

THE PHENOLOGY OF NOVA SCOTIA, 1914—By A. H.  
MACKEY, LL.D.

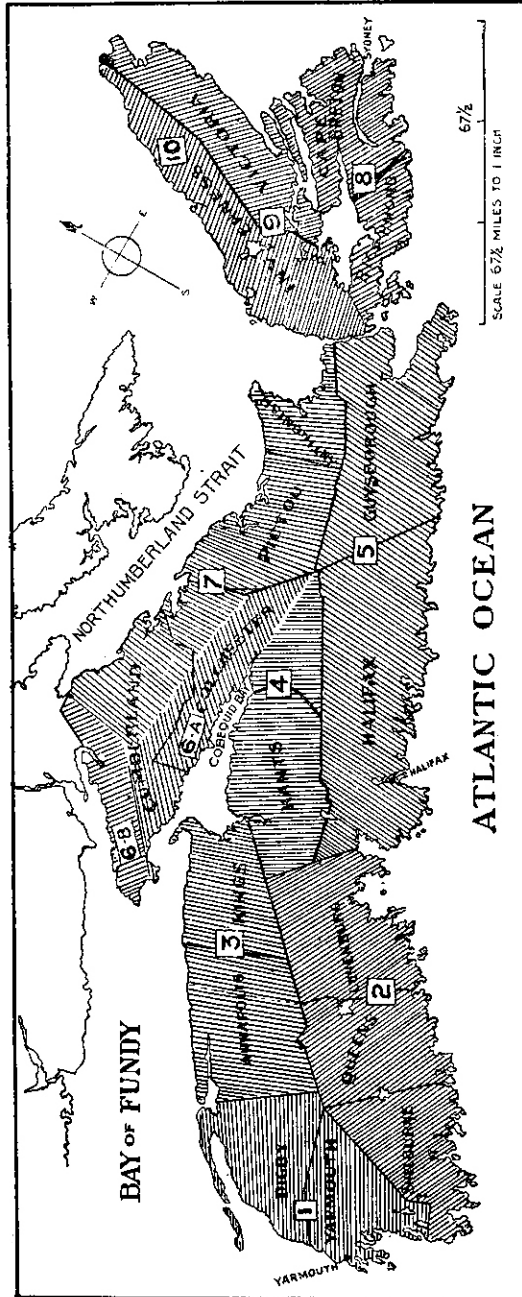
(Read by title 12 May 1915)

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 averaging of these schedules was done by H. R. Shinner, B. A. The \* marks dates not averaged.

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 Sts 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.

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[Compiled from over 350 local observation schedules.]

WHEN BECOMING COMMON.																										
OBSERVATION REGIONS.																										
WHEN FIRST SEEN.																										
OBSERVATION REGIONS.																										
YEAR 1914.																										
Day of the year corresponding to the last day of each month.																										
Jan.	.....	31	July	.....	212	Average Dates	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. & Col.)	7	N. Cumb. Col. Pictou and Antigonish	8	Richmond and Cape Breton	9	Bras d'Or Slope, Inverness Slope and Victoria	10	Inverness Slope to Gulf
Feb.	.....	59	Aug.	.....	243	125	120	112	129	125	121	120	124	130	133	131	128	124	124	124	131	134	133	133	140	140
March	.....	90	Sept.	.....	273	131	131	126	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136
April	.....	120	Oct.	.....	304	124	118	110	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116
May	.....	151	Nov.	.....	334	141	138	137	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136
June	.....	181	Dec.	.....	365	140	134	127	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136
For leap year add one to each except January.																										
113	123	128	133	134	135	135	134	140	142	145	145	137	138	176	181	180	179	144	144	144	144	144	149	151	151	
131	127	131	134	131	129	135	137	138	142	145	142	142	141	137	136	136	134	136	136	136	136	136	136	136	136	
133	126	129	133	134	133	136	139	139	143	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	
166	161	161	163	167	169	175	176	176	176	176	176	176	176	176	176	176	176	176	176	176	176	176	176	176	176	
132	127	138	137	139	138	140	145	141	141	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	
125	151	145	140	150	143	145	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	
137	135	142	141	140	139	142	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	
134	145	140	136	141	133	134	147	137	137	139	141	141	141	141	141	141	141	141	141	141	141	141	141	141	141	
144	135	166	141	145	143	147	143	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	
1	Alnus incana, Wild.											1	Alnus incana, Wild.													
2	Populus tremuloides											2	Populus tremuloides													
3	Populus repens, L.											3	Populus repens, L.													
4	Equisetum arvense											4	Equisetum arvense													
5	Sanguinaria Canadensis											5	Sanguinaria Canadensis													
6	Viola blanda											6	Viola blanda													
7	Viola palmata, cucullata											7	Viola palmata, cucullata													
8	Hepatica triloba, etc.											8	Hepatica triloba, etc.													
9	Acer rubrum											9	Acer rubrum													
10	Fragaria Virginiana											10	Fragaria Virginiana													
11	Taraxacum officinale, fruit ripe											11	Taraxacum officinale, fruit ripe													
12	Taraxacum officinale											12	Taraxacum officinale													
13	Pyrrhoxylum Americcum											13	Pyrrhoxylum Americcum													
14	Coptis trifolia											14	Coptis trifolia													
15	Claytonia Caroliniana											15	Claytonia Caroliniana													
16	Nepeta Glechoma											16	Nepeta Glechoma													



