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ACKNOWLEDGEMENTS

My thesis advisor, Dr. Albion R. Hodgdon truly deserves my special thanks for his continuous encouragement, assistance, and limitless patience throughout the preparation of this thesis. In addition I would like to thank the administration of Acadia National Park for putting their cabin at Eli's Creek at my disposal, and the National Science Foundation which provided most of the support for this work in the form of a NSF Graduate Traineeship.

I also am indebted to all my friends on Isle au Haut; their hospitality and friendship made my work a great deal more enjoyable.

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ABSTRACT

THE VASCULAR FLORA OF ISLE AU HAUT, KNOX COUNTY, MAINE

by

DAVID ALAN WISE

The objectives of this study were 1) to compile as complete a list as possible of the taxa of vascular plants of Isle au Haut, Maine, and 2) to consider the phytogeographic relationships of this island to other regions of northeastern North America.

Isle au Haut is a relatively remote island of 4700 acres in Penobscot Bay, Maine. Its history, topography and geology, and climate are briefly described.

An annotated list of 724 taxa of vascular plants comprises the bulk of the work. This list is based on collections made during the summers of 1968-69 and on extensive collections made by several previous botanists between 1900 and 1933. Seventy-two taxa are reported that are not known to have been collected on Isle au Haut prior to 1968.

The various association-types present on the island are described in some detail. Certain phytogeographic aspects of the flora are discussed with particular reference to the concept of physiographic climax and to the disjunct distributions of groups of plants of Arctic and Coastal affinities found on Isle au Haut.

INTRODUCTION

Objectives and Methods

The objectives of this study were: 1) to compile as complete a list as possible of the taxa of vascular plants of Isle au Haut, Maine, and 2) to consider the phytogeographic relationships of the flora of this island to other regions of northeastern North America.

In a time, such as ours, when we are faced with severe problems of the destruction and depletion of natural areas, floristic records serve as useful "reference points" for the floras of natural regions. Such records provide pictures not only of the extant flora of an area, but also provide an insight into how that flora may have changed through a certain period of time. A floristic study should include, therefore, all known records of plants collected in the area studied, even records of plants which may no longer be present there. In this way a more accurate concept of floristic changes through time may be obtained.

This study is based on collections made during the summers of 1968 and 1969, and also includes records (validated by herbarium specimens) made by previous collectors roughly between 1900 and 1933.

No attempt was made to employ any systematic sampling technique in collecting. The size of the island and its diversity of habitats made this impractical. Rather, the various habitat types were determined, and collections were made in as many representative habitats of each type as possible.

Identifications of recent collections were made by the writer and confirmed by Dr. A.R.Hodgdon. The identification of specimens collected previously from Isle au Haut, and deposited in the herbarium of the New England Botanical Club, were checked by the writer. Mr. Ralph C. Bean's "List of the Plants of Knox County, Maine" (unpubl.) and Isle au Haut records cited in Seymour's Flora of New England (1969) were of considerable assistance in validating the identifications of these specimens.

In compiling the Annotated List of the Vascular Plants of Isle au Haut, the order of families used is that of the Engler and Prantl System as found in Gray's Manual of Botany (Eighth ed., 1950). Seymour (1969) was followed in regard to the nomenclature of the ferns (particularly the Polypodiaceae), while the nomenclature of Gray's Manual was employed for other families of vascular plants. Bailey's Standard Cyclopedia of Horticulture (1937) and Standardized Plant Names (1941) were used in a few cases for the identification and nomenclature of species that apparently had escaped from cultivation.

Location of Isle au Haut

Isle au Haut, in the outermost part of Penobscot Bay, Maine, lies between meridians $68^{\circ}35'$ and $68^{\circ}40'$ west longitude and parallels $44^{\circ}00'$ and $44^{\circ}05'$ north latitude. It is approximately five and one-half miles long in a north-south direction and three miles wide (Luce, 1962). In area it covers over seven square miles, or 4700 acres, 2000 of which are in Acadia National Park (Manville, 1964).

HISTORY OF ISLE AU HAUT ¹.

Samuel de Champlain, exploring the Penobscot Bay region in 1604, viewed an island which was so "high and striking" that he named it "Isle Haute" (Bourne, 1906). The name since has been altered gradually to Isle au Haut. This corruption of the original French, while regrettable to the purist, is nonetheless fortunate, for it now avoids confusion with another island, Isle Haute, in the Bay of Fundy.

While the nearby islands, Merchant's Island and Kimball's Island, were settled in the 1770's, Isle au Haut had no permanent white settlers until 1792. By 1800 the population had risen to about fifty settlers, and by 1864 to around three-hundred. The island's permanent population has declined steadily ever since. In 1968-69, twenty people resided the year around on Isle au Haut.

The occupations of the early settlers included small scale farming, sheep raising, blueberry picking, lumbering, and fishing. Consequently, as in much of New England, one frequently encounters stone fences and old house foundations in the midst of dense woods.

The gradual dominance of coastal mainland towns in the then very lucrative shipbuilding and fishing industries led to the island's decline in population and nearly resulted in its economic demise. The situation changed, however, in the 1880's when summer visitors first discovered the island. Consequently, Isle au Haut today is populated chiefly by summer residents, many of whom reside at the summer colony at Point Lookout.

¹ Material for this section was drawn chiefly from the following references: Wadson and Colcord (1932), Austin (1952), and Manville (1964).

In 1946, the heirs of Ernest W. Bowditch of Boston donated 2800 acres of land to Acadia National Park. Though some camping facilities have been installed recently, the Park Service has not developed the land extensively, but has kept it as a natural area untouched by the pressure of summer tourists so strongly felt at the main portion of the park on Mount Desert Island.

PHYSICAL FEATURES OF ISLE AU HAUT

Topography and Geology

The Penobscot Bay region as a whole shows many topographic features of a "drowned coast". The highly irregular coastline and the numerous islands suggest the remnants of a peneplain worn down by preglacial weathering and later subjected to glaciation and submergence by the sea. Today only a few residual mountains, or monadnocks, composed of rock sufficiently resistant to withstand thousands of years of weathering and glaciation, have persisted to any significant elevation. Isle au Haut, Cadillac Mountain, and the Camden Hills represent the most conspicuous of these residual mountains (Davis, 1894). Next to Mount Desert, Isle au Haut is the highest island on the Atlantic coast of the United States (Shaler, 1886), rising abruptly from the sea to a maximum height of 543 feet.

The general topographic aspect of the island is dominated by a central north-south ridge of hills (see Fig. 1). Of these the most prominent are Champlain Mountain (543 feet), Sawyer Mountain (480 feet), Jerusalem Mountain (440 feet), and Duck Harbor Mountain (314 feet). Bogs are frequent in lowland areas with none of any consequence occurring above 200 feet. The interior of the island is drained by a number of small streams. Many of these are seasonal, however, and dry up by late summer. One prominent body of freshwater, Long Pond, is located at the southeastern end of the island.

The Isle au Haut shoreline is highly irregular and for the most part rocky and steep, with pronounced headlands

present on Eastern Head, Western Head, and around Duck Harbor. The beaches that are present are usually boulder-strewn and gravelly; only one small stretch of sandy beach was noted at Head Harbor. Salt marshes occupy the shores of some of the coves, the most prominent of these being at Merchant's Cove at the southern end of the island.

Luce (1962) reported that three major rock units run roughly parallel to the length of Isle au Haut (see Fig. 2). These are:

- 1) Diorite. Along the eastern shore.
- 2) Volcanic rocks. Along the northwestern shore and at the southwestern corner of the island from Duck Harbor to Western Head.
- 3) Granophyric granite. In the central portion of the island, forming its massive central ridges.

In addition a coarse grained biotite-muscovite granite forming a migmatite with gneisses and schists was distinguished at Birch Point. This migmatite differed from the granophyric granite which makes up the bulk of the island.

In reference to the Penobscot Bay region, Hill (1919) reported that unlike most glaciated districts the rock structure in this area still controls the topography. This is due to the fact that surface soils and tills are very thin and at higher elevations are often entirely absent. On Isle au Haut glacial till is very unevenly distributed, and the bed-rock is exposed on the high ridges. The most extensive deposits of coarse, unstratified till were noted at lower elevations at the northern end of the island, and in a band along the eastern side. (see Fig. 3). Some less extensive deposits occur in the

vicinity of Duck Harbor.

The most marked evidence of glacial activity on Isle au Haut, however, is Long Pond, a striking example of a rock basin or scoop lake (Hill, 1919).

Late Pleistocene and post-Pleistocene oscillations of sea level played an important role in shaping the topography of the New England coast and in effecting the distribution of plants in the area. It long has been accepted that the formation of continental glaciers brings about an eustatic depression of sea level as increasing amounts of water are entrapped on the land masses as ice. Then, as the glaciers recede and water is returned to the oceans, the sea level in turn is elevated. In postglacial times such a period of submergence occurred in the Penobscot Bay region, and to lesser or greater degrees all along the coast, and created the characteristic "drowned coast" and myriad islands that typify the bay. However, as Flint (1957) has pointed out, the postglacial history of the New England coast is a highly complicated one. Several factors could effect the extent of eustatic oscillations and be responsible for the great variation in sea level fluctuations from place to place along the coast. Of these factors, tectonic activity and isostatic adjustment of the suboceanic crust to changes in the "thickness of the oceans" are of foremost importance.

On Isle au Haut beach gravels have been found up to a height of 225 feet (Stone, 1889) (Hill, 1919) which indicates that the land was once submerged at least to this elevation. Though this submergence most likely was chiefly eustatic, isostatic adjustments of the continental land mass certainly played some role as well. When considering the present distribution of plants, their phytogeographic affinities, and possible northward migration routes in post-Pleistocene times, the importance of isostatic movements of the land becomes apparent.

Daly (1920) (1934) proposed that as the continent was depressed beneath the ice cap at its maximum extent, a low, broad bulge appeared in those areas marginal to the glacial mass. As the ice cap diminished, the continental land and the marginal areas as well rose elastically. This elevated the eastern marginal belt (the continental shelf) above the level of the sea at a time when large areas of the continent were still covered with ice. There is a considerable amount of evidence that the continental shelf was exposed soon after the glaciers began to recede. Daly (1920) noted that raised beaches formed on the New England mainland during late-glacial submergence show only weak evidence of wave action. Apparently these deposits were not exposed to the full force of the Atlantic, but were worked on only by the feeble wave action of the Gulf of Maine which was "landlocked" by the elevation of the continental shelf. Moreover, Emery et. al. (1967) discovered freshwater peats on the now submerged continental shelf containing the same general pollen sequence as peats from ponds of comparable age above sea level. Further support of the view that the continental shelf was above sea level in late-glacial times comes from its harmony with the contention of Fernald (1911) that the flora of Newfoundland may best be explained by postulating a more or less continuous land mass from New Jersey to Newfoundland.

Antev's measurements of the time taken for the recession of the ice front in northeastern North America show that somewhat more than 30,000 years were required for the ice to recede from Long Island to Hudson's Bay with most of New England being exposed after 11,600 years. Moreover he indicated that the recession occurred generally in a northwesterly direction (Daly, 1934).

Thus, following the recession of the glaciers from New England, there occurred a period in late-glacial times when the continental shelf and a much greater proportion of the New England coast stood above the sea. Large areas of the continent remained glaciated, the sea level was relatively low, but rising, and areas marginal to the glaciated region were elevated. Therefore, plants migrating northward as the ice receded would have found refuge first along the New England coast and the continental shelf. The phytogeographic significance of this in regard to the flora of Isle au Haut will be discussed in a later section.

Climate

Isle au Haut lies within the central and eastern sector of the coastal climatic section of Maine as described by Forbes (1946). In many ways this area is typical of any moist, north temperate region and is characterized by warm days and cool nights during the summer months. As is the usual case in coastal areas, the sea exerts an important moderating influence on the island's climate making it generally more equable than that of inland areas. This has the effect of reducing the summer and winter extremes of temperature. Consequently the growing season is prolonged.

Though official weather data are not recorded for most of the coastal islands, the decidedly maritime climate of the coast in general is clearly shown by a comparison of data from coastal stations with those from inland sites. Such a comparison was made by Forbes and is included in Hyland et.al. (1953). (See Table I.)

Table I. Summary of Climatic Characteristics of
Central Southwestern Interior and Coastal
Sections of Maine 1.

Element	Central and Southwestern Interior	Coastal Section
Temperature (°F.)		
Jan. mean	17.9 to 19.4	20.4 to 22.5
July mean	67.5 to 69.3	60.4 to 68.0
Annual mean	44.9	43.7
Growing season mean (May - Sept.)	61.1 to 63.0	55.9 to 61.9
Absolute minimum	-41	-39
Absolute maximum	105	103
Annual range	146	142
Precipitation, inches		
Annual mean	40.7	43.2
Growing season mean	17.1	16.0
Snowfall, annual mean	76.0	74.4
Maximum season	all seasons	winter
Number of days		
With precipitation more than 0.01 inch	124	119
With snow cover more than one inch	95	70
Frost free season	134	164
Clear (less than 0.3 cloudiness)	154	135
Average date		
Latest spring frost	May 16	May 3
Earliest fall frost	Sept. 27	Oct. 14
Prevailing Wind Direction		
Summer	W	SW
Winter	NW	NW
Dominant climatic element	Warm Summers	Fog, sea and land breezes

1. Adapted from Hyland et.al. (1953), prepared by Tobes.

As these data show, coastal areas generally are cooler in summer, warmer in winter, and have a greater number of frost free days. In Table II a comparison of average monthly temperature and precipitation for the period 1931-1960 from coastal and southern interior sections of Maine further demonstrates the maritime effect on coastal climate.

Table II. A Comparison of Average Monthly Temperature and Precipitation (1931-1960) from Coastal and Southern Interior Sections of Maine ^{1.}

		<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>June</u>	<u>July</u>
Temp. (°F.)	Coastal	23.1	24.0	31.9	42.1	52.1	60.3	66.3
	S.I.	19.0	20.6	30.0	42.3	54.1	63.0	68.6
Precip. (in.)	Coastal	4.22	3.60	3.96	3.65	3.42	3.24	3.07
	S.I.	3.46	2.93	3.45	3.50	3.37	3.43	3.38
		<u>Aug</u>	<u>Sept</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Annual</u>	
Temp. (°F.)	Coastal	65.6	58.6	49.1	39.1	26.7	44.9	
	S.I.	67.0	58.7	48.1	36.6	23.0	44.3	
Precip. (in.)	Coastal	2.80	3.77	3.68	4.70	3.96	44.07	
	S.I.	2.92	3.75	3.70	4.26	3.49	41.64	

1. U.S. Dept. Comm., Weather Bur. 1963. Decennial census of United States climate. Monthly averages for state climatic divisions 1931-1960. New England.

Though the annual precipitation for coastal sections is often only slightly greater than at inland sites, the prevalence of fogs along the coast makes the climate considerably more humid than the precipitation data would indicate. This high frequency of fogs and high humidity is particularly marked on the outer islands such as Isle au Haut. In addition, Davis (1966) notes the observation of Lautzenheiser (1959) that although annual precipitation is somewhat higher along the coast, the maritime suppression of thunder storm activity causes a slightly lower summer precipitation. Moreover, extensive periods of drought occur only infrequently in late summer and early fall.

The prolongation of the growing season, as a result of the moderating effect of the sea, on the one hand creates a climate suitable for certain plants of southern affinities. On the other hand, the frequency of fogs together with the effects of cold sea water buffeting exposed shores and headlands creates conditions similar to those in more northern regions. Such exposed shores thus afford habitats for plants of more boreal and arctic areas.

VASCULAR FLORA OF ISLE AU HAUT

Previous Botanical Work

In the early decades of this century a number of eminent botanists visited Isle au Haut. Their extensive combined collections and observations have served as a very important foundation for the compilation of this flora.

Mr. Nathaniel T. Kidder of Milton, Massachusetts, spent many summers at Point Lookout and collected widely on the island roughly from 1900 to 1933. His notes and specimens are deposited in the library and herbarium of the New England Botanical Club. The New England Botanical Club Herbarium also contains specimens of Dr. Albert F. Hill who made extensive collections on Isle au Haut from 1913 to 1919 in connection with the preparation of his Vascular Flora of the Penobscot Bay Region. In addition, Miss Kate Furbish of Brunswick, Maine, has left us a smaller, though valuable, collection of Isle au Haut plants dating from 1909.

Professor J.C. Arthur spent several summers on the island, and though he collected few specimens, he recorded 315 species as occurring there and made some interesting observations on the Dwarf Mistletoe, Arceuthobium pusillum (Arthur, 1900).

No comprehensive investigation of the flora of Isle au Haut has been made until this present study.

Annotated List of the Vascular Plants of Isle au Haut, Maine

The following list includes records of collections made by the writer in 1966 and 1969 as well as those of

previous collectors. In all cases only records corroborated by herbarium specimens are reported. A complete set of specimens collected by the writer is deposited in the herbarium of the University of New Hampshire (NHA). Earlier records were based on specimens deposited in the herbarium of the New England Botanical Club (NEBC) at Harvard University.

The annotations are based to a large part on the observations of the writer. In those cases where no recent data were available, for example if a plant had not been collected on Isle au Haut for many years, the information on the label of the herbarium specimen examined is included in quotation marks. It was thought that although some of these older label annotations are rather esoteric and colloquial, they nevertheless are better than no information at all. In a few cases quotations from specific references in the literature are included as well.

To give some concept of the frequency of the various taxa the following categories were used: infrequent, frequent, common, and very common. Their usage, while decidedly subjective, nonetheless has some value. A designation such as, "locally common" means that the plant was common at one specific place, but was not noted in similar habitats elsewhere.

The following abbreviations were employed to designate the botanists whose specimens comprise the bulk of the list.

KF	-	Kate Furbish
AFH	-	Albert Frederick Hill
NTK	-	Nathaniel T. Kidder
DAW	-	David A. Wise
DAW & ARH	-	David A. Wise and Albion R. Hodgdon
DAW & HVP	-	David A. Wise and Homer V. Pinkley
DAW - J.A.&T.T.	-	David A. Wise, James A. Teeri, and Teri Teeri

Following the collector's designation are included the collection number of the specimen, if one was given, and the year of collection.

EQUISETACEAE (Horsetail Family)

Equisetum L. Horsetail

E. arvense L., var. arvense Common Horsetail; native

AFH #1754(1914); NTK(1919); DAW & HVP #212(1968)

Frequent in open ground and along roadsides,
locally abundant along road to Birch Point.

E. sylvaticum L., var. bauciranosum Milde Wood Horsetail;
native

NTK(1919) "by concrete culvert just east of
Town Hall".

forma multiramum Fern.

NTK(1918) "Merchant's Trail".

LYCOPODIACEAE (Club-moss Family)

Lycopodium L. Club-moss

L. Solaro L., var. arvense Desv. Mountain Club-moss;
native

NTK(1918) "Duck Mountain".

L. lucidulum Michx., var. lucidulum Shining Club-moss;
native
NTK(1918) "above Devil's Den".

var. occidentale (Clute) L.R. Wilson
NTK(1920) "path back of C.D. Turner stable".

L. inundatum L. Bog Club-moss; native
NTK(1926) "road to Cliffs".

L. annotinum L., var. annotinum Bristly Club-moss; native
AFH #1705(1914); NTK(1918); DAW #83(1968)
Locally common in moist woods. The most
common species of Lycopodium on Isle au Haut.

var. acrifolium Fern. native
AFH #1183(1913) "damp woods on Jerusalem Mtn."
NTK(1918) "west side of Lake" (Long Pond).

L. clavatum L., var. clavatum Running Club-moss; native
AFH #1636(1914); DAW & ARH #350(1968)
Infrequent on moist slope along east side
of Long Pond.

var. mesastachyon Fern. & Bissell native
NTK(1926) "near beach at Barter's Creek".

L. obscurum L., forma obscurum Tree Club-moss, Ground-Pine;
native
AFH #1637(1914); DAW & ARH #319(1968)
Infrequent in moist soil at roadside near
northern end of Long Pond.

forma dendroideum (Michx.) Blomquist & Correll
Round-branch Ground-Pine; native

NTK(1919); DAW #182(1968)

Infrequent. A few depauperate plants present
in spruce woods near Eli's Creek.

I. complanatum L., var. flabelliforme Fern. Ground-Pine;
native
NTK(1917) "not far from Goss Beach".

I. tristachyum Pursh Ground-Pine, Ground-Cedar; native
NTK(1922) "summit of Jerusalem Mountain".

SELAGINELLACEAE (Spikemoss Family)

Selaginella Beauv. Spikemoss

S. rupestris (L.) Spring native
NTK(1931) "Suriko" ???.

Place of collection on Isle au Haut unknown.

ISOETACEAE (Quillwort Family)

Isoetes L. Quillwort

I. muricata Dur. Quillwort; native.

NTK(1919) "at outlet of Lake" (Long Pond).

OPHIOGLOSSACEAE (Adder's-tongue Family)

Botrychium Sw. Moonwort, Grape-Fern.

B. multifidum (Gmel.) Rupr., var. intermedium (D.C.Eat.) Farn.
Leathery Grape-Fern; native.

NTK(1932) "side of walk leading to club" (at
Point Lookout).

B. dissectum Spreng., forma dissectum Grape-Fern; native

NTK(1920) "north end of Lake" (Long Pond).

NTK(1932) "back of Horseman's Point".

forma obliquum (Muhl.) Fern. native.

NTK(1917) "Barred Harbor region".

NTK(1923) "rich woods, north end of Lake" (Long
Pond).

B. metricariaefolium A.Br. native

DAW #425(1969)

Infrequent in rich woods at northwestern end
of Long Pond.

OSMUNDACEAE (Flowering Fern Family)

Osmunda L. Flowering Fern

O. regalis L., var. spectabilis (Willd.) Gray Royal Fern;
native

NTK(1919); DAW & J.A.&T.T. #152(1968)

Common in Great Meadow Bog.

