <sup>2</sup>	129	129	129 <sup>4</sup>	.....	129 <sup>1</sup>
.....	.....	.....	.....	.....	131	131	131	.....	.....	131 <sup>3</sup>
.....	.....	140	.....	.....	140 <sup>2</sup>	140 <sup>3</sup>	.....	.....	.....	140 <sup>6</sup>
.....	.....	.....	.....	.....	.....	141	.....	.....	.....	141
142	.....	142	.....	142 <sup>3</sup>	.....	.....	.....	.....	.....	142 <sup>5</sup>
.....	.....	.....	.....	143	.....	.....	.....	.....	.....	143
.....	.....	144	.....	.....	144	.....	.....	144	.....	144 <sup>3</sup>
.....	145 <sup>5</sup>	.....	.....	.....	.....	.....	.....	.....	.....	145 <sup>5</sup>
147	.....	.....	.....	.....	.....	.....	.....	.....	.....	147
.....	155	.....	.....	.....	.....	.....	.....	152	.....	152
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	155
.....	.....	.....	.....	.....	.....	156	.....	.....	.....	156
159	.....	.....	.....	.....	.....	.....	.....	.....	.....	159
160 <sup>i</sup>	.....	.....	160	.....	.....	160	.....	160	.....	160 <sup>9</sup>
161 <sup>3</sup>	161 <sup>12</sup>	.....	161 <sup>2</sup>	.....	161	.....	.....	161	.....	161 <sup>10</sup>
162	162	.....	.....	.....	162	.....	.....	.....	.....	162 <sup>3</sup>
163	163	.....	163	.....	.....	163	.....	.....	.....	163 <sup>4</sup>
.....	.....	.....	164	.....	.....	.....	164	.....	.....	164 <sup>2</sup>
.....	.....	.....	.....	.....	.....	.....	165 <sup>4</sup>	.....	.....	165 <sup>4</sup>
166	166	166	.....	.....	.....	.....	.....	.....	.....	166 <sup>3</sup>
.....	167	.....	.....	.....	.....	.....	.....	.....	.....	167 <sup>7</sup>
168 <sup>3</sup>	168	.....	.....	167 <sup>2</sup>	.....	167 <sup>4</sup>	.....	.....	.....	168 <sup>4</sup>
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	169
.....	.....	.....	.....	.....	.....	169	.....	.....	.....	169
170	.....	.....	.....	.....	.....	.....	.....	.....	.....	170
171 <sup>4</sup>	171 <sup>4</sup>	171 <sup>4</sup>	171	171 <sup>3</sup>	171 <sup>3</sup>	171 <sup>5</sup>	171	.....	.....	171 <sup>24</sup>
172	172	.....	172	.....	.....	172 <sup>2</sup>	.....	.....	.....	172 <sup>5</sup>
173	.....	.....	173	.....	.....	.....	.....	.....	.....	173 <sup>3</sup>
.....	.....	.....	.....	175	.....	175	.....	.....	.....	175 <sup>2</sup>
.....	176	.....	.....	.....	176	.....	.....	.....	.....	176 <sup>2</sup>
.....	177	177	.....	177	177	177	.....	177 <sup>8</sup>	.....	177 <sup>13</sup>