164	169	164	161	166	155	164	156	156	158	165	167	164	171	163	164	166	160	168	162	162
213	206	172	176	164	256	233	233	233	214	217	213	206	175	173	172	166	195	206	237	237
173	170	172	164	164	170	172	172	172	172	172	172	175	175	173	172	175	157	175	175	175
160	165	167	169	245	161	165	165	165	165	173	172	171	172	173	164	175	169	176	175	175
...	214	228	245	265	265	263	288	288	245	256	256	214	240	252	252	245	245	263	288	288
169	168	175	178	171	173	173	170	163	170	172	171	173	175	176	178	178	170	170	170	170
168	164	150	147	174	176	168	132	163	163	164	169	168	155	148	178	145	177	167	150	150
170	166	166	176	171	174	170	169	169	169	167	170	170	172	174	175	171	177	177	175	175
165	165	167	167	169	167	172	170	169	169	174	173	172	174	175	171	175	177	177	175	175
169	169	161	167	169	167	172	170	169	169	169	174	173	172	174	175	171	177	177	175	175
169	169	161	167	169	167	172	170	169	169	169	174	173	172	174	175	171	177	177	175	175
145	136	138	144	145	142	142	142	143	143	150	154	147	144	148	155	144	158	155	150	150
144	144	144	145	151	145	205	250	235	235	153	160	149	149	160	149	207	149	164	152	152
164	147	148	147	158	148	146	162	143	143	238	158	154	152	153	160	151	160	168	151	151
146	147	144	148	158	148	145	162	152	150	198	152	150	149	152	164	154	168	167	157	157
148	146	146	148	158	152	146	162	155	155	157	156	151	150	153	163	155	151	170	161	161
149	147	147	160	157	154	149	165	157	157	157	160	153	153	153	165	160	154	172	165	165
168	164	153	161	169	150	159	173	168	168	161	166	161	158	167	165	173	167	163	177	165
163	161	167	164	170	167	169	173	168	168	167	171	166	168	168	174	176	174	176	165	165
167	168	163	166	169	169	173	172	172	167	170	166	166	168	169	173	178	174	178	163	163
166	164	163	172	163	169	174	176	162	162	167	168	168	166	172	176	172	176	174	160	160
181	171	176	161	169	165	220	185	220	186	186	198	194	171	174	171	204	204	226	160	160
119	119	122	133	125	133	128	133	128	133	134	124	124	132	140	131	139	141	137	188	188
129	121	134	140	133	143	142	140	140	136	166	134	124	124	132	140	131	139	141	137	188
127	121	135	141	132	137	141	134	137	134	140	129	128	138	145	149	137	147	146	146	146
135	127	133	139	141	138	130	132	122	132	140	140	129	128	138	145	149	137	147	146	146
233	194	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
238	235	232	243	230	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
298	270	255	281	276	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
82	85	76	84	97	105	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
106	104	110	114	110	112	112	112	112	92	...	...	...	...	...	...	...	...	...	...	...
120	122	123	123	121	120	122	124	124	122	119	125	129	129	116	...	...	...	...	...	...
139	132	129	130	125	139	140	133	142	142	135	140	129	128	145	149	137	147	141	141	141
147	116	124	129	146	143	145	145	137	137	138	145	145	137	138	140	147	148	142	131	131
159	145	158	162	156	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
95	123	71	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
337	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
278	283	...	257	291	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
304	298	...	290	298	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
309	298	...	272	308	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
335	350	...	286	315	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
343	345	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
368	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
87	83	98	90	93	81	94	96	113	113	96	96	96	96	96	96	96	96	96	96	96
364	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
97	79	82	88	92	82	87	94	97	97	90	90	90	90	90	90	90	90	90	90	90