O. Claytoniana L.

Interrupted Fern; native

AFH #1712(1914); DAW #95 (1968)

Frequent in moist woods.

O. cinnamomea L.

Cinnamon Fern; native

NTK(1917)(1919); AFH #2439(1915); DAW #108(1968)

Very common in moist woods and thickets.

POLYPODIACEAE (Fern Family)

Cystopteris Bernh. Bladder-Fern

C. fragilis (L.) Bernh., var. Mackayii Lawson

Fragile-fern; native

NTK(1930) "rock cliffs near shore" between
Negro Head and Earter's Creek.

Onoclea L. Sensitive Fern

O. sensibilis L.

Sensitive Fern; native

AFH #1232(1913); DAW #160(1968)

Very common in moist open ground, roadside
ditches, etc.

Thelypteris Schmidel

T. palustris (Salisb.) Schott, var. pubescens (Lawson) Fern.

Marsh Fern; native

DAW & AFH #530(1969)

Frequent in alder thickets at edge of bog
at Negro's harbor.

T. simulata (Davenp.) Nieuwl. Massachusetts Fern; native.

DAW & ARH #528(1969)

Frequent in alder thickets at edge of bog at Moore's Harbor. First known collection of Massachusetts Fern from Knox County, Maine.

T. noveboracensis (L.) Nieuwl. New York Fern; native.

NTK(1919); DAW & ARH #281(1968)

Common in moist thickets.

T. Phacopteris (L.) Slosson Long Beech-Fern; native.

NTK(1930); DAW #102 (1968)

Locally common in cool, moist woods -- particularly along stream banks.

Gymnocarpium Newm.

G. Dryopteris (L.) Newm.

Cak-Fern; native.

AFH #3048(1918); DAW & ARH #299(1968).

Common in rich woods at northwestern end of Long Pond.

Dryopteris Adanson Shield-Fern, Wood-Fern.

D. spinulosa (O.F.Muell.) Watt, var. intermedia (Muhl.) Underw.
Spinulose Wood-Fern; native.

AFH #1702(1914); DAW & ARH #524(1969)

Frequent in spruce woods on Coombs Mountain.

var. americana (Fisch.) Fern. Spinulose Wood-Fern;
native.

AFH #1708(1914); DAW & ARH #303(1968)

Frequent in rich woods at northwestern end
of Long Pond.

D. cristata (L.) Gray

Crested Wood-Fern; native.

NTK(1918); DAW & ARH #527(1969)

Common in alder thickets at edge of bog at
Moore's Harbor.

D. marginalis (L.) Gray

Marginal Shield-Fern; native.

NTK(1919); DAW & ARH #302(1968)

Frequent in rich woods at northwestern end
of Long Pond.

Polystichum Roth Shield-Fern

P. acrostichoides (Michx.) Schott Christmas Fern; native.

NTK(1916) "Birch Grove".

Dennstaedtia Bernh.

D. punctilobula (Michx.) Moore Hay-scented Fern; native.

AFH #1280(1913); DAW #145(1968)

Common along shady roadsides and in open
places in spruce woods.

Athyrium Roth

- A. Filix-femina (L.) Roth, var. Michauxii (Spreng.) Farw.
Lady-Fern; native.
AFH #1703(1914) "trail to Sawyer's Mountain".

forma elatus (Link) Clute native.

NTK(1919) "Devil's Den".

forma rubellum (Gilbert) Farw. native.

DAW & ARE #263(1968)

Locally frequent in moist thickets and roadsides.

Pteridium Gleðitsch Bracken

- P. aculeatum (L.) Kuhn, var. latiusculum (Desv.) Underw.
Brake, Pasture Brake; native.
DAW #148(1968)

Very abundant in spruce woods, clearings, and roadsides.

Polypodium L. Polypody

- P. virginianum L. Rock-Polypody; native.

NTK(1925); DAW & HVP #199(1968)

Frequent on rocky slopes and ledges.

TAXACEAE (Yew Family)

Taxus L. Yew

T. canadensis Marsh. American Yew, Ground Hemlock; native.

NTK(1927) "Devil's Den".

It is quite probable that Taxus no longer occurs on Isle au Haut. The writer never encountered it, nor heard tell of its presence anywhere on the island. The area designated "Devil's Den" where Kidder collected it has been virtually destroyed by the digging of nearby gravel and sand pits.

PINACEAE (Pine Family)

Abies Mill. Fir

A. balsamea (L.) Mill., var. balsamea Balsam Fir; native.

AFH #1711(1914); DAW #179(1968)

Frequent in spruce woods.

Tsuga (Endl.) Carr. Hemlock

T. canadensis (L.) Carr.

Hemlock; native.

NTK(1928); DAW #120(1968)

Whether Tsuga occurs on the island in the wild state today is very questionable. Kidder collected it in the "Devil's Den" which no longer exists as Kidder knew it. The writer found one small, depauperate hemlock at the edge of the old farm property in the village. It was probably planted; no seedlings were noted.

Picea Dietr. Spruce

P. glauca (Moench) Voss White spruce; native.

DAW #35(1968)

Common in spruce woods, especially along the sea shore.

P. rubens Sarg. Red spruce; native.

AFH #1293(1913); NTK(1916); DAW #43(1968)

Very common in woods, making up the bulk of the spruce woods which cover most of the island.

P. mariana (Mill.) BSP Black spruce; native.

NTK(1931); DAW & EVP #195(1968)

Frequent in bogs.

Larix Mill. Larch

L. laricina (DuRoi) K.Koch American larch; native.

NTK(1927); DAW #240(1968)

Locally common in moist woods.

Pinus L. Pine

P. strobus L. White Pine; native.

AFH #2415(1915); DAW #56(1968)

Infrequent in woods. Few large trees can be seen off the road beyond Eli's Creek and in an old wood just east of the "Great Meadow". Smaller individuals are occasionally found elsewhere.

P. resinosa Ait.

Red Pine; native.

NTK(1926); DAW #136(1968)

Infrequent in woods; a few large trees are located near Wentworth Mountain.

P. rigida Mill.

Pitch Pine; native.

AFH #1283(1913); DAW #37(1968)

Common on dry, rocky slopes and in barren soils. Especially common on the northwestern slopes of Mount Champlain.

Thuja L. Arbor Vitae

T. occidentalis L.

Arbor Vitae, White Cedar; native.

AFH #1230(1913); DAW #77(1968)

Frequent in woods; particularly along streams.

Juniperus L. Juniper

J. communis L., var. depressa Pursh Ground Juniper; native.

KF (1909); AFH #2424(1915); DAW #70(1968)

Common in dry, rocky open areas.

J. horizontalis Moench

Creeping Savin; native.

DAW #404(1968)

Local. Present on exposed headlands near Thunder Head. Common on sea cliffs between Little Cove and Old Cove. Collected by Hidaer in 1927 on Eastern Ear.

TYPHACEAE (Cat-tail Family)

Typha L. Cat-tail Flag

T. latifolia L. Common Cat-tail; native.

NTK(1917); DAW #239(1968)

Frequent in marshes or shallow water; e.g.,
at Merchant's Cove and Moore's Harbor.

SPARGANIACEAE (Bur-reed Family)

Sparganium L. Bur-reed

S. americanum Nutt. native.

AFH #1252a, #1252(1913); NTK(1921)

DAW #174(1968)

Frequent in shallow water at edges of Long
Pond and in marshy areas.

S. chlorocarpum Rydb., var. chlorocarpum native.

NTK(1919)(1920) "ditch by Mrs. Sturtevant's
private road".

var. acaule (Eeaby) Fern. native.

NTK (?); DAW #448 (1969)

Locally frequent in Pat's Brook, east side
of island.

S. angustifolium Michx. native.

NTK(1927) "bottom of Lake" (Long Pond) "west
side".

S. minimum (Hartm.) Fries

native.

NTK(1920) "shallow sandy pool -- village".

as?

ZOSTERACEAE (Pondweed Family)

Zostera L. Eelgrass

Z. marina L., var. stenophylla Aschers. & Graebn. native.

NTK(1917) "Barred Harbor".

✓ Potamogeton L. Pondweed

P. epihydrus Raf., var. Nuttallii (C.&S.) Fern. native.

NTK(1923); DAW & ARH #335(1968)

Frequent in barrier pond at Merchant's Cove.

P. Cakesianus Robbins.

native.

AFH #1222(1913) "Pond in sphagnum bog.
Hackmatack Swamp".

JUNCAGINACEAE (Arrow-grass Family)

Triglochin L. Arrow-grass

T. maritima L.

native.

KF(1909); DAW & ARH #333 (1968)

Common along sea shore, particularly in salt
marshes.

T. palustris L.

native.

NTK(1929) "Merchant's Cove".

ALISMATACEAE (Water-plantain Family)

Alisma L. Water-plantain

A. triviale Pursh

native.

NTK(1920) "at north end of Lake"(Long Pond).

Sagittaria L. Arrowhead

S. graminea Michx.

native.

NTK (1901) presumably in Long Pond.

GRAMINEAE (Grass Family)

Festuca L. Fescue-Grass

F. rubra L., var. rubra

native.

AFH #1762(1914); DAW #34(1968)

Common in dry sterile soils.

forma megastachys (Gaudin) Holmb.

native.

NTK(1920) "shore of Thorofare".

F. elatior L. Meadow Fescue; naturalized from Europe.

NTK(1919) "near Collins' Beach".

forma aristata Holmb. naturalized from Europe.

;DAW & ARH #278(1968)

Around remains of old Damon house foundation,
Thorofare Village.

Puccinellia Parl. Alkali-Grass

P. maritima (Huds.) Parl. native.

NTK(1921) "near Collins' Beach".

P. paupercula (Holm.) Fern. & Weath., var. alaskana (Scribn.
& Merr.) Fern. & Wieg. native.

AFH #1761(1914); DAW & ARH #244, #245 (1968)

Frequent on rocky, gravelly saline shores.

Glyceria R.Br. Manna-Grass

G. canadensis (Michx.) Trin. Rattlesnake-Grass; native.

AFH #1189(1913); DAW & ARH #247(1968)

Frequent along moist shores.

G. laxa Scribn. native.

AFH #1710(1914); DAW #58, #146 (1968)

Common; moist roadsides and marshy areas.

G. striata (Lam.) Hitchc., var. striata

Fowl-meadow Grass; native.

AFH #1233(1913); DAW & ARH #533 (1969)

Frequent along stream flowing from Long Pond.

var. stricta (Scribn.) Fern. native.

NTK(1920) "bank of Town Brook".

Poa L. Meadow-Grass

P. annua L. Annual Bluegrass; naturalized from Eurasia.

AFH #2406(1915); DAW & ARH #242(1968)

Frequent in waste ground and clearings.

P. compressa L. Canada Bluegrass; naturalized from Eurasia.

AFH #2431(1915); DAW & ARH #317 (1968)

On east facing ledge, west shore of Long Pond.
General frequency on island not determined.

P. pratensis L. Kentucky Bluegrass; native.

AFH #1684(1914); DAW #33 (1968)

Frequent in upper beach area at Shark's Point.
Probably common in meadows and open areas
elsewhere.

P. nemoralis L. native.

NTK(1922) "just below Birch Grove".

Dactylis L. Orchard-Grass

D. glomerata L., var. glomerata introduced and
naturalized from Europe.

DAW #412 (1969)

* Locally frequent at roadside by old Damon
property, Thorofare Village.

var. ciliata Peterm. introduced and
naturalized from Europe.

NTK(1919) "roadside, Moore's Harbor".

Molinia Schrank Moor-Grass

M. caerulea (L.) Moench adventive from Europe.

NTK(1919) "by board walk at Chauncy Cottage"
(presumably at Point Lookout).

DAW & ARH #552 (1969) Locally very common
along board walk, Point Lookout. Apparently
Molinia has persisted here and spread
considerably since 1919.

Cynosurus L. Dog's-tail

C. cristatus L. Crested Dog's-tail; naturalized from Europe.

NTK(1927) "Birch Point".

Agropyron Gaertn.

A. trachycaulum (Link) Malte, var. maius (Vasey) Fern.
native.

DAW & HVP #194(1968)

Infrequent on dry, rocky shores.

var. novae-angliae (Scribn.) Fern. native.

NTK(1918) "Among rocks on shore beyond
light house".

A. repens (L.) Beauv., var. repens Witch-Grass; native.

DAW #74 (1968)

Very common in dry sandy soil along road
in vicinity of Long Pond.

forma aristatum (Schum.) Holm. native.

NTK(1917) "east side".

forma trichorrhachis Rohlena native.

AFH #1158(1913) "Moore's Harbor".

forma pilosum (Scribn.) Fern. native.

NTK(1919) "Head Harbor".

Lolium L. Darnel

L. multiflorum Lam. Italian Rye-Grass; naturalized from
Europe.

DAW #479 (1969)

Frequent around farm buildings at north end
of Long Pond.

Hordeum L. Barley

H. jubatum L. Squirrel-tail Grass; native.

AFH #1223(1913) "Frequent at the edge of
beaches. Deer Isle and Isle au Haut (Hill, 1919).

H. vulgare L.

Barley; introduced from Eurasia.

AFH #2423 (1915) "roadsides" (presumably
having escaped from cultivation).

Secale L. Rye

S. cereale L.

Rye; introduced from Eurasia.

NTK(1920) "head of road to Rich's Cove",
presumably an escape from cultivation.

Elymus L. Wild Rye, Lyme-Grass

E. arenarius L., var. villosus Mey.

Sea Lyme-Grass; circumboreal variety of
a Eurasian species.

NTK(1932); DAW #89 (1968)

Locally very common on rocky beaches.

E. virginicus L., var. virginicus Terrell Grass; native.

AFH #1159(1913); DAW #236(1968)

Locally very common in salt marshes; e.g.
at Merchant's Cove.

forma hirsutiglumis (Scribn.) Fern.

native.

NTK(1917) "Deep Cove".

Avena L. Oat

A. sativa L. Cultivated Oat; introduced from Eurasia.

AFH #3063(1918) "roadsides and waste ground", presumably an escape from cultivation.

Deschampsia Beauv. Hairgrass

D. flexuosa (L.) Trin., var. flexuosa Common Hairgrass;
native.

AFH #1615(1914); DAW #27(1968)

Common in dry open soil.

forma flavescens Sylven

native.

DAW #184 (1968)

Very common in open areas of spruce woods.

D. caespitosa (L.) Beauv., var. parviflora (Thuill.) Richter
Tufted Hairgrass; naturalized from Europe.

DAW & ARH #267 (1968)

Locally common in village; particularly on old Damon property.

Danthonia DC. Wild Oat-Grass

D. spicata (L.) Beauv., var. spicata Poverty Grass; native.

AFH #1634(1914); NTK(1918); DAW #81(1968)

Very common at roadsides and in dry open areas.

D. compressa Aust.

native.

NTK(1918) "dry woods in center" (of island).

Calamagrostis Adans. Reed-Bentgrass.

C. canadensis (Michx.) Nutt., var. canadensis
Blue-joint; native.

AFH #1269(1913); DAW & ARH #287(1968)

Very common in spruce woods among sphagnum cover.

Agrostis L. Bentgrass.

A. alba L., var. alba

Redtop; native.

AFH #1268(1913) "meadow at head of Long Pond".

var. palustris (Huds.) Pers. Creeping Bent; native.

AFH #1175(1913) "sandy beach near salt marsh,
Moore's Harbor".

A. tenuis Sibth., var. tenuis Rhode Island Bent;
naturalized from Europe.

AFH #1176(1913); DAW #25, #143(1968)

Very common in fields and along roadsides.

A. scabra Willd., var. scabra

Hairgrass; native.

AFH #1726(1913); DAW & ARH #257, #284(1968)
Frequent in sandy-rocky habitats; e.g. the
summit of Mt. Champlain.

A. perennans (Walt.) Tuckerm. Upland Bent; native.

AFH #1760(1914) "low wet woods near
Moore's Harbor".

Cinna L. Wood Reedgrass

C. latifolia (Trev.) Griseb. native.

AFH #1254(1913) "low ground at head of Long Pond."

Phleum L. Timothy

P. pratense L. Common Timothy; naturalized from Europe.

AFH #1647(1914); DAW #53(1968)

Very common in fields and clearings.

Alopecurus L. Foxtail

A. pratensis L. Meadow Foxtail; naturalized from Europe.

NTK (1919); DAW #405(1969)

Frequent in field behind village fire-house.

Muhlenbergia Schreb.

M. uniflora (Muhl.) Fern., var. uniflora native.

NTK(1918); DAW & ARH #259 (1968)

Frequent in moist depressions on summit of
Mt. Champlain.

Brachyelytrum Beauv.

B. erectum (Schreb.) Beauv., var. erectum native.

DAW #132 (1968)

Locally common in spruce woods, particularly
along stream banks.

var. septentrionale Babel native.

NTK(1919) "Wentworth Brook by road".

Oryzopsis Michx. Mountain-Rice

O. asperifolia Michx. native.

NTK(1919) "east side road near north
end" (of island).

O. canadensis (Poir.) Torr. native.

NTK(1919); DAW #455(1969)

Infrequent in spruce woods at Eli's Creek.

Spartina Schreb. Cord or Marsh-Grass

S. pectinata Link Fresh-water Cord-Grass; native.

AFH #1759(1914); DAW & ARH #331(1968)

Common, upper edge of salt marsh at
Merchant's Cove.

S. alterniflora Loisel. Salt-water Cord-Grass; native.

AFH #1250(1913); DAW & ARH #352 (1968)

Common in median tide areas of beach,
Merchant's Cove.

4.4

S. patens (Ait.) Muhl., var. patens Salt-meadow Grass;
native.

AFH #1251(1913); DAW #238(1968)

Very common in Merchant's Cove salt marsh.

S. X caespitosa A.A.Eat. native hybrid.

DAW & ARH #344(1968)

A hybrid of S. pectinata and S. patens
occurring in some abundance in the salt
marsh at Merchant's Cove.

Anthoxanthum L. Sweet Vernal Grass

A. odoratum L. naturalized from Europe.

AFH #2433(1913); DAW #59(1968)

Common along dry, sandy roadsides.

Leersia Sw. Cutgrass, Whitegrass

L. oryzoides (L.) Sw. Rice-cutgrass; native.

NTK(1923); DAW & ARH #314(1968)

Infrequent in moist sand at north shore
of Long Pond.

Panicum L. Panic-Grass

P. capillare L., var. occidentale Rydb.

Old-Witch Grass; native.

NTK(1922) "vegetable garden in village".

...

P. boreale Nash

native.

NTK(1921); DAW #134(1968)

Common along stream banks in spruce woods.

P. lanuginosum Ell., var. implicatum (Scribn.) Fern. native.

AFH #1245(1913); NTK(1921)

var. septentrionale Fern.

native.

DAW #398 (1969)

Exposed headlands, Eastern Head near
Thunder Gulch.

P. subvillosum Ashe

native.

DAW #24 (1968)

Common in dry sandy soil along roadsides.

Echinochloa Beauv.

E. crusgalli (L.) Beauv. Barnyard Grass; naturalized from
the Old World.

NTK(1920) "cart path at edge of village".

Setaria Beauv. Bristly Foxtail

S. glauca (L.) Beauv. Foxtail; naturalized from Eurasia.

NTK(1923); DAW & HVP #207(1968)

; Infrequent in dry sandy soil at roadsides.

S. viridis (L.) Beauv. Green Foxtail; naturalized from Eurasia.

NTK(1921) "Sturtevant farm at the Lake"
(Long Pond).

CYPERACEAE (Sedge Family)

Dulichium Pers.

D. arundinaceum (L.) Britt. Three-way Sedge; native.

AFH #3065(1918); DAW & ARE #316(1968)

Common along shores of Long Pond.

Eleocharis R.Br. Spike-Rush

E. parvula (R. & S.) Link native.

NTK(1918) "in Rich's Old Cove. In mud
which is under water at high tide".

E. obtusa (Willd.) Schultes native.

AFH #1274(1913) "muddy roadside ditch".

E. halophila Fern. & Brack. native.

NTK(1921); DAW & ARH #332(1968)

Upper edge of salt marsh, Merchant's Cove.

E. tenuis (Willd.) Schultes native.

NTK(1919); DAW & ARH #305(1968)

Frequent at upper part of sandy beach,
north shore of Long Pond.

E. elliptica Kunth. ?? native.

DAW #370(1969)

Infrequent on sandy beach at north end of
Long Pond. Identification uncertain;
specimens not in fruit.

Scirpus L. Bulrush.

S. cespitosus L., var. callosus Bigel. native.

DAW & ARH #535 (1969)

Common in moist depressions on top of Duck
Harbor Mountain.

S. americanus Pers. Three-square, Swordgrass; native.
KF (1909)

S. acutus Muhl. Hard-stem Bulrush; native.

NTK(1927) "Dexter Marsh".

S. paludosus Nels., var. atlanticus Fern. Bayonet-grass;
native.

AFH #1306(1913); DAW #233(1968)

Very common at edge of salt marsh just above
high tide line, Merchant's Cove.

S. rubrotinctus Fern. native.

DAW #383 (1969)

Common in moist open places.

S. atrovirens Willd., var. georgianus (Harper) Fern. native.

AFH #1678(1914); DAW #413(1969)

Locally frequent along moist roadsides
in Thorofare Village.

S. cyperinus (L.) Kunth, var. cyperinus native.

AFH #1218(1913) "Hackmatack Swamp".

var. pelius Fern. native.

AFH #1220(1913); DAW #75(1968)

Locally common in moist sandy soil at
roadside near Long Pond.

forma condensatus (Fern.) S.F.Blake

AFH #3055(1913) "swampy ground,
Long Pond.

S. pedicellatus Fern. native.

AFH #1242(1913) "wet ground at head of
Long Pond.

S. atrocinctus Fern. native.

AFH #1243(1913) "head of Long Pond".

Eriophorum L. Cotton-grass

E. spissum Fern. Hare's-tail; native.

NTK(1925) "swamp along road to Cliffs".

E. tenellum Nutt. native.

NTK(1927); DAW & ARH #547(1969)

Infrequent in Great Meadow Bog.

E. angustifolium Honckeney native.

NTK(1919); DAW-J.A.&T.T. #153(1968)

Very common in the Great Meadow Bog.

E. virginicum L. Tawny Cotton-grass; native.

AFH #1209(1913); DAW-J.A.&T.T. #155(1968)

Very common in bogs.

Rhynchospora Vahl Beak-Rush

R. alba (L.) Vahl native.

AFH #1201(1913); DAW #131(1968)

Very common in bogs.

Carex L. Sedge

C. stipata Muhl.

native.

NTK(1918); DAW #407(1969)

Frequent in field along east shore of
Head Harbor.

C. trisperma Dew., var. trisperma

native.

NTK(1920); DAW & ARH #294(1968)

Common in cut-over area, southeast side
of Black Dina.

var. Billingsii Knight

native.

AFH #1635(1914) "sphagnum bog near Duck Harbor."

C. Mackenziei Krecz.

native.

NTK(1919) "brackish swamp beyond lighthouse".

C. canescens L., var. disjuncta Fern.

native.

AFH #1597(1914) "swampy roadsides".

var. subloliacea Laestad.

native.

NTK(1921) "Dexter Marsh".

C. brunnescens (Pers.) Poir., var. sphaerostachya (Tuckerm.)
Kukenth. native.

NTK(1919); DAW #1c(1968)

Frequent in blow-down area near northern
entrance to Deep Cove.

C. Deweyana Schwein.

native.

NTK(1919) "birch woods--center of island".

C. exilis Dew.

native.

AFH #1689(1914) "Infrequent in sphagnum bogs.
Swan's Island and Isle au Haut." (Hill, 1919)
NTK(1919) "head of Moore's Harbor".

C. atlantica Bailey

native.

AFH #1687(1914); DAW & ARH #531(1969)

Infrequent in bog at Moore's Harbor.

C. cephalantha (Bailey) Bickn.

native.

AFH #1729(1914); NTK(1919)(1925); DAW #408(1969)

Sandy beach, south shore of Long Pond.

C. scoparia Schkuhr, var. scoparia

native.

AFH #1734(1914); NTK(1918); DAW #76(1968)

Very common in open areas, roadsides, etc.

C. Crawfordii Fern.

native.

NTK(1927); DAW & ARH #336(1968)

Frequent in sedge-grass meadow back of
barrier beach at Merchant's Cove.

C. tenera Dew.

native.

NTK(1927) "cart path crossing Miss Butler's
board walk".

C. hornathodes Fern., forma invisa (W.Boott) Fern. native.

NTK(1920) "Seal Trap".

C. adusta Boott native.

NTK(1925) "roadside, recently cut road
to Robinson's".

C. argyrantha Tuckerm. native.

DAW & ARH #297(1968)

Rich woods at northwestern end of Long Pond.

C. leptalea Wahlenb. native.

NTK(1919) "bank below Kidder's".

C. communis Bailey native.

NTK(1920) "new Merchant's Trail".

C. Emmonsii Dew. native.

NTK(1919); DAW #1e(1968)

Frequent in blow-down area near northern
entrance to Deep Cove.

C. novae-angliae Schwein. native.

NTK(1918) "back of water tower" (presumably
at Point Lookout).

C. deflexa Hornem. native.

NTK(1919) "east side woods near north end".

C. umbellata Schkuhr. native.

DAW & ARH #286 (1968)

Sandy roadside along old Damon property,
Thorofare Village.

C. paleacea Wahlenb. native.

NTK(1920) "near Bowditch boathouse".

forma erectiuscula Fern. native.

NTK(1919) "Isle au Haut".

C. crinita Lam., var. gynandra (Schwein.) Schwein. & Torr. native.

AFH #1256(1913); DAW #31 (1968)

Common in swales and along streams and
moist roadsides.

C. nigra (L.) Reichard, var. nigra native.

AFH #1211(1913); DAW #375(1969)

Common in fields and along gravelly roadsides.

var. strictiformis (Bailey) Fern. native.

NTK(1920)(1921)(1926)(1933).
"East side roadside ditch".

C. stricta Lam., var. stricta native.

NTK(1923); DAW #57(1968)

Very common at edges of bog at source of
Eli's Creek.

C. paupercula Michx., var. irrigua (Wahlenb.) Fern. native.

DAW & ARH #537 (1969)

Frequent in moist depressions, top of
Duck Harbor Mountain.

C. Houghtonii Torr. native.

NTK(1919) "roadside opposite Rich's Cove."

C. pallescens L., var. neogaea Fern. native.

AFH #1713(1914); DAW #376 (1969)

Frequent in moist woods at northwestern
end of Long Pond.

C. arctata Boott native.

NTK(1923); DAW #369 (1969)

Moist woods at northwestern end of Long Pond.

C. debilis Michx., var. Rudgei Bailey native.

AFH #1709(1914); DAW & ARH #289(1968).

Frequent in moist spruce woods.

C. conoidea Schkuhr native.

NTK(1924) "moist open land by landing".

C. panicea L. naturalized from Europe.

NTK(1919); DAW & ARH #271(1968)

Common in moist grassy area alongside old
Damon property, Thorofare Village.

C. laxiflora Lam.

native.

DAW & ARH #325 (1968)

In rich woods, east facing slope,
west side of Long Pond.

C. ormostachya Wieg.

native.

NTK(1921); DAW & ARH #327(1968)

In rich woods, east facing slope,
west side of Long Pond.

C. leptonervia Fern.

native.

NTK(1919) "rich birch woods, center of island".

C. flava L.

native.

NTK(1924) "edge of brush land just above
ice pond".

C. viridula Michx.

native.

AFH #3053(1918); DAW & ARH #269(1968)

In moist, grassy area along old Damon property,
Thorofare Village.

C. pauciflora Lightf.

native.

AFH #1679(1914) "head of Moore's Harbor".

C. lurida Wahlenb.

native.

AFH #1268a(1913); NTK(1919); DAW #32(1968)

Common in swales, at edges of bogs, and
along moist roadsides.

C. folliculata L. native.
AFH #3062(1918); DAW-J.A.&T.T. #151(1968)
Infrequent in the Great Meadow.

C. intumescens Rudge, var. Fernaldii Bailey native.
AFH #1247(1913) "head of Long Pond".

C. rostrata Stokes native.
NTK(1925); DAW & ARH #532 (1969)
Frequent in bog at Moore's Harbor.

ARACEAE (Arum Family)

Arisaema Mart. Indian-turnip

A. Stewardsonii Britt. Jack-in-the-pulpit; native.
NTK(1927) "east side, swamp about opposite
road to old hotel".

Symlocarpus Salisb. Skunk-cabbage

S. foetidus (L.) Nutt. native.
NTK(1927); DAW #4(1968)
Very common in moist woods and thickets,
along streams, and in bogs.

LEMNACEAE (Duckweed Family)

Lemna L. Duckweed.

L. trisulca L. Star-Duckweed; native.

*NTK(1927) "probably near sand spit on west side of lake. Adhering to Utricularia geminiscapa." See Rhodora 30: 121(1928)

ERIOCAULACEAE (Pipewort Family)

Eriocaulon L. Pipewort.

E. septangulare With. White-buttons, Duckgrass; native.

NTK(1927); DAW #166(1968)

Common along shores of Long Pond.

JUNCACEAE (Rush Family)

Juncus L. Rush.

J. bufonius L., var. bufonius Toad-Rush; native.

AFH #2403(1915); DAW & ARH #264(1968)

Frequent at roadside along old Damon property, Thorofare Village.

J. Gerardi Loisel., var. Gerardi Black-Grass; native.

AFH #1281(1913); DAW & HVP #213(1968)
DAW #327(1968)

Very common in salt marsh at Merchant's Cove.

J. tenuis Willd., var. tenuis native.

AFH #1733(1914); DAW & ARH #264a(1968)

Frequent at roadside along old Damon property,
Thorofare Village.

J. Greenei Oakes & Tuckerm. native.

NTK(1922); DAW & ARH #330(1968)

Frequent in rocky, open area above Boom Beach.

J. effusus L., var. compactus Lej. & Court. native.

AFH #1257(1913); DAW & ARH #539(1969)

Locally common in open, wet meadow at
Duck Harbor.

var. decipiens Buchenau native.

NTK(1927) "east side".

var. Pylaei (Laharpe) Fern. & Wieg. native.

AFH #1724(1914); DAW & ARH #538(1969)

Locally common in open, wet meadow at
Duck Harbor.

J. balticus Willd., var. littoralis Engelm. native.

NTK(1919); DAW #63(1968); DAW & ARH #342(1968)

Very common at Merchant's Cove.

J. canadensis J.Gay, var. canadensis native.

NTK(1926); DAW-J.A.&T.T. #154(1968);
DAW & ARH #253 (1968)

Common in Great Meadow Bog, and in other
marshy places as well.

J. brevicaudatus (Engelm.) Fern. native.

AFH #1253(1913); DAW #73(1968); DAW & ARH #266(1968).

Common in swales and along moist roadsides.

J. militaris Bigel. native.

NTK(1922) "edges of Lake" (Long Pond).

J. articulatus L., var. articulatus native.

NTK(1919); DAW & ARH #265(1968)

At roadside along old Damon property,
Thorofare Village.

J. pelocarpus Mey. native.

AFH #1307(1913) "edge of brackish swamp".

Luzula DC. Woodrush

L. acuminata Raf. native.

NTK(1922); DAW #357(1969)

Common in rich woods at northwestern end of
Long Pond.

L. multiflora (Retz.) Lejeune, var. multiflora native.

AFH(1913); NTK(1920); DAW & ARH #326(1968)

Common in fields, along roadsides, and in
rich woods at northwestern end of Long Pond.

var. fusconigra Celak. native.

NTK(1920); DAW #30, #82(1968)

Common along sandy roadsides.

LILIACEAE (Lily Family)

Allium L. Onion, Garlic, Leek

- A. Schoenoprasum L., var. sibiricum (L.) Hartm.
Chives; introduced from Eurasia.
NTK(1927); DAW #386(1969)

Locally frequent in open meadow at Moore's Harbor.

Hemerocallis L. Day-Lily

- H. fulva L. Common Orange Day-Lily; introduced and
naturalized from Europe.
NTK(1917) "persisting in village". Not noted
to be present in 1968-69; apparently it did
not become permanently established.

Clintonia Raf.

- C. borealis (Ait.) Raf. Corn-Lily; native.
AFH #1205(1913); DAW #378(1969)

Very infrequent in moist woods; one small
station seen along Eli's Creek; a few
scattered individuals present in rich woods
at northwestern end of Long Pond.

Smilacina Desf. False Solomon's-seal

- S. racemosa (L.) Desf. False Spikenard; native
NTK(1924) "rich woods at north end of
Long Pond.

S. trifolia (L.) Desf.

native.

AFH #1681(1914) "sphagnum bog at head of
Moore's Harbor."

Maianthemum Weber

M. canadense Desf.

False Lily-of-the-Valley; native.

AFH #1730(1914); DAW #6(1958)

Very common ground cover plant in spruce woods.

Streptopus Michx. Twisted-stalk

S. roseus Michx., var. perspectus Fassett

native.

AFH #1605(1914); DAW #362(1969)

Frequent in rich woods at northwestern end
of Long Pond.

Polygonatum Mill. Solomon's-seal

P. pubescens (Willd.) Pursh.

native.

NTK(1920); DAW #363(1969)

Common in rich woods at northwestern end
of Long Pond.

Medeola L. Indian Cucumber-root

M. virginiana L.

native.

NTK(1926) "rich woods off road north of
Devil's Den".

Trillium L. Trillium

T. undulatum Willd.

Painted Trillium; native.

AFH #1302(1913) "wet thickets, Mt. Champlain".

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IRIDACEAE (Iris Family)

Sisyrinchium L. Blue-eyed Grass

S. montanum Greene, var. crebrum Fern.

native.

AFH #1169(1913); DAW #14(1958)

Common in fields, meadows, and damp open places.

Iris L. Iris

I. Hookeri Penny

Beach-head Iris; native.

NTK (1923) "Horseman's Point".

I. versicolor L.

Blue Flag; native.

AFH #1715(1914); DAW #61(1958)

Very common along shores and in moist open places.

ORCHIDACEAE (Orchis Family)

Cypripedium L. Lady's-Slipper

C. acaule Ait.

Pink Lady's Slipper; native.

NTK(1926); DAW #373(1969)

Very infrequent in dry woods and thickets.

as?

Habenaria Willd. Fringed Orchis

H. clavellata (Michx.) Spreng., var. ophioglossoides Fern.
Green Woodland Orchis; native.

NTK(1927); DAW #172(1968)

Frequent in moist soil around Long Pond.

H. orbiculata (Pursh) Torr. Round-leaved Orchis; native.

NTK(1928) "near the Nigger" (Nigger Head).

H. macrophylla Goldie

native.

NTK(1917) "east side by road nearby to
Grant Cottage" at Head Harbor?

H. obtusata (Pursh) Richards Blunt-leaf Orchis; native.

NTK(1929) "Morris' Mistake -- rich open
deciduous woods".

H. lacera (Michx.) R.Br.

Ragged Orchis; native.

NTK(1926); DAW #457(1969)

Infrequent in open shrubby area above Boom Beach.

H. psycodes (L.) Sw.

Small Purple Fringed Orchis; native.

NTK(1932) "north end of Turner's Pond" (same
as Long Pond).

H. fimbriata (Ait.) R.Br. Large Purple Fringed Orchis; native.

AFH #1650(1914); Wm. Stevens #493 (1969).

Infrequent off road near Head Harbor.

Pogonia Juss. Pogonia or Beard-Flower

P. ophioglossoides (L.) Ker, var. ophioglossoides native.

AFH #1622 (1914); DAW #109 (1968)

Common in sphagnum bogs.

Calanogon R.Br. Grass-pink, Swamp-pink.

C. pulchellus (Salisb.) R.Br., var. pulchellus native.

AFH #1580(1914); DAW #60(1968)

Frequent in sphagnum bogs.

Arethusa L. Arethusa

A. bulbosa L. Swamp-pink; native.

NTK(1924) "swamp at Moore's Harbor".

Spiranthes Richard Ladies'-tresses

S. cernua (L.) Richard, var. cernua Common Ladies'-tresses;
native.

NTK(1926); DAW & ARH #529 (1969)

Frequent, but scattered in rocky field at
Moore's Harbor.

var. ochroleuca (Rydb.) Ames

native

NTK(1926) "path from Collins' to village".

Only specimen of this variety from Maine in NEBC herbarium.

DAW #491(1959) Frequent in dry, rocky field near northern entrance to Thorofare.

S. Romanzoffiana Cham.

Hooded Ladies'-tresses; native

Mrs. Flora S. Haines (1889)

AFH #1747 (1914) "Duck Harbor".

Goodyera R.Br. Rattlesnake-plantain

G. repens (L.) R.Br., var. ophioides Fern.

Dwarf Rattlesnake-plantain; native.

NTK(1917); DAW #135 (1968)

Locally common in moist spruce woods.

Corallorhiza Chatelain

Coral-root

C. trifida Chatelain, var. verna (Nutt.) Fern.

Early Coral-root; native.

NTK(1923) "north end of Lake -- rich woods".

C. maculata Ref.

Spotted Coral-root; native.

NTK(1920); DAW #424 (1959)

Infrequent in rich woods at northwestern end of Long Pond.

Malaxis Sw. Adder's-Mouth

M. unifolia Michx. Green Adder's-Mouth; native.

DAW #78 (1968)

Infrequent in spruce woods near Eli's Creek.

Libaris Richard Twayblade

L. Loeselii (L.) Richard Bog Twayblade; native.

NTK(1920) "across road from Town Hall".

SALICACEAE (Willow Family)

Salix L. Willow

S. lucida Muhl., var. lucida Shining Willow; native.

NTK(1921) "east side road just south of Rich's Cove. Rare".

S. alba L., var vitellina (L.) Stokes White Willow;
introduced and naturalized from Europe.

KE(1909)

NTK(1913) "planted about the village".

AFH #1278(1913) "in wet ground around village".

Not noted to be present in 1958-59. Apparently the White Willow was planted on Isle au Haut and did not succeed in becoming naturalized on the island.

S. rigida Muhl. native.

NTK(1917) (1919) "east side".

S. Bebbiana Sarg., var. Bebbiana Long-beaked Willow; native.

NTK(1919); DAW & ARH #280(1968)

One young tree on old Damon property in
Thorofare Village.

8.7

S. discolor Muhl. Large Pussy-Willow; native.

KF(1909); DAW & ARH #521(1969)

Infrequent along shore of the Thorofare.

S. gracilis Anders., var. textoris Fern. native.

NTK(1926) "east side road".

S. coactilis Fern. native.

NTK(1919) "east side road".

Populus L. Poplar, Aspen

P. tremuloides Michx., var. tremuloides Quaking Aspen;
native.

AFH #1309 (1913); DAW #91(1968)

Infrequent at edges of clearings and in
dry open woods.

var. magnifica Vict. Quaking Aspen; native.

NTK(1917)(1919)(1926)(1927). Nine specimens
of this variety collected by Kidder are in
the NEBC herbarium. Most are from the east
side of Isle au Haut around Rich's Cove.
DAW & ARH #508(1969) Locally frequent along
shore between Rich's Cove and Old Cove.

P. grandidentata Michx. Large-toothed Aspen; native.

AFH #1727(1914); DAW #350(1969)

Infrequent in dry woods and disturbed areas.

P. balsamifera L.

Balsam-Poplar; native.

AFH #2425(1915) "open woods by roadside".

P. X gileadensis Rouleau

Balm of Gilead; native hybrid.

NTK(1909); DAW & ARH #518(1969)

Along brook, north of church, Thorofare Village. Kidder (1909) reported it as having been planted; it since has multiplied considerably. Several large trees 10-12 in. d.b.h. and some smaller 2-3 in. d.b.h. were noted.

A hybrid of P. deltoides and P. balsamifera.

MYRICACEAE (Wax-Myrtle Family)

Myrica L.

M. GaleL., var. subglabra (Chev.) Fern. Sweet Gale; native.

AFH #1187(1913); DAW-J.A.&T.T. #157(1968)

Common in bogs.

M. pensylvanica Loisel.

Bayberry; native.

NTK(1926); DAW #101(1968)

Very common in sterile soils near the seashore.

Comotonia L'Her. Sweet-fern

C. peregrina (L.) Coult. native.

AFH #1154(1913); DAW #98(1968)

Very common in fields, along roadsides,
and at the edges of woods and thickets.

CORYLACEAE (Hazel Family)

Ostrya Scop. Hop-Hornbeam

O. virginiana (Mill.) K.Koch American Hop-Hornbeam; native.

NTK(1920); DAW & ARH #298(1968)

Infrequent in rich woods at northwestern
end of Long Pond.

Betula L. Birch

B. lutea Michx.f., var. lutea Yellow Birch; native.
(=B. alleghaniensis Britt.)

DAW #42(1968)

Frequent in moist spruce woods. Many large
individuals in the "Birch Orchard" at the
center of the island.

B. populifolia Marsh. Gray Birch; native.

NTK(1922); DAW #127(1968)

Common around clearings and at edges of woods.

B. caerulea-grandis Blanch. Blue Birch; native.

NTK(1924) A species of questionable status.
It may represent a series of hybrids similar
to the following.

is?

B. populifolia Marsh. X B. papyrifera Marsh., var. papyrifera

DAW & ARH #261 (1968)

Tree at origin of Mt. Champlain trail in the
village, growing close to both presumed parent
species and showing intermediate leaf and
bark characteristics.

B. papyrifera Marsh., var. papyrifera Paper Birch; native.

NTK(1919); DAW #44(1968)

Common in spruce woods.

var. cordifolia (Regel) Fern. native.

AFH #2421(1915); DAW #380(1959)

Frequent in spruce woods.

Alnus B.Ehrh. Alder

A. crispa (Ait.)Pursh, var. mollis Fern. Green Alder;
native.

DAW #168 (1968)

Very common in thickets and moist low ground.

A. rugosa (DuRoi) Spreng., var. rugosa Speckled Alder;
native.

NTK(1918) "back of old cellar hole beyond
village".

var. americana (Regel) Fern.

native.

AFH #1652(1914); NTK(1927); DAW & ARH #522(1969)

Common at edge of Clyde's Field, Thorofare Village. Also common along shore near Old Cove.

FAGACEAE (Beech Family)

Fagus L. Beech

F. grandifolia Ehrh.

native.

NTK(1922); DAW & ARH #295(1968)

Common in mixed rich woods at northwestern end of Long Pond.

Quercus L. Oak

Q. rubra L.

Red Oak; native.

NTK(1926); DAW #114(1968).

Common at north end of island near Rich's Cove.

CANNABINACEAE (Hemp Family)

Humulus L. Hop

H. Lupulus L.

Common Hop; native.

AFH #1237(1913) "escaped from cultivation, Long Pond".

URTICACEAE (Nettle Family)

Urtica L. Nettle

U. dioica L. Stinging Nettle; naturalized from Eurasia.
NTK(1926); DAW & ARH #339(1968)

Very common in upper weedy fringe of salt marsh, Merchant's Cove.

U. urens L. Burning Nettle; naturalized from Eurasia.
NTK(1921) "Birch Point".

LORANTHACEAE (Mistletoe Family)

Arceuthobium Bieb.

A. pusillum Peck Dwarf Mistletoe; native.

J.C.Arthur (1900); NTK(1926); DAW & HVP #196 (1968); DAW #220 (1968); DAW & ARH #321(1968)

A parasite of white, red, and black spruce which causes prominent witch's brooms and eventually kills the host tree. Very common on east and northeast sides of the island infecting red spruce, though other parasitized species of spruce have been noted on Western Head and on the west side around Moore's Harbor.