42 Rubus strigosus..... fruit ripe.  
43 Rhusanthus Crista-galli..... fruit.  
44 Rubus villosus..... fruit ripe.  
45  
46  
47 Sarracenia purpurea.....  
48 Brunella vulgaris.....  
49 Rosa lucida.....  
50 Leonotodon autumnale.....  
51 Linaria vulgaris.....  
52 Thymus asper..... green.  
53 Ribes "floribundum"..... cultivated.  
54 R. nigrum..... cultivated.  
55 R. Cerasus..... fruit ripe.  
56 Prunus domestica..... fruit ripe.  
57 Prunus Malus.....  
58 Prunus vulgaris.....  
59 Trifolium pratense.....  
60 Trifolium repens.....  
61 Phleum pratense.....  
62 Solanum tuberosum.....  
63 Ploughing (first of season).....  
64 Sowing.....  
65 Potato-planting.....  
66 Sheep-shearing.....  
67 Hay-cutting.....  
68 Grain-cutting.....  
69 Potato-digging.....  
70 Opening of rivers.....  
71 Opening of lakes.....  
72 Last snow to fly in air.....  
73a Last spring frost—hard.....  
73b Water in streams—high.....  
74 First autumn frost—low.....  
75 First autumn frost—hard.....  
76 First snow to fly in air.....  
77 Closing of lakes.....  
78 Wild ducks migrating, N.....  
79 Wild geese migrating, N.....

PHENOLOGICAL OBSERVATIONS IN

THE PHENOLOGY OF NOVA SCOTIA, 1914—Continued.

WHEN FIRST SEEN.				WHEN BECOMING COMMON.			
OBSERVATION REGIONS.				OBSERVATION REGIONS.			
YEAR 1914.				YEAR 1914.			
1. Yarmouth and Digby				1. Yarmouth and Digby			
2. Shelburne, Queens and Lunenburg				2. Shelburne, Queens and Lunenburg			
3. Annapolis and Kings				3. Annapolis and Kings			
4. Hants and South Colechester				4. Hants and South Colechester			
5. Halifax and Guysboro				5. Halifax and Guysboro			
6. S. Cobequid Slope, (S. Cumb. & Col.)				6. S. Cobequid Slope, (S. Cumb. & Col.)			
7. N. Cumb. Col., Pictou and Antigonish				7. N. Cumb. Col., Pictou and Antigonish			
8. Richmond and Cape Breton				8. Richmond and Cape Breton			
9. Bras d'Or Slope, Inverness Slope to and Victoria				9. Bras d'Or Slope, Inverness Slope to and Victoria			
10. Inverness Slope to Gulf				10. Inverness Slope to Gulf			
Average Dates				Average Dates			
Day of the year corresponding to the last day of each month.				Day of the year corresponding to the last day of each month.			
Jan. .... 31				July. .... 212			
Feb. .... 59				Aug. .... 243			
March. .... 90				Sept. .... 273			
April. .... 120				Oct. .... 304			
May. .... 151				Nov. .... 334			
June. .... 181				Dec. .... 365			
For leap year add one to each except January.				For leap year add one to each except January.			
*84	253	304	304	82	Wild geese migrating	S	
85	90	100	105	83	Melospiza fasciata	N	
86	100	100	105	84	Turdus migratorius		
87	81	86	91	85	Junco hiemalis		
88	81	86	91	86	Acutia macularia		
89	67	65	68	87	Sturnella magna		
90	115	124	133	88	Ceryle Alcyon		
91	110	116	121	89	Dendroica coronata		
92	115	124	133	90	D. asseya		
93	134	143	152	91	Zonotrichia alba		
94	129	138	147	92	Trochilus colubris		
95	143	152	161	93	Tyrannus Carolinensis		
96	143	152	161	94	Polydornyx oryzivorus		
97	123	132	141	95	Spinus tristis		
98	115	124	133	96	Sceloporus rusticus		
99	145	154	163	97	Ampelis cedrorum		
100	133	142	151	98	Chordeiles Virginianus		
101	145	154	163	99	First piping of frogs		
102	130	139	148	100	First appearance, snakes		
103	107	116	125				
104	108	117	126				
105	108	117	126				
106	121	130	139				
107	121	130	139				
108	122	131	140				
109	122	131	140				
110	132	141	150				
111	132	141	150				
112	132	141	150				
113	132	141	150				
114	132	141	150				
115	132	141	150				
116	132	141	150				