Ref: Brower, A.E. Maine Field Nat. 16: 35-38, (1960).

POLYGONACEAE (Buckwheat Family)

Rumex L. Dock, Sorrel

R. altissimus Wood. Pale Dock; native.
NTK(1926) "east side henyard".

R. pallidus Bigel. White Dock; native.
NTK(1918) "Rich's Old Cove beach".

R. domesticus Hartm. naturalized from Europe.
AFH #1259(1913) "swampy ground at head of
Long Pond."

R. orbiculatus Gray Water Dock; native.
NTK(1925) "rock pocket near sea shore,
outlet of Pond".

R. crispus L. Yellow Dock; naturalized from Europe.
NTK(1918); DAW & ARH #347(1968)
Infrequent in waste places and old fields.

R. Acetosella L., var. Acetosella Sheep Sorrel; naturalized
from Europe.
DAW #1b (1968)

Ubiquitous weed of old fields, waste places,
disturbed areas, roadsides, etc.

Polygonum L. Knotweed.

P. aviculare L., var. vegetum Ledeb. Naturalized from Europe.

NTK(1917); DAW & ARH #544 (1969)

Frequent along gravelly shore, Horseman's Point.

var. littorale (Link) W.D.J.Koch native.

AFH #1303(1913); NTK(1921); DAW & ARH #549(1969)

Frequent roadside weed at Point Lookout.

P. lapathifolium L. native.

NTK(1915) "ploughed land near tennis court"
(at Point Lookout).

P. scabrum Moench naturalized from Europe.

NTK(1915); AFH #2420(1915) "roadsides and waste ground".

P. Carey Olney native.

NTK(1917) "Rich's Cove".

P. Hydroopiper L. Common Smartweed; native.

NTK(1919); DAW & ARH #349(1968)

Frequent in weedy border of upper beach at Head Harbor.

P. Persicaria L. Lady's Thumb; naturalized from Europe.

AFH#1236(1913); DAW #450(1969)

Locally frequent in sand pit near Coombs Cemetery.

P. punctatum Ell. Water Smartweed; native.
NTK(1920) "Birch Point".

P. sagittatum L. Arrow-leaved Tearthumb; native.
NTK(1917); DAW & HVP #203(1968)
Common in moist roadside ditches in village
and on grassy slope in front of village church.

P. cilinode Michx. native.
DAW #103(1968)
Locally frequent on till bank near Hamilton
Cemetery at Duck Harbor.
forma erectum (Peck) Fern.
NTK(1915) "road to village".

P. Convolvulus L., var. subalatum Lej. & Court.
Black Bindweed; naturalized from Europe.
AFH #2407(1915) "waste ground by roadsides".

Fagopyrum Mill. Buckwheat

F. sagittatum Gilib. Buckwheat; introduced from Asia.
NTK(1913) "Rich's Cove by henyard".

CHENOPODIACEAE (Goosefoot Family)

Chenopodium L. Goosefoot, Pigweed.

C. album L. Pigweed, Lamb's-quarters; Naturalized from Europe.

NTK(1915); DAW #467(1969)

Sandy beach at Head Harbor, infrequent.

Atriplex L. Orach

A. patula L., var. patula native.

NTK(1923); DAW #97(1968)

Frequent along seashore in saline soils.

var. hastata (L.) Gray native.

AFH(1915); DAW & HVP #210(1968)

Common along seashore in saline soils.

var. littoralis (L.) Gray native.

NTK(1918); DAW & ARH #496(1969)

Old Cove, common in tidal zone among Spartina.

A. glabriuscula Edmondston native.

DAW & ARH #356(1968)

Frequent along rocky shores.

Salicornia L. Glasswort

S. europaea L., var. europaea Chickenclaws; native.

AFH #1229(1913); DAW & HVP #193(1968)

Frequent along seashore, often growing in two to three inches of sea water at high tide.

var. prostrata (Pall.) Fern. native.

NTK(1920)(1922) "Beyond Barter's Creek,
between tides".

Suaeda Forsk. Sea-Blite.

S. maritima (L.) Dumort. native.

KF(1909); AFH #1740(1914); AFH #2402(1915);
DAW & ARH #503(1969)

Frequent in tidal areas along shore

S. linearis (Ell.) Moq. native.

DAW #485a(1969)

Locally frequent on sandy shore of causeway
to Birch Point.

Salsola L. Saltwort.

S. Kali L., var. Kali Common Saltwort; native.

NTK(1925); DAW #235(1968).

Sandy seashores: Merchant's Cove and
Head Harbor, frequent.

AMARANTHACEAE (Amaranth Family)

Amaranthus L. Amaranth.

A. retroflexus L. Green Amaranth; semicosmopolitan weed.

NTK(1919) "C.D. Turner's vegetable garden".

A. albus L. Tumbleweed; semicosmopolitan weed.
NTK(1920) "C.D. Turner's vegetable garden".

PORTULACACEAE (Purslane Family)

Portulaca L. Purslane

P. oleracea L. Common Purslane; naturalized from Europe.
NTK(1929) "south end of causeway to Birch Point."

Montia L.

M. lamprosperma Cham. Blinks; native.
NTK(1920)(1924) "Barter's Creek, where the brook meets the beach".

CARYOPHYLLACEAE (Pink Family)

Spergularia J.&C.Presl Sand-Spurrey

S. rubra (L.) J.&C.Presl native
AFH #1678(1914); DAW & ARH #550(1969)
Common weed in clay tennis court, Point Lookout.

S. marina (L.) Griseb., var. leiosperma (Kindb.) Gurke
NTK(1923) "rocks at Merchant's Cove" native.

S. canadensis (Pers.) Don native.

DAW & ARH #243(1968)

Common along shore of Thorofare.

in?

Spargula L. Spurrey

S. arvensis L. Corn Spurrey; naturalized from Europe.
AFH #1649(1914); DAW #409(1969)

Common along sandy roadsides near northeast end of Long Pond.

Sagina L. Pearlwort.

S. procumbens L. Birdseye; native.

NTK(1931); DAW #440(1969)

Frequent on Eben's Head, Duck Harbor.

S. nodosa (L.) Fenzl., var. pubescens Mert. & Koch native.

NTK(1919) "Barred Ledge".

Arenaria L. Sandwort.

A. lateriflora L. Grove-Sandwort; native.

DAW #1f (1968)

Common in blow-down area near shore at north entrance to Deep Cove.

A. peploides L., var. robusta Fern. Seabeach-Sandwort; native.
NTK(1926) "beach at Rich's Old Cove".

A. groenlandica (Retz.) Spreng. Mountain-Sandwort; native.
NTK(1931); DAW & ARH #534(1969)
Frequent on Duck Harbor Mountain.

Stellaria L. Chickweed.

S. media (L.) Cyrillo Common Chickweed; naturalized from Eurasia.
AFH #1594(1914)
"moist roadsides".

S. graminea L. Common Stitchwort; naturalized from Europe.
AFH #1672(1914) "roadsides".

S. calycantha (Ledeb.) Bong., var. isophylla Fern. native.
NTK(1904) "Isle au Haut".

var. floribunda Fern. native.
NTK(1927); DAW #1d(1968)

Frequent in blow-down area along shore near
north entrance to Deep Cove.

Cerastium L. Mouse-ear Chickweed.

C. vulgatum L. Common Mouse-ear Chickweed; naturalized
KF(1909) from Europe.
DAW #15(1968)
Very common along roadside and in moist
meadow at Duck Harbor.

C. arvense L. Field Chickweed; native.

NTK(1919) "Rich's Cove".

C. tomentosum L. Snow-in-Summer; introduced from Eurasia.

DAW #87(1968)

Locally frequent around buildings at Robinson Point Lighthouse. Spreading from cultivation.

Silene L. Catchfly, Campion.

S. noctiflora L. Night-flowering Catchfly; naturalized from Europe.

NTK(1922) "vegetable garden in village".

Saponaria L.

S. officinalis L. Soapwort; Bouncing-Bet; naturalized from Europe.

NTK(1919) "Mitchell house, east side".

Dianthus L. Pink, Carnation.

D. deltoides L. Maiden-Pink; naturalized from Europe.

NTK(1919); DAW #417(1969)

Infrequent in grassy open field at Birch Point.

D. plumarius L. Grass-Pink; introduced from Europe.

NTK(1927) "Birch Point, running wild".

NYMPHAEACEAE (Water-Lily Family)

Nuphar Sm. Yellow Pond-Lily, Spatter-dock.

N. variegatum Engelm. Bullhead-Lily; native.

DAW #453(1969)

Locally common in small pond in bog at
Moore's Harbor.

Nymphaea L. Water-Lily.

N. odorata Ait. Fragrant Water-Lily, Pond-Lily; native.

NTK(1927); DAW & HVP #231a(1968)

Common in Long Pond.

RANUNCULACEAE (Crowfoot Family)

Ranunculus L. Crowfoot, Buttercup.

R. Cymbalaria Pursh Seaside-Crowfoot; native.

NTK(1918); DAW #232(1968)

Common on rocky beach at Merchant's Cove.

R. repens L. Creeping Buttercup; naturalized from Europe.

NTK(1920) "roadside ditch in village".

R. acris L., var. acris Common Buttercup; naturalized from
Europe.

NTK(1925); DAW #84(1968)

Frequent in wet open ground and moist roadsides.

R. bulbosus L. Bulbous Buttercup; naturalized from Europe.
NTK(1926); DAW #371(1969)

Common, but scattered in grassy field at north end of Long Pond.

Thalictrum L. Meadow-Rue

T. polygamum Muhl. Tall Meadow-Rue; native.
NTK(1920) "Rich's Old Cove".

Clematis L. Clematis

C. virginiana L. Virgin's Bower, Devil's-Darning-Needle; native.
NTK(1927) "east side clearing".

Coptis Salisb. Goldthread.

C. groenlandica (Oeder) Fern. Canker-root; native.
AFH #1606(1914); DAW #7(1968)
Very common on floor of spruce woods.

Aquilegia L. Columbine

A. vulgaris L. European Columbine; introduced from Europe.
NTK(1926) "escaped and well established by Wm. Turner's".

Actaea L. Baneberry.

A. rubra (Ait.) Willd. Red Baneberry; native.

NTK(1927) "Back of Collins' Beach".

8-7

A. pachynoda Ell. White Baneberry; native.

NTK(1920); DAW & ARH #301(1958)

Common in rich woods at northwest end
of Long Pond.

BERBERIDACEAE (Barberry Family)

Berberis L. Barberry

B. Thunbergii DC. Japanese Barberry; introduced from Asia

NTK(1917); DAW #121(1958)

Common in shrub thickets; Thorofare Village.

PAPAVERACEAE (Poppy Family)

Corydalis Medic. Corydalis

C. sempervirens (L.) Pers. Pale Corydalis; native.

NTK(1917); DAW #464(1959)

Locally frequent on ledges near the Hoskins
house, Rich's Cove.

CRUCIFERAE (Mustard Family)

Thlaspi L. Penny-Cress

- T. arvense L. Field Penny-Cress; naturalized from Europe.
NTK(1926); DAW #416(1969)
Frequent along rocky shore, Birch Point.

Iberis L. Candytuft.

- I. umbellata L. Common Annual Candytuft; introduced from Europe.
DAW & ARH #551(1969)

Locally common in filled in cellar-hole off boardwalk at Point Lookout. Apparently once cultivated and now successfully spreading as a weed.

The only record of I. umbellata from New England except for a specimen in the NEBC herbarium collected by A.S. Pease in Randolph, N.H. in 1916.

Levidium L. Pepperwort, Peppergrass.

- L. campestre (L.) R.Br. Cow-Cress; naturalized from Europe.
NTK(1916) "grassland by tennis court" (presumably at Point Lookout).

- L. densiflorum Schrad. Adventive weed.
NTK(1920) "roadside in village".

Capsella Medic. Shepherd's-Purse.

C. Bursa-pastoris (L.) Medic. Naturalized from Europe.

AFH #1228(1913); DAW #414(1969)

* Common along sandy roadside, causeway to Birch Point; not a generally common weed elsewhere on the island, however.

Cakile Hill Sea-Rocket.

C. edentula (Bigel.) Hook., var. edentula native.

AFH #1174(1913); DAW & HVP #186(1968)

Frequent along sand and gravel sea beaches.

Raphanus L. Radish.

R. Raphanistrum L. Wild Radish; naturalized from Europe.

AFH #1632(1914) "roadsides".

Brassica L. Mustard, Turnip.

B. Kaber (DC.) L. C. Wheeler, var. pinnatifida (Stokes)
L. C. Wheeler

Crunchweed; naturalized from Eurasia.

NTK(1923) "village".

B. juncea (L.) Coss. Chinese Mustard; naturalized from Europe.

AFH #1741(1914) "waste ground".

B. nigra (L.) Koch Black Mustard; naturalized from
Eurasia
AFH #1741(1914); DAW #99(1968)

Locally common around old house foundation
at Duck Harbor.

as?

B. Rapa L. Bird's Rape; naturalized from Eurasia.
NTK(1922) "club wharf" at Point Lookout.

Sisymbrium L.

S. officinale (L.) Scop., var. leiocarpum DC.
Hedge-Mustard; naturalized from Europe.

AFH #2432(1915); DAW & ARH #340(1968)

A few scattered plants in upper border of
sandy beach at Head Harbor.

S. altissimum L. Tumble-mustard; naturalized from Europe.
NTK(1917) "field above church".

Hesperis L. Rocket

H. matronalis L. Mother-of-the-Evening; introduced and
naturalized from Europe.

NTK(1921) "Sturtevant cottage", north end of
Long Pond, "persisting".

Erysimum L. Treacle-Mustard

E. cheiranthoides L. Wormseed-Mustard; naturalized from
the Old World.

NTK(1927) "east side honyard".

Rorippa Scop. Yellow Cress.

- R. sylvestris (L.) Bess. Creeping Yellow Cress;
naturalized from Europe".
NTK(1927) "weed in Mr. Whitney's garden".

- R. islandica (Ceder) Borbas, var. fernaldiana Butt. & Abbe
NTK(1920) "in village".

Armoracia Gaertn., Mey. & Scherb.

- A. lapathifolia Gilib. Horseradish; introduced and natural-
ized from Europe.
NTK (1928) "persisting at Sturtevant farm"
at north end of Long Pond.

Barbarea R.Br. Winter-Cress.

- B. vulgaris R.Br., var. arcuata (Opiz) Fries
Yellow Rocket; naturalized from Europe.
NTK(1926); DAW #377(1969)
Very infrequent in sandy waste places,
Thorofare Village.
var. brachycarpa Rouy & Foucaud
NTK(1921) "east side shore path".

Cardamine L. Bitter Cress.

- C. pensylvanica Muhl. native.
NTK(1919) "spring near Collins' Beach".

SARRACENIACEAE (Pitcher-Plant Family)

Sarracenia L. Pitcher-plant.

S. purpurea L. Pitcher-plant; native.
AFH #1208(1913); DAW-J.A.&T.T.#158(1968)
Very common in sphagnum bogs.

DROSERACEAE (Sundew Family)

Drosera L. Sundew.

D. intermedia Hayne native.
DAW-J.A.&T.T. #149(1968)
Common in Great Meadow Bog.

D. rotundifolia L., var. rotundifolia
Round-leaved Sundew; native.
AFH #1193(1913); DAW #180(1968)
Very common in sphagnum bogs and along streams.

CRASSULACEAE (Orpine Family)

Sedum L. Stonecrop, Orpine.

S. Rosae (L.) Scop. Roseroot; native.
AFH #1631(1914) "rocky headland beaches
near Duck Harbor".

SAXIFRAGACEAE (Saxifrage Family)

Ribes L. Currant, Gooseberry

R. hirtellum Michx., var. hirtellum Gooseberry; native.

AFH #2430(1915); DAW & ARH #542(1969)

Common along rocky shore, Horseman's Point.

var. calcicola Fern. Gooseberry; native.

NTK(1919); DAW #67(1968)

Common in shrubby area above Boom Beach
and at Birch Point.

R. lacustre (Pers.) Poir. Bristly Black-Currant; native.

NTK(1919) "rich valley back of Shark's Cove".

R. glandulosum Grauer Skunk-Currant; native.

AFH #1608(1914); NTK(1919)(1920);
DAW #366(1969)

Frequent in rich woods at northwestern end
of Long Pond.

R. triste Pall. Red Currant; native.

NTK(1925) "rocky shore near Wigger Head".

R. sativum Syme Garden-Currant; native.

NTK(1919) "beyond Barter's Creek -- shore".

HAMAMELIDACEAE (Witch-hazel Family)

Hamamelis L. Witch-hazel.

H. virginiana L., var. virginiana native.

AFH #2417(1915); NTK(1925); DAW #40(1968)

Frequent at edges of spruce woods.

ROSACEAE (Rose Family)

Spiraea L. Spiraea

S. latifolia (Ait.) Borkh., var. latifolia Meadow-sweet;
native.

NTK(1917); DAW #142(1968)

Common in low grounds and moist thickets.

S. tomentosa L. Hardhack, Steeple-bush; native.

AFH #1151(1913); DAW #161(1968)

Common in sterile ground, fields, and
roadsides.

S. Bumalda Burvenich, cv. Anthony Waterer
Anthony Waterer's Spiraea; an escape
from cultivation.

DAW & ARH #279(1968)

Spreading from cultivation on old Damon
property, Thorofare Village.

Pyrus L.P. Malus L.

Apple; native.

NTK(1919); DAW #113(1968)

Frequent in scattered localities, usually in the vicinity of abandoned farms and old houses. Persisting from cultivation, though apparently not spreading; no seedlings were seen.

P. floribunda Lindl.

Purple Chokeberry; native.

AFH #1716(1914); NTK(1916); DAW #47(1968)

Frequent in shrubby border of Clyde's Field, Thorofare Village.

P. melanocarpa (Michx.) Willd. Black Chokeberry; native.

AFH #1188(1913); DAW & ARH #255(1968)

Infrequent on northwestern slopes of Mt. Champlain.

P. americana (Marsh.) DC. American Mountain-Ash; native.

AFH #1737(1914); DAW #469(1969)

Infrequent in woods. One small tree just off road at Head Harbor.

P. decora (Sarg.) Hyland

Mountain-Ash; native.

NTK(1917)(1926); DAW #244(1968)

One tree near Town Landing, possibly planted.

P. Aucuparia (L.) Gaertn. European Mountain-Ash; introduced from Europe.

DAW #387(1969)

Infrequent on Birch Point, probably originally planted.

Amelanchier Medic. Juneberry, Shadbush.

A. stolonifera Wieg. native.

AFH #1700(1914) "rocky woods; slopes of
Mt. Sawyer".
NTK(1919) "east side".

A. arborea (Michx.f.) Fern. native.

NTK(1919) "lookout Point".

A. laevis Wieg. native.

NTK(1919); DAW #41(1968)

Common in shrub border of bog at Moore's
Harbor.

A. Bartramiana (Tausch) Roemer X A. laevis Wieg.
native hybrid.

(= A. X neglecta; G.K.Jones, Ill. Biol. Mon. xx.No.2,(1946).

AFH #1614(1914) "cool, moist woods, head of
Long Pond".

Crataegus L. Hawthorn.

C. chrysocarpa Ashe native.

DAW & ARH #540(1969)

Infrequent in shrub border of meadow at
Duck Harbor.

C. Jonesae Sarg. native.

NTK(1932); DAW #125(1968); DAW & ARH #498(1969)

Common around Old Cove, near shore.

C. macrosperma Ashe native.

NTK(1919); DAW #435(1969)

Frequent on banks at head of Rich's Cove.

C. succulenta; Link native.

NTK(1917); DAW & ARH #500(1969)

Frequent around Old Cove, near shore.

Fragaria L. Strawberry

F. virginiana Duchesne, var. virginiana Strawberry; native.

AFH #1643(1914); DAW #13(1968)

Common in fields, along roadsides, and at the edges of woods.

var. terrae-novae (Rydb.) Fern. & Wieg.

Strawberry; native.

NTK(1919) "off east side road".

F. X Ananassa Cultivated Strawberry; escape from cultivation.

NTK(1920) "field at Sturtevant farm, persisting".

Potentilla L. Cinquefoil, Five-finger.

P. tridentata Ait. Three-toothed Cinquefoil; native.

NTK(1906); DAW #28(1968)

Common in dry open soils.

forma aurora Graustein native.

Jeannette Graustein (1931) Type Specimen.
Rhodora 33:211 "Field by coast, one-half
mile north of Post Office."

P. palustris (L.) Scop., var. villosa (Pers.) Lehm.
Marsh Five-finger; native.
NTK(1928) "Head Harbor, swamp back of
Ulysses Grant's".

P. argentea L. Silvery Cinquefoil; naturalized from
Europe.
AFH #3049(1918); NTK(1920) "village, at
schoolhouse door."

P. pectinata Raf. native.
NTK(1918) "Barter's Creek region".

P. norvegica L., var. norvegica native.
AFH #1160(1913); DAW & ARH #346(1968)
Frequent in open areas, and along roadsides
and shores.

P. canadensis L. native.
NTK(1919) "south end near Head Harbor".

P. simplex Michx., var. simplex Old-field Cinquefoil;
native.
NTK(1920); DAW #12(1968)
Very common in meadows and along roadsides.
var. calvescens Fern. native.
AFH #1683(1914) "sandy roadsides".

P. Egedei Wormsk., var. groenlandica (Tratt.) Polunin
native.
DAW #403(1969)
Frequent on exposed headlands, Eastern Head.

Filipendula Mill.

- F. Ulmaria (L.) Maxim. Queen-of-the-Meadow; introduced
from Europe.
NTK(1921) "escaped by village street".
DAW #433(1969) Spreading from cultivation in
dooryard at Miss Ava Rich's, Rich's Cove.

Geum L. Avens.

- G. aleppicum Jacq., var. strictum (Ait.) Fern. native.
NTK(1920) "back of Collins' Beach".

Rubus L. Bramble.

- R. pubescens Raf. native.

AFH #1611(1914) "cool moist woods".

- R. idaeus L., var. strigosus (Michx.) Maxim. Raspberry; native.
AFH #1261(1913) "pasture land, Long Pond".

var. heterolasius Fern. Raspberry; native.

NTK(1919) "near club wharf" (presumably at
Point Lookout).

var. canadensis Richards. Raspberry; native.

NTK(1917); DAW #68(1968); DAW & ARH #512(1969)

Frequent along shore near Rich's Cove and
in weedy upper beach area at Boom Beach.

- R. recurvicaulis Blanch. Blackberry; native.

NTK(1917) "near Dickson cottage".

NTK(1918) from "club" (at Point Lookout)
"to Devil's Den".

R. recurvicaulis Blanch. X R. setosus Bigel. native hybrid.
(= R. arcuans Fern. & St. John)

See Rhodora 65: 262-270 and Rhodora 68: 474-513.
NTK(1920) "west side roadsides".

R. hispidus L., var. hispidus native.

AFH #1725(1911); DAW & ARH #291(1968)

Common in moist spruce woods near Eli's Creek.

R. setosus Bigel. X R. allegheniensis Porter native hybrid.
(= R. scleratus Brain.)

See Rhodora 68: 474-513.

NTK(1922) "Sturtevant farm".

R. semisetosus Blanch. ?? native.

DAW #21(1968)

Frequent along sandy roadsides at Moore's Harbor. Identification questionable, no primocains collected.

R. canadensis L. Smooth Blackberry; native.

NTK(1918) "roadside near Devil's Den".

R. allegheniensis Porter, var. allegheniensis
Sow-test Blackberry; native.

NTK(1918); DAW #171(1968)

Frequent along southern shore of Long Pond.

R. frondosus Bigel. native.

NTK(1919) "Sheep Thief region".

R. pensilvanicus Poir. native.

NTK(1922) "field near outlet of Lake" (Long Pond).

Dalibarda Kalm False Violet

D. repens L. Robin-run-away; native.

NTK(1918) "near Shark's Cove".

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Rosa L. Rose

R. nitida Willd. native.

AFH #1659(1913); DAW & ARH #288(1968)

Infrequent in moist spruce woods near
Eli's Creek.

R. virginiana Mill. native.

NTK(1917); DAW #69(1968)

Common in weedy field above Boom Beach.

R. rugosa Thunb. introduced and naturalized from east Asia.

DAW #86(1968)

Infrequent at Robinson Point in rock
crevices along shore.

Prunus L. Plum, Cherry.

P. maritima L. Beach-Plum; native.

NTK(1920) "across road from the Strong's".

P. pensylvanica L.f. Bird-Cherry, Pin-Cherry; native.

Frequent in thickets in Thorofare Village.

P. virginiana L. Choke-Cherry; native.

AFH #2427(1915); DAW & HVP #202(1968)

Frequent in thickets in Thorofare Village.

LEGUMINOSAE (Pulse Family)

Lupinus L. Lupine.

L. polyphyllus Lindl. introduced and naturalized from
northwestern America.

NTK(1921) "Sturtevant cottage at the Lake".

Trifolium L. Clover.

T. arvense L. Old-field Clover; naturalized from Europe.

NTK(1917) "village".

T. pratense L. Red Clover; naturalized from Europe.

AFH #1671(1914) "fields near Moore's Harbor".

forma pilosum (Griseb.) Hayek

DAW #163(1968)

Common in grassy area beside firehouse,
Thorofare Village.

T. repens L. White Clover; introduced and naturalized
from Europe.

DAW #217(1968)

Very common along roadsides in Thorofare Village.

T. hybridum L., var. elegans (Savi) Boiss.

Alsike Clover; naturalized from Europe.
NTK(1927) "Birch Point".

T. agrarium L. Yellow or Hop Clover; naturalized from
Europe.

AFH #1648(1914); DAW #111(1968)

Common around old Damon property; Thorofare
Village.

T. procumbens L. Low Hop-Clover; naturalized from Europe.

KF (1909); AFH #1670(1914); DAW #162(1968)

Common along roadway to Clyde's Field,
Thorofare Village.

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Medicago L. Medick.

M. lupulina L. Black Medick, Nonesuch; naturalized from
Europe.

NTK(1917) "causeway to Birch Point".

Vicia L. Vetch.

V. angustifolia Reichard, var. segetalis (Thuill.) W.D.J. Koch
Common Vetch; naturalized from Europe.

NTK(1921) "Birch Point along shore".

V. Cracca L., Tufted Vetch; naturalized from Europe.

NTK(1927); DAW #52(1968)

Very common in Clyde's Field, Thorofare
Village.

Lathyrus L. Vetchling, Wild Pea.

L. japonicus Willd., var. glaber (Ser.) Fern.
Beach-Pea; native.

NTK(1920); DAW #8(1968)

Very common on saline shores.

var. bellitus Fern. Beach-Pea; native.

AFH #1180(1913) "edge of pebbly beach,
Moore's Harbor.

L. palustris L., var. pilosus (Cham.) Ledeb.
Vetchling; native.

AFH #1167(1913) "open field near shore,
Moore's Harbor."

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LINACEAE (Flax Family)

Linum L. Flax.

L. usitatissimum L. Common Flax; introduced from Europe.

AFH #3061(1918) "gravelly roadsides, road
to Long Pond".

OXALIDACEAE (Wood-Sorrel Family)

Oxalis L. Wood-Sorrel, Lady's Sorrel.

O. montana Raf. Common Wood-Sorrel; native.

DAW #80(1968)

Common at edges of spruce woods.

O. europaea Jord., var. europaea native.

NTK(1917) "Rich's Cove region".

forma cymosa (Small) Wieg.

DAW #215(1968); DAW & ARH #505(1969)

Common in grassy area above shore at Old
Cove. Also a frequent weed of moist
roadsides in Thorofare Village.

GERANIACEAE (Geranium Family)

Geranium L. Cranesbill.

G. Bicknellii Britt. native.

ATH #1607(1914) "road to Long Pond".

G. molle L. Dovesfoot-Cranesbill; adventive from Europe.

NTK(1915) "foot of masonry steps,
E.W.B. cottage".

G. Robertianum L. Herb-Robert; native.

NTK(1917); DAW & ARH #300(1968)

Infrequent in rich woods at northwestern
end of Long Pond.

POLYGALACEAE (Milkwort Family)

Polygala L. Polygala, Milkwort.

P. sanguinea L. native.

NTK(1928) "field at Rich's Cove."

EUPHORBIACEAE (Spurge Family)

Euphorbia L. Spurge.

E. Cynariassias L. Cypress Spurge; introduced and
naturalized from Europe.

NTK(1931); DAW #117(1968)
Locally very common in abandoned yard of old
Damon property, also escaping from Turner
Cemetery, Thorofare Village.

E. Peplus L. Petty Spurge; naturalized from Europe.
NTK(1917) "chance weed in bungalow garden".

EMPETRACEAE (Crowberry Family)

Empetrum L. Crowberry

E. nigrum L. Black Crowberry; native.
KF(1909); DAW #96(1968)
Frequent on rocky shores and headlands.

Corema D. Don Broom-Crowberry.

C. Conradii Torr. Poverty-grass; native.
AFH #1299(1913); DAW & ARH #254(1968)
Frequent on rocky summits of Mt. Champlain
and Black Dina.

ANACARDIACEAE (Cashew Family)

Rhus L. Sumac, Poison Ivy.

R. typhina L. Staghorn-Sumac; native.
AFH #1600(1914); DAW & ARH #318(1968)
Infrequent at edge of field at northern
end of Long Pond.

R. radicans L., var. radicans Poison Ivy; native.
NTK(1919); DAW #462(1968)
Frequent along rocky shores at Boom Beach
and at Eastern Head near Thunder Gulch.

AQUIFOLIACEAE (Holly Family)

Ilex L. Holly

- I. verticillata (L.) Gray, var. verticillata
Black Alder, Winterberry; native.
NTK(1918); DAW #122(1968)

Very common in shrub thickets in Thorofare Village.

- I. glabra (L.) Gray Inkberry; native.

NTK(1922) "Great Meadow" Rhodora 25:147-148.

DAW & ARH #525 (1969) In Great Meadow Bog. Many scattered clumps covering an area of about fifty by seventy-five feet. Growing in association with Pinus rigida. This is the only known place where I. glabra occurs between Seabrook, N.H. (Rhodora 57:34-36) and Nova Scotia.

Nemopanthus Raf. Mountain-Holly.

- N. mucronata (L.) Trel. native.

ARH #1190(1913); DAW #381(1969)

Frequent shrub of thickets and edges of woods.

CELASTRACEAE (Staff-tree Family)

Celastrus L. Staff-tree. Shrubby Bittersweet.

- C. orbiculatus Thunb. Introduced and naturalized from east Asia.
DAW & ARH #274 (1968)

Common on old Damon property, Thorofare Village.

ACERACEAE (Maple Family)

Acer L. Maple.

A. spicatum Lam. Mountain-Maple; native.

AFH #1610(1914); DAW #38(1968)

Frequent in moist woods.

A. pensylvanicum L. Striped-Maple, Moosewood; native.

AFH #1199(1913); DAW #2(1968)

Frequent in moist woods.

A. saccharum Marsh. Sugar-Maple; native.

NTK(1915); DAW & ARH #310(1968)

Common in rich woods at northwestern end of Long Pond; very infrequent elsewhere on the island.

A. rubrum L., var. rubrum Red-Maple; native.

AFH #1217(1913); NTK(1921); DAW #472(1969)

Common in swampy woods.

forma tomentosum (Desf.) Dansereau native.

DAW #17(1968)

Frequent in swampy woods.

var. trilobum K.Koch native.

NTK(1922); DAW #473(1969)

Frequent in swampy woods, particularly around Rich's Cove.

BALSAMINACEAE (Touch-me-not Family)

Impatiens L. Touch-me-not, Jewelweed.

I. capensis Moench. Spotted Touch-me-not; native.

AFH #1231(1913); DAW #178(1968)

Frequent in wet places, stream sides, and moist roadside ditches.

VITACEAE (Vine Family)

Parthenocissus Planch. Virginia Creeper, Woodbine.

P. quinquefolia (L.) Planch. native.

NTK(1922)(1933) "old cellar hole".

P. inserta (Kerner) K.Fritsch native.

DAW #410(1969)

Locally common climbing on old apple trees
between church and Clyde's Field, Thorofare
Village. Infrequent elsewhere on the island.

GUTTIFERAE (St. John's-wort Family)

Hypericum L. St. John's-wort.

H. perforatum L. Common St. John's-wort; naturalized from
Europe.

AFH #1147(1913); DAW #50(1968)

Very common weed of dry meadows and roadsides.

H. boreale (Britt.) Bickn. native.

KF(1909) "Isle au Haut".

H. mutilum L., var. parviflorum (Willd.) Fern. native.

AFH #1758(1914) "wet ground by roadside".

H. majus (Gray) Britt. native.

AFH #1757(1914) "muddy roadsides".

H. canadense L.

native.

KF(1909); DAW & ARH #256 (1968)

Common in moist (but quick drying) depressions
on the summit of Mt. Champlain

H. dissimulatum Bickn.

native.

NTK(1923); DAW #488(1969).

Common in moist ground around Long Pond
outlet.

H. gentianoides (L.) BSP Orange-grass, Pineweed; native.

NTK(1925) DAW & ARH #536(1969)

Infrequent on top of Duck Harbor Mountain.

H. virginicum L., var. virginicum Marsh St. John's-wort;
native.

AFH #1265(1913) "swampy ground at head of
Long Pond.

var. Fraseri (Spach) Fern. native.

KF(1909); DAW #173(1968)

Common in rich, moist soil at southern end
of Long Pond.

ELATINACEAE (Waterwort Family)

Elatine L. Waterwort.

E. americana (Pursh) Arn.

native.

NTK(1919) "sand by edge of Pond near outlet".

CISTACEAE (Rockrose Family)

Hudsonia L. Hudsonia

H. tomentosa Nutt., var. intermedia Peck
Beach-Heath, Poverty Grass; native.
NTK(1919) Place of collection unknown.

Lechea L. Pinweed.

L. intermedia Loggett, var. intermedia native.

DAW & ARH #322(1968)

Frequent in dry sterile soil.

var. juniperina (Dickm.) Robins. native.

NTK(1927) "roadside, east side" (of island).

No plants of this variety were collected, or seen, on Isle au Haut in 1968-69. Only the typical variety currently seems to be present on the island.

VIOLACEAE (Violet Family)

Viola L. Violet

V. cucullata Ait. native.

KF(1909); DAW #3(1968)

Common along stream banks.

V. septentrionalis Greene native.

NTK(1919)(1920); DAW #379(1969)

Common in moist spruce woods.

V. fimbriatula Sm. native.

NTK(1919) "Seal Trap, near old wall".

V. pallens (Banks) Brainerd native.

KF(1909); DAW & ARH #290(1968)

Very common in moist spruce woods.

V. incognita Brainerd, var. incognita native.

AFH #1194(1913) "wet boggy woods, Hackmatack Swamp".

var. Forbesii Brainerd native.

DAW & ARH #328(1968)

Common in rich woods at northwestern end of Long Pond.

V. blanda Willd. native.

NTK(1919) "west side" (of island).

V. lanceolata L. Lance-leaved Violet; native.

DAW #10(1968)

Frequent in moist meadow at Duck Harbor.

V. primulifolia L., var. acuta (Bigel.) T.&G. native.

NTK(1919) "main road, last slope to Rich's Cove".

LYTHRACEAE (Loosestrife Family)

Decodon J.F.Gmel. Swamp-Loosestrife.

D. verticillatus (L.) Ell., var. laevigatus T.&G.

Water-willow, Water-oleander; native.
AFH #1197(1913) "Hackmatack Swamp".

ONAGRACEAE (Evening-Primrose Family)

Epilobium L. Willow-herb

- E. angustifolium L., var. angustifolium
Great Willow-herb; Fireweed; native.
AFH #1224(1913); DAW #241(1968)

Very infrequent in disturbed areas, only one clump of four large plants seen in blow-down area at Shark's Point.

- E. strictum Muhl. native.

NTK(1918) "back of cellar hole, edge of woods, beyond village".

- E. leptophyllum Raf., forma umbrosum (Haussk.) Fern. native.

AFH #1599(1914) "moist places in clearings".

- E. palustre L., var. oliganthum (Michx.) Fern. native.

NTK(1920) "tussock in marsh along road to the Cliffs".

- E. coloratum Biehler native.

NTK(1917) "village".

- E. glandulosum Lehm., var. adenocaulon (Haussk.) Fern. native.

DAW #218(1968)

Frequent weed of damp roadsides and rocky shores.

Oenothera L. Evening-Primrose.

- O. biennis L., var. biennis native.

Wm. Stevens #492 (1969)

Infrequent around Head Harbor.

O. parviflora L. native.

AFH #2426 (1915) "Duck Harbor".

O. perennis L. native.

NTK(1916); DAW & ARH #272(1958)

Locally frequent in dry, open, sandy soils, especially near sand pits east of Coombs Cemetery and alongside old Damon property, Thorofare Village.

Circaea L. Enchanter's Nightshade.

C. alpina L. native.

DAW #423(1969)

Common in moist woods at northwestern end of Long Pond.

ARALIACEAE (Ginseng Family)

Aralia L.

A. hispida Vent. Bristly Sarsaparilla; native.

AFH #1732(1914); DAW #139(1958)

Infrequent along dry, sandy roadsides.

A. nudicaulis L. Wild Sarsaparilla; native.

AFH #1731(1914); DAW & ARH #309(1958)

Frequent in rich woods at northwestern end of Long Pond, infrequent elsewhere on the island.

UMBELLIFERAE (Parsley Family)

Hydrocotyle L. Water-Pennywort.

H. americana L. native.

*NTK(1920) "wood path back of C.D. Turner's stable".

Cicuta L. Water-Hemlock.

C. maculata L. Spotted Cowbane; native.

AFH #1244(1913) "swampy meadow at head of Long Pond."

Carum L. Caraway.

C. Carvi L. Caraway; native.

DAW #382(1969)

Common along shore of Thorofare north of Robinson's Point.

Ligusticum L. Lovage.

L. scothicum L. Scotch Lovage; native.

AFH #1152(1913); DAW #415(1969)

Frequent along rocky shores.

Coelonleureum Ledeb.

C. lucidum (L.) Fern. native.

AFH #2400(1915); DAW #65(1968)

Frequent along eastern shore of Moore's Harbor in rock crevices.

Heracleum L. Cow-parsnip.

H. maximum Bartr.

Masterwort; native.

NTK(1926); DAW #406(1969)

Head of Rich's Cove. Locally common in low
ground at edge of meadow.

Daucus L. Carrot.

D. Carota L. Wild Carrot, Queen Anne's-Lace;
naturalized from Europe.

NTK(1917); DAW #466(1969)

Very infrequent at Head Harbor.

CORNACEAE (Dogwood Family)

Cornus L. Cornel, Dogwood.

C. canadensis L. Dwarf Cornel, Bunchberry; native.

AFH(1914); DAW #20(1968)

Common ground cover plant of spruce forest
floor.

C. stolonifera Michx.

Red Osier; native.

NTK(1923) "escaped to roadside opposite
Miss Damon's". Not present in 1958-59.

C. alternifolia L.f.

Pagoda-Dogwood; native.

NTK(1925) "by Dixon cottage".

PYROLACEAE (Wintergreen Family)

Chimaphila Pursh Pipsissewa.

- C. umbellata (L.) Bart., var. cisatlantica Blake
Prince's Pine, Pipsissewa; native.
NTK(1920) "rich woods, north end of Lake".

Moneses Salisb. One-flowered Pyrola.

- M. uniflora (L.) Gray native.
DAW #22(1958)
Frequent in spruce woods near Eli's Creek.

Pyrola L. Pyrola, Wintergreen, Shinleaf.

- P. secunda L. One-sided Pyrola; native.
NTK(1919)(1923) "path from Sturtevant farm
to Turner's Meadow (Great Meadow Bog)".
- P. virens Schweigger, forma paucifolia Fern. native.
NTK(1917) "off south road".
- P. elliptica Nutt. Shinleaf; native.
NTK(1929); DAW #458(1959)
Frequent in dry woods, east shore of Long Pond.
- P. rotundifolia L., var. americana (Sweet) Fern.
Wild Lily-of-the-Valley; native.
NTK(1931) "near Revere Library", Thorofare
Village.

Monotropa L. Indian-pipe.

M. uniflora L. Indian-pipe; native.

AFH #2413(1915); DAW #181(1968)

Frequent in spruce woods.

M. Hyponithys L. Pinesap; False Beech-drops; native.

NTK(1930) "back of Sturtevant farm".

ERICACEAE (Heath Family)

Ledum L. Labrador-tea.

L. groenlandicum Oeder native.

AFH #3044(1918); DAW #19(1968)

Very common in Great Meadow Bog.

Rhododendron L. Rhododendron.

R. canadense (L.) Torr. Rhodora; native.

A.A.Brooks(1900); KF(1909); DAW & ARH #250(1968)

Frequent on dry, rocky western slope of
Mt. Champlain.

Kalmia L. Laurel.

K. angustifolia L. Sheep-laurel; native.

AFH #1195(1913); DAW #36(1968)

Very common in dry sterile soils and barrens.

K. polifolia Wang.

Bog-Laurel; native.

AFH #1588(1914) "sphagnum bog at head of
Moore's Harbor".

Chamaedaphne Moench Leather-leaf, Cassandra.

C. calyculata (L.) Moench, var. angustifolia (Ait.) Rehd.

native.

(=Cassandra calyculata(L.) D. Don, var. angustifolia (Ait.) Rehd.

AFH #1196(1913); DAW #419(1969)

Very common in Hackmatack Swamp near Rich's
Cove.

Gaultheria L. Creeping Snowberry.

G. procumbens L. Teaberry, Checkerberry; native.

NTK(1917); DAW & ARH #248(1958)

Common on western slope of Mt. Champlain.

G. hispidula (L.) Bigel. Creeping Snowberry; native.

AFH #2414(1915); DAW & ARH #293(1958)

Infrequent on floor of spruce woods.

Arctostaphylos Adans. Bearberry.

A. Uva-ursi (L.) Spreng., var. coactilis Fern. & Mack.

AFH #1749(1914); DAW #483(1969).

Locally common on rocky slopes and summit
of Duck Harbor Mountain.

Gaylussacia HBK Huckleberry.

G. dumosa (Andr.) T.&G, var. Bigeloviana Fern.
Dwarf Huckleberry; native.

DAW-J.A.&T.T. #156(1968)

Very common in Great Meadow Bog.

G. baccata (Wang.) K.Koch Black Huckleberry; native.

DAW #18(1968)

Ubiquitous shrub of dry woods, thickets, and clearings. One of the most common shrubs on Isle au Haut.

Vaccinium L. Blueberry. Cranberry.

V. myrtilloides Michx. Sour-top Blueberry; native.

AFH #2408(1915) "dry open woods and fields".

NTK(1918) "near Moore's Harbor".

V. angustifolium Ait., var. angustifolium
Low Sweet Blueberry; native.

DAW #129(1968)

Very common in dry open barrens and at edges of spruce woods.

var. laevifolium House native.

AFH #1164(1913) "fields and pastures, Moore's Harbor".

var. nigrum (Wood) Dole native.

NTK(1918) "west side road".

V. corymbosum L., var. albiflorum (Hook.) Fern.
Highbush Blueberry; native.

NTK(1920) "near Miss Barter's cottage".

V. Vitis-Idaea L., var. minus Lodd. Mountain Cranberry;
AFH #1756(1914); DAW & HVP #197(1968) native.

Very common in dry, sphagnum covered soil
near tip of Western Head.

V. Oxycoccus 'L.' Small Cranberry; native.
NTK(1917) "Hackmatack Swamp".

V. macrocarpon Ait. Large or American Cranberry; native.
AFH #1279(1913); DAW #106(1968)

Very common in bog off road between Head
Harbor and Merchant's Cove.

PRIMULACEAE (Primrose Family)

Lysimachia L. Loosestrife.

L. quadrifolia L. Whorled Loosestrife; native.
AFH #1613(1914); DAW #94(1968)

Frequent along dry, sandy roadsides.

L. X producta (Gray) Fern. native hybrid.

NTK(1925) "Rich's Old Cove to hayfield".

Hybrid of L. quadrifolia L. and L. terrestris
(L)BSP

L. terrestris (L.) BSP, var. terrestris
Yellow or Swamp Loosestrife; native.

KF(1909); DAW #176(1968)

Frequent in moist soil at edge of Long Pond.

Trientalis L. Chickweed-wintergreen.

T. borealis Raf. Star-flower; native.

AFH #1206(1913); DAW #5(1968)

Very common ground cover plant of spruce
forest floor.

Glaux L. Sea-Milkwort.

G. maritima L., var. maritima native.

NTK(1923); DAW & ARH #353(1968); DAW #430(1969)

Very common in upper salt marsh area at
Merchant's Cove and along shore of the Seal
Trap.

var. obtusifolia Fern. native.

AFH #1738(1914) "pebbly beach, Duck Harbor".

PLUMBAGINACEAE (Leadwort Family)

Limonium Mill. Sea-Lavender. Marsh-Rosemary.

L. Nashii Small native.

AFH #1227(1913); DAW #390(1969); DAW #486(1969)

Common on shore near causeway to Birch Point
and near Rich's Cove.

OLEACEAE (Olive Family)

Fraxinus L. Ash.

F. americana L., var. americana White Ash; native.

AFH #1736(1914), #2415(1915);
NTK(1917)(1918)(1920)(1932)
DAW #137(1968)

Many of the above specimens in the NEBC herbarium have glabrous twigs but pubescent rachises and petiolules and may represent hybrids of F. americana X F. pennsylvanica (Seymour, 1969, p. 440).

Frequent in spruce woods, edges of woods, and roadsides. More common on eastern side of the island.

F. pennsylvanica Marsh., var. subintegerrima (Vahl) Fern.
Green Ash; native.

NTK(1927) "Rich's Cove".

Syringa L. Lilac.

S. vulgaris L. Common Lilac; introduced from Europe.

NTK(1919); DAW #110(1968)

Escaping from cultivation on old Damon property and around cemeteries.

Ligustrum L. Privet.

L. amurense Carr. Amur Privet; introduced and naturalized from northeast Asia.

DAW & ARH #516, #517(1969)

Locally common escape around church, Thorofare Village.

GENTIANACEAE (Gentian Family)

Bartonia Muhl.

B. virginica (L.) BSP native.

*NTK(1923) See Rhodora 25:147. "I found only two plants in a moist cleft of rock on a lesser hill".

B. paniculata (Michx.) Muhl., var. intermedia Fern.
native.

(= B. paniculata (Michx.) Muhl., var. iodandra (Robinson) Fern.)
See Seymour, 1969.

NTK(1922) "one small plant in the Great Meadow Bog", see Rhodora 25:147-148.

DAW & ARH #526(1969). Again only one small plant was found in the Great Meadow, reconfirming the persistence of this variety of Bartonia paniculata on Isle au Haut since 1922.

This station still remains the only one known between Nova Scotia and the Blue Hills, Mass. (Rhodora 23:287; Rhodora 25:148; Seymour, 1969, p.444)

Nymphoides Hill Floating-heart.

N. cordata (Ell.) Fern. native.

NTK(1927); DAW & ARH #320(1968)

Very common in Long Pond, especially at its northern end.

APCCYNACEAE (Dogbane Family)

Apocynum L. Dogbane. Indian Hemp.

A. androsaemifolium L.

Spreading Dogbane; native.

AFH #1717(1914); DAW & ARH #519(1969)

Locally common in Small Cemetery near Rich's Cove.

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ASCLEPIADACEAE (Milkweed Family)

Asclepias L. Milkweed.

A. incarnata L., var. nulchra (Ehrh.) Pers.

Swamp-Milkweed; native.

DAW #159(1968).

Very common locally in moist meadow across from Kennedy's, Thorofare Village, and along the roadside near Rich's Cove. It appears to be spreading; possibly a recent introduction to the island.

CONVOLVULACEAE (Convolvulus Family)

Convolvulus L. Bindweed.

C. sepium L., var. sepium Wild Morning-glory; native.

NTK(1920); DAW #427(1968)

Infrequent along shores.

Cuscuta L. Dodder

C. Gronovii Willd.

native.

KF(1909); DAW & HVP #225(1968)

Very common at Boom Beach.

BORAGINACEAE (Borage Family)

Myosotis L. Forget-me-not.

M. sylvatica Hoffm. Garden Forget-me-not; introduced from Europe.
NTK(1932) "escaped from cultivation at bungalow".

M. arvensis (L.) Hill naturalized from Europe.
NTK(1920) "escaped from cultivation at Bowditch bungalow".

Mertensia Roth Lungwort.

M. maritima (L.) S.F.Gray Sea-Lungwort; native.
DAW #456(1969)

Very infrequent along shores. Only a few depauperate plants seen at Barred Harbor.

VERBENACEAE (Vervain Family)

Verbena L. Vervain.

V. hastata L. Blue Vervain; native.
NTK(1921) "near old hotel site", east side of island.

LABIATAE (Mint Family)

Teucrium L. Germander.

T. occidentale Gray, var. boreale (Bickn.) Fern. native.

NTK(1932); DAW & HVP #229 (1968)

Very common on rocky upper beach, Boom Beach.
Frequent along shores elsewhere.

Scutellaria L. Skullcap.

S. lateriflora L. Mad-dog Skullcap; native.

NTK(1918) "lane on west side road before
Robinson's."

S. epilobifolia A. Hamilton Common Skullcap; native.

DAW #88(1968)

Very common on upper rocky beach, Thorofare
Village side of Robinson Point.

Nepeta L. Catmint.

N. Cataria L. Catnip; naturalized from Europe.

NTK(1921) "by old Barter House".

Glechoma L. Ground-Ivy.

G. hederacea L., var. hederacea Gill-over-the-ground;
naturalized from Europe.

NTK(1919) "Head Harbor".

var. micrantha Moricand naturalized from Europe.

NTK(1925) "Sturtevant farm" (at northern end of Long Pond).

DAW #480(1969). Common in lawns around farm at northern end of Long Pond. This specimen was not in flower; it is presumed to be the more common var. micrantha, though it may prove to be the typical variety.

Prunella L. Selfheal.

P. vulgaris L., var. lanceolata (Bart.) Fern. Heal-all;
AFH #1602(1914); DAW #72(1968) native.
Common roadside weed.

forma iodocalyx Fern. native.
NTK(1917) "village".

Leonurus L. Motherwort.

L. Cardiaea L. Common Motherwort; naturalized from Europe.
NTK(1930) "Rich's Cove".

Galeopsis L. Hemp-Nettle.

G. Tetrahit L., var. bifida (Boenn.) Lej. & Court.
naturalized from Europe.
AFH #1155(1913); NTK(1925); DAW #100(1968)
Frequent weed of waste places, roadsides,
and weedy fringes of shores.

Hedeoma Pers. Mock Pennyroyal.

H. pulegioides (L.) Pers. Pennyroyal; native.

AFH #1276(1913); DAW & ARH #270(1968)

Very common in moist grassy area off road
alongside old Damon property, Thorofare
Village.

Lycopus L. Water-Horehound. Bugleweed.

L. uniflorus Michx. native.

AFH #1191(1913); DAW #140(1968)

Frequent weed of sandy roadsides, especially
around Moore's Harbor.

L. americanus Muhl. native.

AFH #1753(1914) "wet roadside ditches".

Mentha L. Mint.

M. piperita L. Peppermint; introduced from Europe.

NTK(1920) "Barred Harbor, near old house site".

M. cardiaca Baker introduced from Europe.

NTK(1921) "by old cellar hole".

NTK(1927) "village".

M. arvensis L., var. arvensis native.

NTK(1920) "west side, spreading near a shack".

var. villosa (Benth.) S.R.Stewart native.

AFH #1238(1913); DAW & ARH #345(1968)

Frequent in weedy fringe of beach, Head Harbor.

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SOLANACEAE (Nightshade Family)

Solanum L. Nightshade.

S. Dulcamara L. Bittersweet, Nightshade; introduced and
naturalized from Europe.

NTK(1926); DAW & HVP #227(1968)

Frequent in rock crevices, Boom Beach.

S. rostratum Dunal Buffalo-bur, Kansas-thistle;
naturalized from farther west.

NTK(1917) "by club wharf" (at Point Lookout).

SCROPHULARIACEAE (Figwort Family)

Verbascum L. Mullein.

V. Thapsus L. Common Mullein; naturalized from Europe.

AFH #1148(1913); DAW & HVP #188(1968)

Common weed of dry open places, roadsides, etc.

Linaria Mill. Toadflax.

L. vulgaris Hill Butter-and-eggs; naturalized from Europe.

NTK(1920) "by club pump house" (at Point Lookout). A wide-ranging weed notable in its absence on Isle au Haut in 1968-69.

L. canadensis (L.) Dumont Old-field Toadflax; native.

DAW #490(1969)

Very infrequent roadside weed; only a few plants seen along sandy roadside at Moore's Harbor.

Scrophularia L. Figwort.

S. lanceolata Pursh native.

NTK(1933) "cedar ledge, old garden".

Veronica L. Speedwell.

V. serpyllifolia L. Thyme-leaved Speedwell; naturalized from Europe.

NTK(1920) "Seal Trap".

V. officinalis L. Common Speedwell, Gypsyweed; native.

NTK(1920); DAW #411(1969)

Locally frequent in moist open ground behind church, Thorofare Village.

V. peregrina L., var. xalapensis (HBK.) St. John & Warren Neckweed; native.

NTK(1928) "high water line, near club landing" Point Lookout.

V. arvensis L. Corn Speedwell; naturalized from Europe.

AFH #2418(1915) "Moore's Harbor".

Melampyrum L. Cow-wheat.

M. lineare Desr., var. lineare native.

NTK(1925); DAW & ARH #249(1968)

Frequent on dry, western slopes of Mt.
Champlain.

var. americanum (Michx.) Beauverd native.

AFH #1298(1913) "wooded slope, Mt. Champlain".

Euphrasia L. Eyebright.

E. Randii Robins. native.

AFH #1750(1914) "Duck Harbor".

E. canadensis Townsend native.

NTK(1922) "by club wharf" (Point Lookout).

Odontites Ludwig.

O. serotina (Lam.) Dum. Red Bartsia; naturalized from
Europe.

NTK(1920) "rocks near Miss Burton's"

Rhinanthus L. Yellow-rattle.

R. Crista-galli L., var. Crista-galli native.

KF(1909); NTK(1924); DAW #29(1968)

Frequent weed of dry roadsides and other
dry open places.

OROBANCHACEAE (Broom-rape Family)

Epifagus Nutt. Beech-drops. Cancer-root.

E. virginiana (L.) Bart. native.

NTK(1921) "rich woods, end of Lake" (Long Pond).

LENTIBULARIACEAE (Bladderwort Family)

Utricularia L. Bladderwort.

U. geminiscapa Benj. native.

NTK(1920)(1922) "Hackmatack Pond". Rhodora 30:121

DAW #452(1959) Common in standing water in bog at source of Eli's Creek.

U. cornuta Michx. native.

NTK(1918)(1920) "west side of Lake" (Long Pond) "where brook comes in".

PLANTAGINACEAE (Plantain Family)

Plantago L. Plantain.

P. major L., var. major Common Plantain; naturalized from Europe.

DAW #144(1958)

Frequent weed of roadsides and dry open areas.

var. Pilgeri Domin native.

NTK(1918) "rocks behind Barter's Creek".

P. juncoides Lam., var. decipiens (Barneoud) Fern.
Seaside-Plantain; native variety of a
wide-ranging species.

DAW #64(1958)

Very common on rocky shores.

P. oliganthos R.&S. Seaside Plantain; native.

NTK(1927); DAW & ARH #343 (1968)

Common in salt marsh at Merchant's Cove.

P. altissima L. Adventive from Europe.

NTK(1920) "flower beds at bungalow" (Pt. Lookout).

RUBIACEAE (Madder Family)

Galium L. Bedstraw. Cleavers.

G. Aparine L. Cleavers; native.

NTK(1920); DAW #459(1969)

Frequent in rock crevices, shore of Barred
Harbor.

G. triflorum Michx. Sweet-scented Bedstraw; native.

AFH #3058(1918); DAW & ARH #506(1969)

Infrequent in grassy area above shore,
Old Cove.

G. verum L. Yellow Bedstraw; naturalized from Europe.

NTK(1922) "pasture between village school
and shore".

G. palustre L. native.

NTK(1930); DAW #71(1968)

Frequent in meadows around Head Harbor.

G. trifidum L. native.

NTK(1917)

G. tinctorium L., var. tinctorium native.

DAW & ARH #337(1968)

Mitchella L. Partridge-berry.

M. repens L. Two-eyed-berry; native.

NTK(1922) " near south end of Great Meadow".

Houstonia L.

H. caerulea L., var. caerulea Bluets, Innocence; native.

NTK(1919); DAW #16(1968)

Very common along roadsides and in meadows
and open areas.

CAPRIFOLIACEAE (Honeysuckle Family)

Diervilla Duham. Bush-Honeysuckle.

D. Lonicera Mill. native.

AFH #1701(1914); DAW & ARH #308(1968)

Frequent in rich woods at northeastern end
of Long Pond.

Lonicera L. Honeysuckle.

L. villosa (Michx.) R.&S., var. Solonis (Eat.) Fern.
Mountain Fly-Honeysuckle; native.
NTK(1919) "shore beyond lighthouse".

var. calvescens (Fern. & Wieg.) Fern. native.
NTK(1907) "swamp near Moore's Harbor".
AFH #1685(1914) "sphagnum bog, Moore's Harbor".
NTK(1918)
NTK(1919) "Point Lookout".
NTK(1920) "Yatton lot".

L. canadensis Bartr. Fly-Honeysuckle; native.
AFH #1603(1914); NTK(1918); DAW&ARH #307(1968)
Frequent in rich woods at northeastern end
of Long Pond.

Symphoricarpos Duham. Snowberry.

S. albus (L.) Blake, var. albus Snowberry; native.
DAW #118(1968)
Spreading from cultivation on old Damon
property, Thorofare Village.
var. laevigatus (Fern.) Blake Snowberry;
introduced from the Pacific
NTK(1920) "Farm No. 8" ?? slope.

Linnaea Gronov. Twinflower.

L. borealis L., var. americana (Forbes) Rehd. native.
AFH #1198(1913); DAW #79(1968)
Common in moist spruce woods just off road
near Eli's Creek. Not common elsewhere in
spruce woods, however.

Viburnum L. Arrow-wood.

V. cassinoides L. Withered, Wild-raisin; native.

DAW #39(1968)

Common at edges of spruce woods.

V. recognitum Fern. Arrow-wood; native.

NTK(1926); DAW #123(1968)

Frequent shrub of moist thickets.

Sambucus L. Elder.

S. canadensis L. Common Elder; native.

AFH #1235(1913); DAW & ARH #324(1968)

One shrub on pond side of road near Boom Beach.

S. pubens Michx. Red-berried Elder; native.

AFH #1736a(1914); DAW #372(1969)

One shrub in field off road south of Rich's Cove.

CUCURBITACEAE (Gourd Family)

Echinocystis T.&G. Wild Balsam-apple.

E. lobata (Michx.) T.&G. Wild or Prickly Cucumber; native.

NTK(1925) "Rich's Cove, cow lane".

CAMPANULACEAE (Bluebell Family)

Campanula L. Bellflower.

C. rapunculoides L. naturalized from Europe.

*NTK(1926) "escaped in village".

C. rotundifolia L. Bluebell; native.

NTK(1917); DAW & ARH #348(1968)

Infrequent on open grassy slope near road
at Head Harbor.

Lobelia L. Lobelia

L. inflata L. Indian-tobacco; native.

NTK(1929); DAW #461(1969)

Frequent in dry woods on eastern shore of
Long Pond.

L. Dortmanna L. Water Lobelia; native.

AFH(1913); DAW #165(1968)

Very common along shores of Long Pond,
growing in a few inches of water.

COMPOSITAE (Composite Family)

Eupatorium L. Thoroughwort.

E. perfoliatum L., var. perfoliatum Thoroughwort; native.

AFH #1241(1913); DAW & ARH #311(1968)

Infrequent in moist sand at northern shore
of Long Pond.

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Solidago L. Goldenrod.

S. bicolor L. White Goldenrod; native.

AFH #1213(1913); DAW & ARH #323(1968)

Frequent along sandy roadsides.

S. puberula Nutt. native.

AFH #1153(1913); DAW & ARH #283(1968)

Very common along roadsides and in clearings,
Thorofare Village.

S. sempervirens L. Seaside Goldenrod; native.

AFH #1179(1913); DAW & HVP #226(1968);
DAW #400(1969)

Common along seashores.

S. juncea Ait. native.

AFH #1266(1913) "damp meadow at head of
Long Pond.

S. uliginosa Nutt., var. linoides (T.&G.) Fern. native.

DAW & ARH #545(1969)

Frequent in Great Meadow Bog.

var. terrac-novae (T.&G.) Fern. native.

NTK(1920) "by road to Cliffs".

S. nemoralis Ait. native.

AFH #1210(1913); DAW & HVP #204(1968)

Infrequent in Clyde's Field, Thorofare Village.

S. rugosa Ait., var. villosa (Pursh) Fern. native.

AFH #1270(1913); DAW & HVP #187(1968)

One station of about a hundred plants in old cellar hole at Duck Harbor.

S. canadensis L. native.

AFH #2411(1915); DAW & HVP #204a(1968)

Infrequent in Clyde's Field, Thorofare Village.

S. graminifolia (L.) Salisb., var. Nuttallii (Greene) Fern.

AFH #1214(1913); NTK(1918); DAW & HVP #209(1968)

Common in dry sterile soil around village store, Thorofare Village.

Aster L. Aster.

A. macrophyllus L., var. macrophyllus native.

NTK(1920) "Rich's Cove".

var. velutinus Burgess native.

NTK(1920) "north end of Lake" (Long Pond).

A. cordifolius L., var. cordifolius native.

NTK(1920) "Rich's Cove".

var. polycephalus Porter native.

NTK(1920) "Rich's Cove".

8.7

A. radula Ait., var. radula native.

AFH #1300(1913) "wet mossy woods".

var. strictus (Pursh) Gray native.

AFH #3043a(1918) "rich woods, Lovers' Lane".

A. lateriflorus (L.) Britt. native.

AFH #2419(1915) "dry roadsides, Moore's Harbor.

var. tenuipes Wieg. native.

DAW & ARH #268(1968)

Common in moist grassy area off road alongside
old Damon property, Thorofare Village.

A. simplex Willd., var. ramosissimus (T.&G.) Cronq.

native.

AFH #2410(1915) "open places in woods near
Head Harbor.

A. foliaceus L. native.

DAW & ARH #444(1969)

Frequent on Eben's Head, Duck Harbor.

A. johannensis Fern. native.

NTK(1915); DAW & ARH #515(1969)

Common on rocky shore between Rich's Cove
and Old Cove.

A. novi-belgii L., var. novi-belgii native.

AFH #1744(1914); DAW #219(1968)

Infrequent in gravel pit near Coombs Cemetery; frequent along shore between Rich's Cove and Old Cove.

A. nemoralis Ait. Bog Aster; native.

AFH #2409(1915); DAW #104(1968)

Common in bog off road between Head Harbor and Merchant's Cove.

A. X Blakei (Porter) House native hybrid.

AFH #3043(1918); DAW #169(1968)

Frequent at edge of Long Pond, and near mouth of Eli's Creek.

A hybrid of A. nemoralis and A. acuminatus.

A. acuminatus Michx. native.

AFH #1166(1913); NTK(1920); DAW #183(1968)

Very common around cabin at Eli's Creek.

A. umbellatus Mill. native.

AFH #1202(1913); DAW & ARH #520(1969)

Common along shore of the Thorofare.

Erigeron L. Fleabane.

E. strigosus Muhl., var. strigosus Daisy-Fleabane; native.

AFH #1752(1914); NTK(1921); DAW #164(1968)

Infrequent in dry, sandy soil around firehouse, Thorofare Village.

E. canadensis L. Horse-weed, Hog-weed, Butter-weed;
 native.
 NTK(1917) "village -- rare".

Antennaria Gaertn. Everlasting. Ladies-tobacco.
 Pussy's-toes.

A. canadensis Greene native.

AFH #2405 (1915); NTK(1919); DAW #368(1969)

Infrequent in rich woods at northwestern
 end of Long Pond.

A. neglecta Greene native.

NTK(1919) "church region" (Thorofare Village).

A. neodioica Greene native.

AFH #2440(1915) "fields and pastures".

A. munda Fern. native.

NTK(1919) "Birch Point, Mrs. Sturtevant's
 garden".

A. fallax Greene native.

NTK(1920); DAW #425(1969)

Frequent on shrubby slope, east shore of
 Long Pond.

A. Brainerdii Fern. native.

AFH #1698(1914) "dry fields, trail to
 Sawyer Mountain".

Anaphalis DC. Everlasting. Life-everlasting.

A. margaritacea (L.) C.B. Clarke, var. margaritacea
Pearly-everlasting; native.
DAW #147(1968)

* Common weed of roadsides and open places.

var. intercedens Hara native.

DAW & ARH #553(1969)

Locally frequent on dry grassy hill near
northern entrance to the Thorofare.

Gnaphalium L. Cudweed.

G. obtusifolium L. Catfoot; native.

NTK(1923) "east side road".

G. uliginosum L. Low Cudweed; native.

AFH #1203(1913); DAW #460(1969)

Frequent in rock crevices, shore of Barred
Harbor.

Ambrosia L. Ragweed.

A. artemisiifolia L., var. artemisiifolia Common Ragweed;
native.

DAW & HVP #208(1968)

Infrequent in dry, sandy soil around store,
Thorofare Village.

var. elatior (L.) Descourtils native.

AFH #1751(1914) "wet roadside ditches".

Rudbeckia L. Coneflower.

R. serotina Nutt. Black-eyed Susan; native.
(=R. hirta L., var. pulcherrima Farw.)

NTK(1926); DAW #477(1969)

Infrequent in meadow at north end of Long Pond.

Bidens L. Bur-Marigold. Cuckold.

B. frondosa L. Beggar-ticks, Stick-tight; native.

AFH #2428(1915); DAW & ARH #334(1968)

Infrequent in herb border of Merchant's Cove
salt marsh.

forma anomala (Porter) Fern. native.

NTK(1927) "east side fish wharf".

Galinsoga R.&P.

G. ciliata (Ref.) Blake naturalized from Tropical
America.

NTK(1920) "flower bed at Miss Butler's".

Achillea L. Yarrow.

A. Millefolium L. Common Yarrow; naturalized from Europe.

DAW #51(1968)

Very common weed in Clyde's Field, Thorofare
Village.

Anthemis L. Chamomile.

- A. Cotula L. Mayweed, Stinking Chamomile; naturalized
from Europe.
AFH #1272(1913) "roadsides".

- A. tinctoria L. Yellow Chamomile; naturalized from Europe.
NTK(1921) "end of Lake" (Long Pond) "persist-
ing at Sturtevant cottage".

Matricaria L. Wild Chamomile.

- M. maritima L., var. maritima adventive from Europe.
AFH #3064(1918) "roadsides".

- M. Chamomilla L. naturalized from Europe.
NTK(1930) "village street".

- M. matricarioides (Less.) Porter Pineapple-weed;
naturalized from Pacific states.
KF (1909); AFH #1668(1914); DAW & HVP #211(1968)
Common in dry, sandy soil around village
store, Thorofare Village.

Chrysanthemum L. Chrysanthemum.

- C. Leucanthemum L., var. pinnatifidum Lecoq. & Lamotte
AFH #1674(1914); DAW #385(1968)
Common weed of roadsides and open places.

- C. Balsamita L. Costmary, Mint-Geranium; introduced from
Europe.
NTK(1928) "persisting at farm north of Lake".

Tanacetum L. Tansy.

T. vulgare L. Common Tansy; introduced from Europe.

NTK(1918) "Rich's Cove".

forma crispum (L.) Hayek introduced from Europe.

AFH #1273(1913); DAW #465(1969)

Infrequent in weedy fringe of sand beach at Head Harbor.

Artemisia L. Wormwood.

A. vulgare L. Common Mugwort; naturalized from Europe.

AFH #1718(1914) "escaped, fields near houses".

Petasites Mill. Sweet Coltsfoot.

P. palmatus (Ait.) Gray native.

NTK(1920) "swampy open woods back of Miss Damon's".

Erechtites Raf. Fireweed.

E. hieracifolia (L.) Raf., var. intermedia Fern. native.

AFH #2450(1915); DAW #484(1969)

Common weed in cut-over woods, east side of island.

var. praecalta (Raf.) Fern. native.

NTK(1927); DAW & ARH #285(1968)

Frequent along sandy roadsides, Thorofare Village.

Senecio L. Groundsel. Ragwort.

S. vulgaris L. Common Groundsel; naturalized from Europe.

NTK(1918) "C.D.Turner's Field" (Clyde's Field) "back of church".

S. sylvaticus L. naturalized from Europe.

AFH #1149(1913); DAW & HVP #230(1968)

Very common among rocks at Eoom Beach.

S. Robbinsii Oakes native.

NTK(1924) "off east side road".

Arctium L. Burdock.

A. minus (Hill) Bernh. Common Burdock; naturalized from Europe.

AFH #1240(1914); DAW #434(1969)

Infrequent around buildings at Rich house, Rich's Cove.

Echinops L. Globe-Thistle.

E. sphaerocephalus L. introduced from Europe.

NTK(1921) "Birch Point by Mrs. Sturtevant's".

Cirsium Mill. Common Thistle.

C. vulgare (Savi) Tenore Common Thistle; naturalized from Europe.

DAW & HVP #189(1968)

Frequent in dry meadow at Duck Harbor.

C. muticum Michx. Swamp-Thistle; native.

AFH #1262(1913) "swampy ground at head of Long Pond".

C. arvense (L.) Scop. Canada Thistle; naturalized
from Europe.

AFH #1239(1913); DAW #141(1968)

Common in grassy meadow at Moore's Harbor.

Leontodon L. Hawkbit.

L. autumnalis L., var. autumnalis Fall-Dandelion;
naturalized from Europe.
AFH #1676(1914); DAW #138(1968)

Common weed of dry fields and roadsides.

var. pratensis (Link) W.D.J.Koch naturalized
from Europe.
NTK(1926) "roadside near Moore's Harbor."

Taraxacum Zinn Dandelion.

T. erythrospermum Andrz. Red-seeded Dandelion;
naturalized from Europe.
NTK(1919) "Lookout Point".

T. officinale Weber, var. officinale Common Dandelion;
naturalized from Europe.
NTK(1919); DAW & HVP #205(1968)

Infrequent weed of roadsides and open ground.

var. palustre (Sm.) Blytt naturalized from Europe.
NTK(1926) "near entrance to Sturtevant farm" (at northern end of Long Pond).

Sonchus L. Sow-Thistle. Milk-Thistle.

S. arvensis L. Field Sow-Thistle; naturalized from Europe.

NTK(1927) "Miss Damon's" (Thorofare Village).

S. oleraceus L. Common Sow-Thistle; naturalized from Europe.

AFH #1742(1914); DAW #441 (1969)

Frequent on Eben's Head, Duck Harbor.

S. asper (L.) Hill Spiny-leaved Sow-Thistle; naturalized from Europe.

DAW & ARH #355(1968)

Infrequent in weedy fringe of salt marsh, Merchant's Cove.

Lactuca L. Lettuce.

L. canadensis L., var. canadensis native.

NTK(1924) "Head Harbor".

forma angustata Wieg. native.

NTK(1919) "Head Harbor".

var. longifolia (Michx.) Farw. native.

NTK (1919) "west side road".

var. latifolia Ktze. native.

AFH #1691(1914) "roadsides near Moore's Harbor".

L. biennis (Moench) Fern. native.

AFH #3060(1918) "swampy thickets near Long Pond".

Prenanthes L. Rattlesnake-root.

P. trifoliolata (Cass.) Fern., var. trifoliolata

Gall-of-the-earth; native.

J.C.Arthur(1900); AFH #1292(1913); DAW #431(1969)

Frequent along rocky shore between Robinson Point and the Seal Trap.

var. nana (Bigel.) Fern.

native.

DAW #475 (1969)

Infrequent in moist woods off road near Rich's Cove.

P. altissima L.

native.

AFH #1264(1913) "low woods near head of Long Pond".

forma hispidula Fern.

native.

AFH #3046(1918) "rich woods, Lover's Lane".

Hieracium L. Hawkweed.

H. pilosella L.

Mouse-ear; naturalized from Europe.

NTK(1932) "small patch with Molinia"
(presumably off of boardwalk at Point Lookout).

H. aurantiacum L.

Orange Hawkweed; Devil's Paint-brush;
naturalized from Europe.

AFH #1677 (1914); DAW #49(1968)

Very common in Clyde's Field, Thorofare Village, and along dry, sandy roadsides.

H. pratense Tausch

King Devil; naturalized from Europe.

NTK(1932); DAW #9(1968)

Frequent weed of roadsides and waste places.

H. florentinum All. King Devil; naturalized from Europe.

NTK(1918) "Barter's Creek region, in open field". Kidder notes that the two specimens he collected were all that he found.

H. canadense Michx., var. canadense native.

AFH #1258(1913) "dry roadsides near Long Pond".

H. paniculatum L. native.

NTK(1920) "bank of road, north side of Duck Harbor".

H. scabrum Michx. native.

AFH #2422(1915) "dry roadsides and clearings".

List of Vascular Plants Collected on Isle au Haut in 1968-69, but not known to have been collected there before.

Botrychium matricariaefolium A.Br.

Thelypteris palustris (Salisb.) Schott,
var. pubescens (Lawson) Fern.

Thelypteris simulata (Davenp.) Nieuwl.

Athyrium Filix-femina (L.) Roth,
forma rubellum (Gilbert) Farw.

Pteridium aquilinum (L.) Kuhn,
var. latiusculum (Desv.) Underw.

Picea glauca (Moench) Voss

Juniperus horizontalis Moench

Festuca elatior L., forma aristata Holmb.
Dactylis glomerata L., var. glomerata
Agropyron trachycaulum (Link) Malte, var. majus (Vasey) Fern.
Agropyron repens (L.) Beauv., var. repens
Lolium multiflorum Lam.
Deschampsia flexuosa (L.) Trin., var. flexuosa
forma flavescens Sylven.
Deschampsia caespitosa (L.) Beauv.,
var. parviflora (Thuill.) Richter
Brachyelytrum erectum (Schreb.) Beauv., var. erectum
Panicum lanuginosum Ell., var. septentrionale Fern.
Panicum subvillosum Ashe
Scirpus cespitosus L., var. callosus
Scirpus rubrotinctus Fern.
Carex argyrantha Tuckerm.
Carex umbellata Schkuhr.
Carex paupercula Michx., var. irrigua (Wahlenb.) Fern.
Carex laxiflora Lam.
Malaxis unifolia Michx.
Betula lutea Michx. f., var. lutea
Alnus crispa (Ait.) Pursh, var. mollis Fern.
Rumex Acetosella L., var. Acetosella
Polygonum cilinode Michx.
Atriplex glabriuscula Edmondston
Suaeda linearis (Ell.) Moq.
Spergularia canadensis (Pers.) Don
Cerastium tomentosum L.
Nuphar variegatum Engelm.
Drosera intermedia Hayne
Spiraea Bumalda Burvenich, cv. Anthony Waterer
Crataegus chrysocarpa Ashe
Potentilla Egedei Wormsk., var. groenlandica (Tratt.) Polunin
Rubus semisetosus Blanch.

Rosa rugosa Thunb.
Trifolium pratense L., forma pilosum (Griseb.) Hayek
Trifolium repens L.
Oxalis montana Raf.
Celastrus orbiculatus Thunb.
Acer rubrum L., var. rubrum, forma tomentosum (Desf.) Dansereau
Parthenocissus inserta (Kerner) K.Fritsch
Lechea intermedia Leggett, var. intermedia
Viola incognita Brainerd, var. Forbesii Brainerd
Viola lanceolata L.
Epilobium glandulosum Lehm., var. adenocaulon (Haussk.) Fern.
Circaea alpina L.
Carum Carvi L.
Moneses uniflora (L.) Gray
Gaylussacia baccata (Wang.) K.Koch
Vaccinium angustifolium Ait., var. angustifolium
Mertensia maritima (L.) S.F.Gray
Scutellaria epilobifolia A.Hamilton
Linaria canadensis (L.) Dumont.
Plantago major L., var. major
Plantago juncoides Lam., var. decipiens (Barneoud) Fern.
Galium tinctorium L., var. tinctorium
Symphoricarpos albus (L.) Blake, var. albus
Viburnum cassinoides L.
Solidago uliginosa Nutt., var. linoides (T.&G.) Fern.
Aster lateriflorus (L.) Britt., var. tenuipes Wieg.
Aster foliaceus L.
Anaphalis margaritacea (L.) C.B.Clarke, var. margaritacea
Anaphalis margaritacea (L.) C.B.Clarke, var. intercedens Hara
Ambrosia artemisiifolia L., var. artemisiifolia
Achillea Millefolium L.
Cirsium vulgare (Savi) Tenore
Sonchus asper (L.) Hill
Prenanthes trifoliolata (Cass.) Fern., var. nana (Bigel.) Fern.

PLANT ASSOCIATION-TYPES ON ISLE AU HAUT

The purpose of this section is to describe briefly the major vascular plant association-types found on Isle au Haut. All plant associations which resemble one another in regard to their physiognomy and ecological structure may be considered a single association-type. This usage of the term "association-type" follows that of Nichols (1923).

Coniferous Forest Association-Type

Like most of the islands along the coast of Maine, the upland areas of Isle au Haut are covered chiefly by a dense spruce-fir forest. This forest is most fully developed in the central and southwestern portions of the island which are areas underlain by granitic and volcanic rocks (See Fig. 2). Spruce and fir are able to perpetuate themselves in these areas because, on shallow soils derived from rocks low in basic materials, they are free from competition with species such as beech and sugar maple (Hill, 1923). Moreover, as Davis (1966) points out, the highest percent coverage by spruce and fir along the Maine coast occurs where the shore faces southwest. This is due to the fact that during the growing season the winds along the coast most frequently blow from the southwest. Cooling summer fogs, therefore, are more prevalent on shores facing southwest.

This spruce-fir forest so characteristic of much of the Maine coast is dominated in its younger stages almost exclusively by Picea rubens (See Fig. 5), with small amounts of Picea glauca along the sea shores, and Abies balsamea occupying those few open areas that may occur. The soils are extremely thin and podsollic, and

the entire forest is dry mesophytic. The young trees grow very close together, and consequently the ground beneath them is virtually devoid of shrubby and herbaceous vegetation.

Hill (1923) has pointed out that this young dry spruce forest, is normally not permanent. As the older trees die and blow-downs occur, more light is admitted to the forest floor. Consequently a moss carpet appears which favors the influx of shrubby and herbaceous vegetation and enhances the growth of those spruce seedlings which have managed to tolerate the previous years of shade. In addition, balsam fir, white birch, and red maple invade and reproduce effectively in these open areas. As conditions become increasingly mesophytic and a more sufficient soil builds up, the aspect of the forest changes. In this more mature forest, the dominants include not only Picea rubens, but Abies balsamea and Picea glauca as well. Picea glauca, however, unable to tolerate prolonged closed forest conditions, remains restricted to shoreline areas where it populates blow-downs and other extensive openings (Davis, 1966). Other species such as Betula papyrifera, and Acer rubrum, while not as abundant, are conspicuous members of the forest. Thuja occidentalis, Acer spicatum, and Acer pensylvanicum are frequent in moist ground and along forest streams. The stratum of herbs and shrubs characteristically includes Vaccinium angustifolium, Cornus canadensis, Maianthemum canadense, Trientalis borealis, Coptis groenlandica, and Pteridium aquilinum.

Mixed Deciduous-Coniferous Association-Type

On east-facing ledges along the northwestern shore of Long Pond there is located a tract of mixed

deciduous-coniferous woods quite different in aspect from the spruce-fir forest (see Fig. 6). In this woods one finds Picea rubens in association with deciduous species such as Fagus grandifolia, Acer rubrum, Betula papyrifera, Betula lutea, Acer saccharum, and Ostrya virginiana. The understory and ground-cover vegetation, unlike that of the spruce-fir forest, is quite rich and is characterized by species such as:

Lonicera canadensis

Diervilla Lonicera

Sambucus pubens

Ilex verticillata

Streptopus roseus

Smilacina racemosa

Actaea pachyoda

Ribes glandulosum

Aralia nudicaulis

Luzula acuminata

Geranium Robertianum

Pyrola elliptica

Circaea alpina

Carex laxiflora

Carex ormostachya

Carex argyrantha

Luce (1962) determined that the underlying rock in this vicinity is diorite. Since soils derived from diorite would contain more calcium than granitic soils, they could support a richer woodland vegetation. One rock sample, Number 174, collected by Luce from this area (see Fig. 2) was classified as an intermediate diorite and contained relatively high quantities of plagioclase feldspar and pyroxene, both calcium containing minerals. Granites, for example sample Number 177 on Fig. 2, contain very little plagioclase and no pyroxene.

It is interesting to note also that the western boundary of this tract of mixed deciduous-coniferous woods appears to correspond closely with the granite-diorite line of contact as determined by Luce.

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Association-Types of Dry Mountain Tops

The summits of the higher "mountains" are characterized by barren granitic outcrops and very meagre, dry soils (see Fig. 7). In these areas one typically finds stunted individuals of Picea rubens and frequently Pinus rigida as well. The latter species is particularly common on the dry northwestern slopes of Mt. Champlain. The following species are also typical in these areas: Kalmia angustifolia, Vaccinium angustifolium, Juniperus communis, var. depressa, Empetrum nigrum, Corema Conradii, and Potentilla tridentata.

The cool, relatively barren summit of Duck Harbor Mountain at the southwestern end of the island, where summer fogs are very prevalent, affords a habitat for plants of much more northern affinities. Among these are Arctostaphylos Uva-ursi, Arenaria groenlandica, and Scirpus cespitosus.

Association-Types of Shores and Headlands

The shores of Isle au Haut are for the most part rocky-gravelly "shingle" beaches with steep sea cliffs and headlands more common on the eastern side of the island.

While the vegetation of the rocky-gravelly shores

is quite sparse and discontinuous, a relatively large number of species are typically found in these habitats. The following are perhaps most characteristic.

Limonium Nashii

Lathyrus japonicus

Ranunculus Cymbalaria

Atriplex patula, var. hastata

Atriplex glabriuscula

Plantago oliganthos

Plantago juncooides

Cakile edentula

Solidago sempervirens

Rhus radicans

Iris versicolor

Suaeda maritima

Triglochin maritima

The Sea-Lungwort, Mertensia maritima, a plant of Arctic coastal affinities, is exceedingly rare along the shores of Isle au Haut. It was collected along the rocky shore of Barred Harbor in 1969 and was found on nearby Kimball's Island in 1913 (Hill, 1914).

The upper beach fringe areas are typically populated by shrubs such as Myrica pensylvanica, Rosa virginiana, and Juniperus communis, var. depressa (see Fig. 8). In addition Elymus virginicus; Elymus arenarius, var. villosus; Ligusticum scoticum; and Coelopleurum lucidum are frequently encountered.

Characteristic plants of headlands and sea-cliffs include Juniperus communis, var. depressa; Iris versicolor; Epilobium glandulosum, var. adenocaulon; Solidago sempervirens; Sagina procumbens; and dwarfed, wind-blown individuals of Picea glauca. In addition, due to the

severity of the maritime influence, these exposed headlands provide habitats for some interesting sub-Arctic plants. Among these are Juniperus horizontalis, Empetrum nigrum, Sedum Rosea, and Iris Hookeri. The latter two species, while not collected on Isle au Haut in recent years, were found there previously. Hill collected Sedum Rosea on a "rocky headland near Duck Harbor" in 1914, and Kidder found Iris Hookeri at Horseman's Point in 1923.

Salt Marsh Association-Type

While salt marshes are relatively infrequent along the shores of Isle au Haut, one of considerable size and interest is present at Merchant's Cove (see Figs. 9, 10). Typical of salt marshes elsewhere, it contains the following characteristic species:

Spartina patens
Spartina pectinata
Spartina alterniflora
Juncus balticus, var. littoralis
Glaux maritima
Triglochin maritima
Eleocharis halophila
Scirpus cyperinus, var. pelius
Plantago oliganthos
Iris versicolor
Atriplex patula, var. hastata
Suaeda maritima

Bog Association-Type

Bogs are frequent in more lowland areas of the island, with the most extensive of them being the "Great Meadow" (see Fig. 11), the "Hackmatack Swamp", and the Moore's Harbor bog. Since bogs may differ considerably one from another, some having different histories and rather unique floristic assemblages, no attempt will be made here to describe the various types of bog on Isle au Haut. The following list, therefore, enumerates those species commonly found in bogs in general on the island.

Thuja occidentalis
Larix laricina
Picea mariana
Acer rubrum
Gaylussacia dumosa
Gaylussacia baccata
Vaccinium macrocarpon
Myrica Gale
Chamaedaphne calyculata
Ledum groenlandicum
Eriophorum angustifolium
Eriophorum virginicum
Osmunda regalis
Aster nemoralis
Sarracenia purpurea
Drosera rotundifolia
Drosera intermedia
Carex folliculata
Juncus brevicaudatus
Calopogon pulchellus
Pogonia ohioglossoides

The "Great Meadow" bog was found to be of particular interest, for it is here that two disjunct Coastal Plain species, Ilex glabra and Bartonia paniculata, var. intermedia were found growing in association with a stand of Pinus rigida at the northwestern end of the bog. Whereas other bogs on the island contain Picea mariana and/or Larix laricina and/or Thuja occidentalis, Pinus rigida was not noted in any bog other than the "Great Meadow". It is possible that an underlying stratum of sand, possibly the remnant of a previously existing pond shore, is responsible for the presence of Pinus rigida and Ilex glabra in the "Great Meadow".

Pond Association-Types

Long Pond at the southeastern end of Isle au Haut is the only freshwater body of any appreciable size on the island. Its characteristic aquatic species include:

Eriocaulon septangulare

Dulichium arundinaceum

Nymphaea odorata

Nymphoides cordata

Lobelia Dortmanna

A small pond at the center of the bog at Moore's Harbor was found virtually to be filled with Nuphar variegatum, and a striking barrier beach pond at Merchant's Cove (see Fig. 10) contained Potamogeton epihydrus var. Nuttallii, and was partly fringed with Typha latifolia.

Association-Type of Meadows, Roadsides, and Waste-Places

Roadsides, meadows, waste-places and upper beach fringes provide habitats for a number of common shrubs, grasses, and weed species. Among these the most frequently encountered were:

Comptonia peregrina

Spiraea tomentosa

Spiraea latifolia

Phleum pratense

Poa pratensis

Agrostis alba

Agrostis tenuis

Hieracium aurantiacum

Hieracium pratense

Hypericum perforatum

Vicia Cracca

Achillea Millefolium

Trifolium pratense

Anaphalis margaritacea

Chrysanthemum Leucanthemum

A great number of weeds, while present on Isle au Haut, are either only locally frequent at a few restricted sites, or are quite rare. In addition, some of the most common weeds of more populated mainland areas are noticeably absent from the island. Many of these once were present on Isle au Haut and are represented among the specimens of the early collectors.

Weeds are plants that live in association with man, dependent upon his creation of disturbed habitats suitable for their survival. It is not surprising, therefore, that as such human activities as gardening and farming declined on the island, the number of weed species associated with these activities diminished as well.

The following list, while far from complete,
includes weed species which are rare on Isle au Haut.

Arctium minus

Taraxacum erythrospermum

Matricaria matricarioides

Tanacetum vulgare

Rumex crispus

Ambrosia artemisiifolia

Capsella Bursa-pastoris

Linaria canadensis

Daucus Carota

Carum Carvi

Erigeron strigosus

Glechoma hederacea

Barbarea vulgaris

Sonchus asper

PHYTOGEOGRAPHIC ASPECTS OF THE FLORA

Two major climatic areas, each characterized by a distinct type of climax forest, may be distinguished in eastern North America. The Northeastern Coniferous Forest (Boreal Forest) attains its fullest development in eastern Canada and is characterized by trees such as Picea mariana, Picea glauca, Abies balsamea, and Betula papyrifera. The Eastern Deciduous Forest (Alleghenian Forest) typically contains Fagus grandifolia, Acer saccharum, Liriodendron tulipifera, Quercus rubra, Quercus alba, Fraxinus americana, and species of Juglans and Carya as well. It reaches its optimum development in the lower Ohio basin and the southern Appalachians (Hill, 1923).

Between these two areas lies a Transition Region where the ranges of species from both adjacent northern and southern areas overlap. This Transition Region in turn may be separated rather easily into two zones. The Alleghenian Transition Zone containing a relatively greater proportion of deciduous species grades into the more northern Canadian Transition Zone which is typified by a greater number of coniferous species. However, as Hill (1923) has pointed out, the best interpretation of the entire Transition Region is to view it as a northward extension of the Eastern Deciduous Forest. In its more northern Canadian Transition Zone its aspect is more coniferous due to the development of a physiographic spruce-fir climax as a result of edaphic and topographic factors unfavorable to Alleghenian species such as beech and sugar maple. In those few areas within the Transition Zone where such unfavorable factors are not operative, a relatively more deciduous climax develops

which resembles that of the Alleghenian Forest. Such areas are approaching the climatic climax for the region.

Isle au Haut lies within the more northern Canadian Transition Zone. While a number of species typical of the Eastern Deciduous Forest are present on the island, it is almost entirely covered by a spruce-fir forest representative of the physiographic climax of the zone. However, one tract of woods, the Mixed Deciduous-Coniferous Woods described in the previous section may represent a small area on the island where the vegetation is approaching climatic climax. As was mentioned earlier, this area at the northwestern end of Long Pond is underlain by a diorite containing a relatively greater amount of basic material than is found in rocks underlying most of the rest of the island. The aspect of this woods is considerably more Alleghenian in character than boreal. Fagus grandifolia and Acer saccharum are present in some abundance as well as species such as Betula lutea and Ostrya virginiana.

In addition to boreal and Alleghenian plants, a number of species of Arctic and Coastal Plain (Carolinian) affinities were also found on Isle au Haut.

Arctic species include:

Scirpus cespitosus

Empetrum nigrum

Juniperus horizontalis

Vaccinium Vitis-Idaea, var. minus

Sedum Rosea

Iris Hookeri

Arenaria groenlandica

Mertensia maritime

Species of the Coastal Plain are:

Ilex glabra

Bartonia paniculata, var. intermedia

Thelypteris simulata

Corema Conradii

Pinus rigida

Juncus Greenei

Eriocaulon septangulare

These plants are of particular phytogeographic interest for their distributions show marked disjunctions.

It is relatively easy to explain the occurrence of plants of Arctic affinities on Isle au Haut. As the glaciers receded from New England, these were undoubtedly the first plants to move northward in its wake. Then as the climate became increasingly warmer they found refuge in habitats that most closely approached those now characteristic of more northern latitudes. They have persisted therefore on cold inland mountain tops and along the coast and islands on cool exposed headlands and rocky barrens.

Fernald (1911) proposed the existence of a once continuous land bridge from Long Island and Cape Cod to Nova Scotia as a possible explanation for the occurrence of Coastal Plain plants in Newfoundland. As was mentioned in a previous section, there is a good deal of conclusive evidence that in late glacial and postglacial times the continental shelf was elevated above sealevel. Thus, as Fernald suggested, Coastal Plain plants most likely reached Nova Scotia and Newfoundland by northward migration on this continental shelf land bridge. While such a land bridge may explain how Coastal Plain species reached Nova Scotia, it does not fully explain how such plants reached the Penobscot Bay islands (Hill, 1919).

It is questionable whether plants such as Ilex glabra and Corema Conradii could have crossed the wide expanse of the Gulf of Maine between the continental shelf and islands such as Isle au Haut. Hill (1919) proposed

that such plants may have reached the islands of the Maine coast by an alternate route. Coastal Plain species could have found favorable habitats in river valleys and on outwash plains along the coast and therefore could have migrated northward to the islands by a coastal route, using glacial outwash plains as "stepping stones".

EFFECTS OF ANIMALS ON THE FLORA

Manville (1964) listed five species of fresh-water fishes, three amphibians, three reptiles, one hundred twenty-three birds, and fifteen mammals as occurring on Isle au Haut. Many common mainland species, apparently incapable of crossing even a relatively short salt water barrier, have failed to reach the island. This is particularly true for species of terrestrial mammals. Notable for their absence from the island are shrews, squirrels, red-backed vole, jumping mice, porcupine, raccoon, woodchuck, skunks, and several carnivores. The island's fauna therefore, due to the filtering effect of the salt water barrier, is a diluted version of that of the nearby mainland.

While many common mammals are absent on Isle au Haut, the White-tailed Deer, Odocoileus virginianus (Zimmerman) is very abundant. Whether deer originally were introduced to the island or not is unknown. They have been seen swimming in Penobscot Bay and conceivably could have swum the relatively short distances between the many islands in the bay, eventually reaching Isle au Haut.

Further evidence for their independent migration to the island comes from Eustis' (1952) report that their remains were found in Indian shell heaps.

The deer today have multiplied to the point of not only being a nuisance, but of presenting a very real threat to much of the island's vegetation as well.

Baird (1966), using several census techniques, estimated the population to be about 257 animals. The density of this population, one deer per twenty-five acres, is more than the island can support. This density, as Baird pointed out, has already resulted in serious habitat deterioration.

The great number of deer on Isle au Haut undoubtedly has affected the island's flora. Precisely what their present effect is cannot be determined easily. Deer exclosure studies and browse preference studies currently being conducted by members of the Division of Wildlife of the University of Maine shall hopefully shed some light on the question. Equally problematical is the determination of past effects of deer browsing on the flora. Quite possibly some of the plant species collected on the island in the past, but no longer found to be present, may have been eliminated by excessive deer browsing.

In 1968-69 the following species were recorded as having been browsed by the deer:

Picea glauca

Picea rubens

Osmunda cinnamomea

Osmunda Claytoniana

Syringa vulgaris

Pyrus Malus

Quercus rubra

Celastrus orbiculatus

Alnus sp.

Betula lutea

Vaccinium angustifolium

Pteridium aquilinum

Symplocarpus foetidus

Solidago sp.

Lathyrus japonicus

The deer population presently is existing at a virtual starvation level, and as Baird (1966) stated, "a continuation of the present density will prolong the detrimental effects both on the vegetation and the deer". The solution to the problem certainly will be far from simple, for it is complicated by the fact that the deer on Isle au Haut are protected by law, not only within Acadia National Park, but throughout the island. Moreover, tourists visiting the park find them pleasantly interesting and beautiful creatures that they feel should be protected. In reality, protection is the greatest enemy not only of the deer, but of many species of plants they are forced to feed on as well. It is hoped that the National Park Service, in cooperation with the University of Maine, will come to realize the problem and take steps to alleviate it.

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MAPS AND ILLUSTRATIONS



FIG. 1. Map of Isle au Haut, Knox County, Maine.

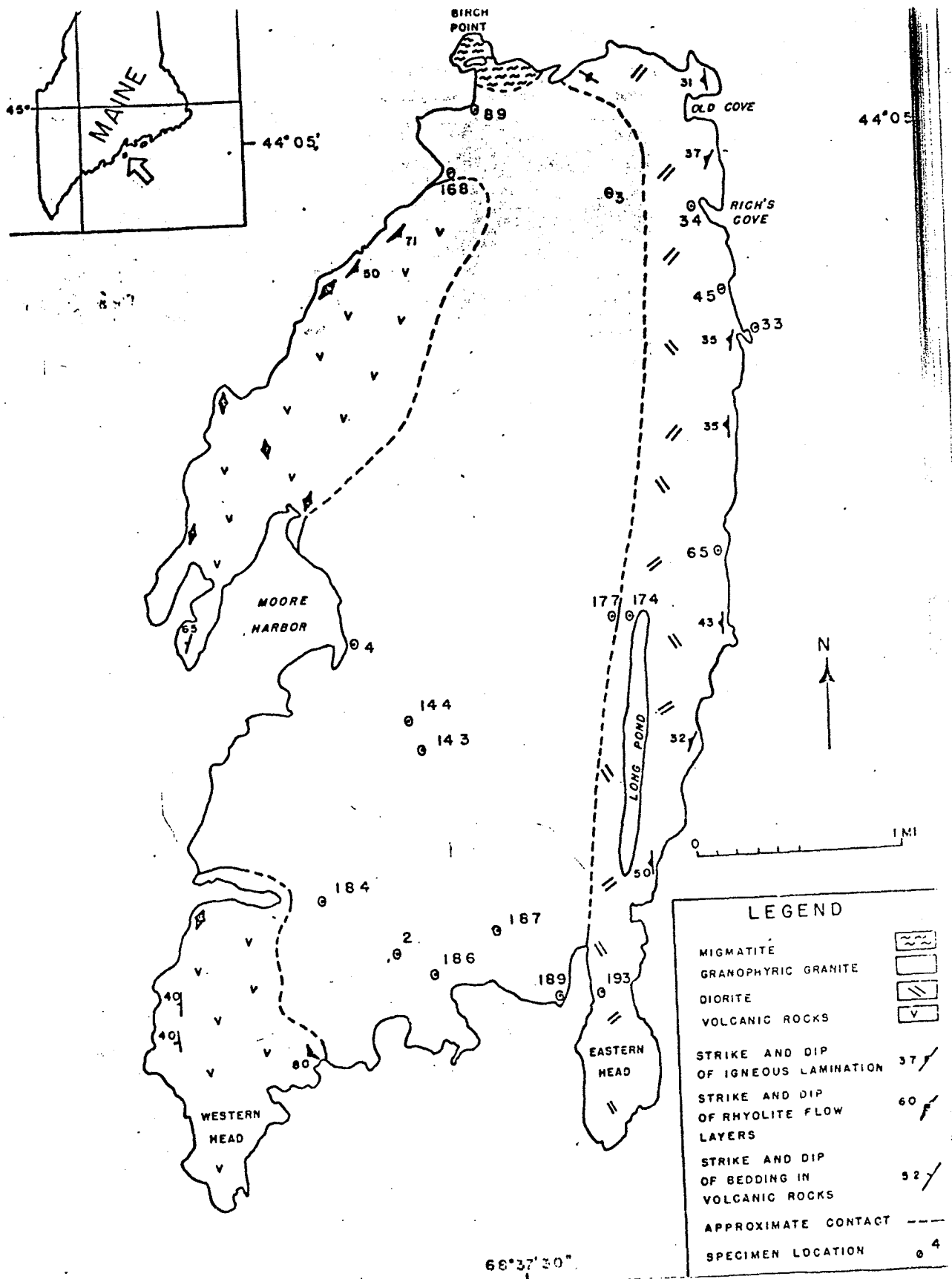


Fig. 2. Geologic Map of Isle au Haut. (from Luce, 1962)



Fig. 3. Unstratified Glacial Till off road near Rich's Cove.

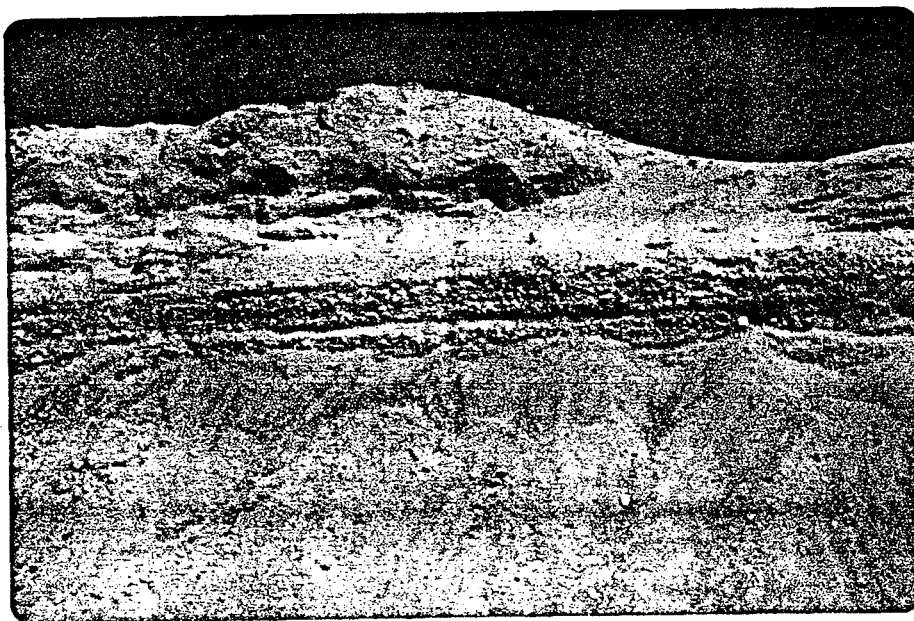


Fig. 4. Beach Gravels, near Coombs Cemetery, north end of the island.

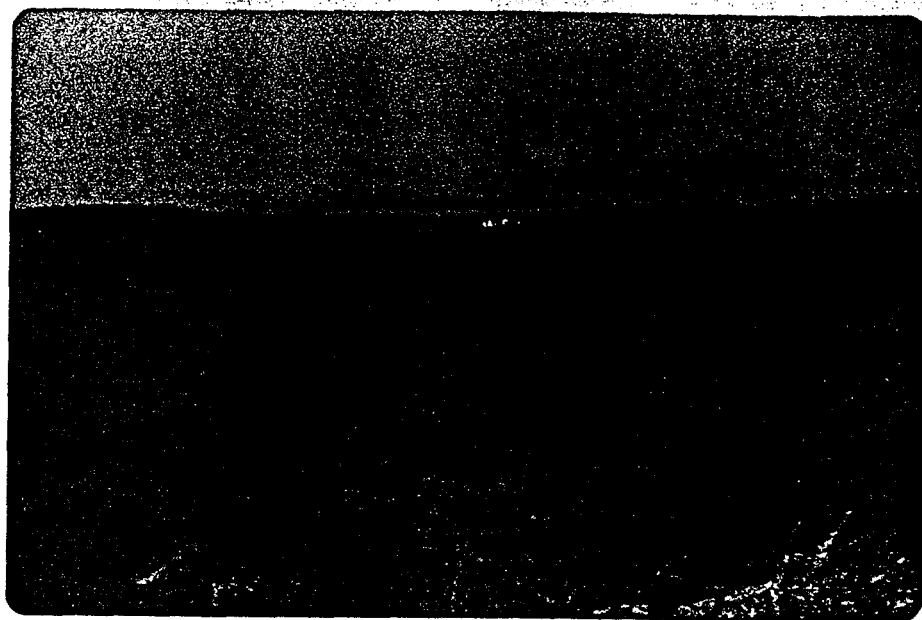


Fig. 5. Spruce-Fir forest from the western slope of Black Dine.



Fig. 6. Mixed Deciduous-Coniferous Woods at northwestern end of Long Pond.

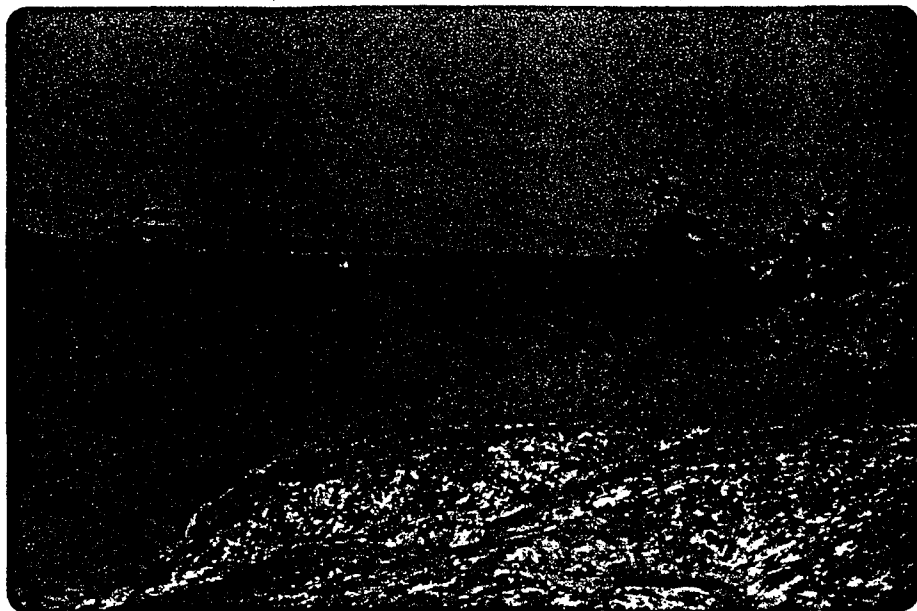


Fig. 7. Dry, rocky summit of Black Dina.

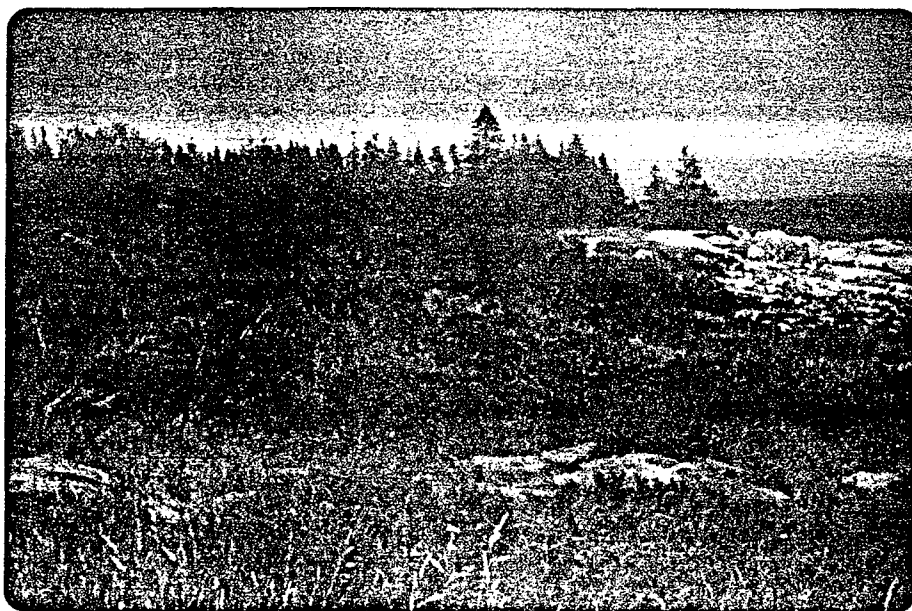


Fig. 8. Weedy upper beach fringe at Seom Beach.

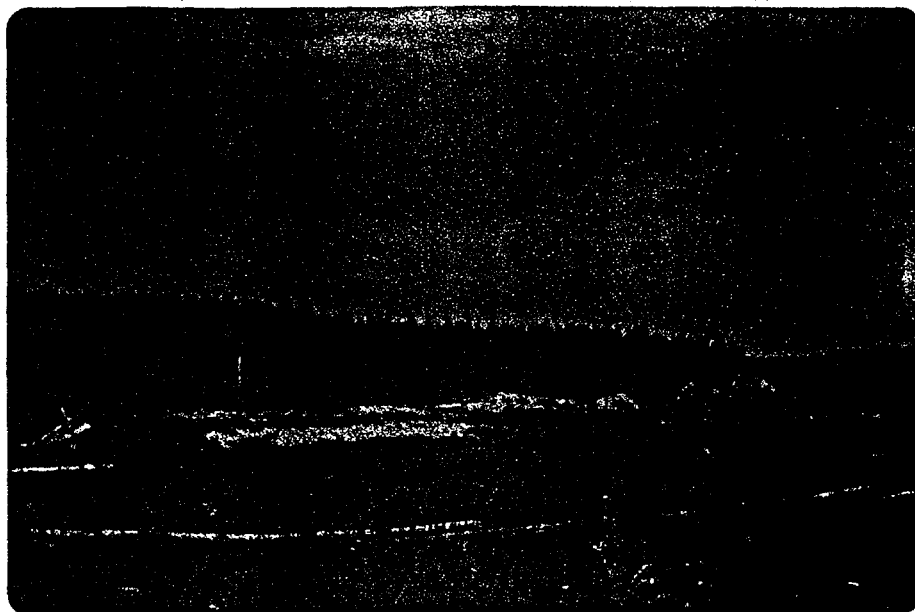


Fig. 9. Salt Marsh at Merchant's Cove.



Fig. 10. Barrier Beach Road at Merchant's Cove.



Fig. 11. The "Great Meadow" Bog.

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