SPECIES TARGET SUMMARIES WITH MAPS

The following summaries of the primary species targets chosen in the Northern Appalachian – Acadian ecoregional assessment offer a quick view of their distribution within the ecoregion. As such, this document accompanies the “Species Targets” chapter of the NAP report, which provides the details of assessment methods and results.

For each species, of the populations or occurrences that were evaluated, the number that met the selection criteria and the number that did not are given and are shown in black and grey, respectively, on an outline map of the ecoregion. In the case of plants, because so many species were selected, we summarize only those ranked G1 through G3.1

The summaries follow the order in which results are reported. Follow the links below to go directly to each section:

- Non Avian Vertebrates: Mammals, Reptiles, Amphibians, Fish
- Birds
- Invertebrates: Insects and Mussels
- Plants

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1 G1 refers to a global rarity rank where there are only between 1-5 viable occurrences of an element rangewide. G2 references a global rarity rank based on 6-20 viable occurrences rangewide, and G3 on 21-100 occurrences rangewide.
Non-Avian Vertebrate Species Targets in the Northern Appalachian – Acadian Ecoregion
Mammals, Reptiles, Amphibians and Fish
Distribution Maps
(Portfolio examples shown in black)

MAMMALS

Lynx (Lynx canadensis)

A large cat with prominent ear tufts that favors old growth boreal forests with a dense undercover of thickets and windfalls. Wide-ranging and requiring large-areas, the Gaspe population is an important source for the rest of the ecoregion where it is either extirpated or S1. Listed as Threatened under US Endangered Species Act. Occurrences were not used to develop a plan for this target. Instead we worked with partners to develop a source-sink model.

Fig 1. Source – Sink model for Canada Lynx. Dark gray areas show probable source regions. Light gray areas show probable sink regions. Adapted from Carroll (2005), used with permission.
Rock vole (Microtus chrotorrhinus)
A medium-sized, short-tailed, brown mouse with a yellow-orange snout inhabits cool, damp, coniferous and mixed forests at higher elevations and mossy rocky areas throughout Canada. Scattered in SE Canada, NE US, and Appalachian Mountains, uncommon.

21 populations assessed
10 met criteria as critical occurrences (black)
11 below criteria (grey)

Penobscot meadow vole (Microtus p. shattucki)
Newly recognized sub-species, endemic to ME.

0 populations assessed

Eastern small-footed myotis (Myotis leibii)
Small bat with a dark mask and dark ears. Inhabits hilly or mountainous areas, in or near forest, sometimes in open farmland. Spotty distribution, rarely in large numbers, hibernacula are key.

22 populations assessed
11 met criteria as critical occurrences (black)
11 below criteria (grey)
Indiana or Social myotis (Myotis sodalis)

A small dull gray bat with pinkish white underparts. In hibernation, limestone caves with pools are preferred. Roosts are usually in the coldest part of the cave. Nine priority hibernacula house 75% of population, vulnerable to human disturbance.

- 6 populations assessed
- 2 met criteria as critical occurrences (black)
- 2 below criteria, 1 maybe, 1 blank (grey)

Woodland caribou (Gaspé population) (Rangifer tarandus)

A distinct subpopulation distinguished by a coat that is mostly brown in summer and more grey in winter, and a creamy white neck, mane, shoulder stripe, underbelly, underside of the tail, and patch just above each hoof. Both sexes have antlers. Disjunct population ~250 individuals in isolated population on high peaks of Chics Chocs and McGerrigle Mountains

- 79 occurrences assessed
- 35 met criteria as critical occurrences (black)
- 44 below criteria (grey)

Long-tailed or Rock shrew (Sorex dispar)

Medium-sized grey shrew with a long tail and pointed snout. Prefers talus slopes in cool damp forests. Found in VT, NB, NS.

- 9 populations assessed
- 5 met criteria as critical occurrences (black)
- 4 below criteria (grey)
Gaspé shrew (Sorex gaspensis)

A local endemic, this small, light grey shrew with a pointed snout prefers steep rocky slopes near streams. Related to the somewhat larger Long tailed shrew (Sorex dispers).

31 populations assessed
18 met criteria as critical occurrences (black)
12 below criteria, 1 unknown (grey)

Maritime shrew (Sorex maritimensis)

A regional endemic, restricted to NB and NS, this shrew exhibits a dark band along the upper body, which runs from nose to tail; the sides are brown; fading to a pale greyish underneath. Found in grass-sedge marshes, wet meadows, and other moist openings in and adjacent to boreal forest.

15 populations assessed
14 met criteria as critical occurrences (black)
1 below criteria (grey)

Northern bog lemming (Synaptomys borealis)

A small, short-tailed lemming. Occurs in sphagnum bogs, wet meadows, moist mixed and coniferous forests, alpine sedge meadows, krummholz spruce-fir forest with dense herbaceous and mossy understory, mossy streamsides. Widespread but localized; not common anywhere.

8 populations assessed
2 met criteria as critical occurrences (black)
5 below criteria, 1 maybe (grey)
REPTILES & AMPHIBIANS

Blanding's turtle (Emys blandingii)

A medium-sized turtle with a yellow chin and throat, and a long neck. Occurs in marshes, ponds, swamps, lake shallows, backwater sloughs, shallow slow-moving rivers, protected coves and inlets of large lakes, and pools adjacent to rivers. Disjunct in Kejimkujik National Park, it does not occur in U.S. part of ecoregion although it occurs as a rare species in adjoining ecoregion.

110 populations assessed
58 met criteria as critical occurrences (black)
24 below criteria, 24 maybe, 28 unknown (grey)

Eastern ribbon snake (Thamnophis sauritus)

A large black or brown snake with three yellow to orange stripes – reaches to almost a meter in length. Wet meadows, marshes, bogs, ponds, lake shorelines, swamps, and shallow slow streams. Peripheral to ecoregion, occurs in NY and NE but populations in Maritimes are disjunct.

14 populations assessed
3 met criteria as critical occurrences (black)
11 below criteria (grey)
FISHES

Shortnose sturgeon (Acipenser brevirostrum)
A large fish, up to one meter in length, inhabits rivers, estuaries, and the sea although most abundant in estuaries. Special concern; viable populations found in NB, ME.

6 occurrences assessed
5 met criteria as critical occurrences (black)
1 below criteria (grey)

Atlantic sturgeon (Acipenser oxyrhynchus)
A large fish, up to 4.3 meters in length, is primarily marine, but stays close to shore when not breeding; migrates to rivers for spawning. Occurs in Atlantic and Gulf coasts – depleted populations.

1 occurrence assessed
1 met criteria as critical occurrence (black)
0 below criteria (grey)

Atlantic whitefish (Coregonus huntsmani)
A fish with silvery sides and a forked caudal fin, up to 40 cm long. Occurs in lakes, small to large rivers, estuaries and near shore coastal waters in NS - only in a few areas.

4 occurrences assessed
4 met criteria as critical occurrences (black)
0 below criteria (grey)
Lake Utopia dwarf smelt (Osmerus sp. 1)

A ecoregion endemic, this 12 centimeter long smelt varies in hue from pale green to dark blue on its back; its silvery sides have a blue, purple and pink sheen. It occurs only in Lake Utopia, a coldwater lake in New Brunswick.

1 occurrence assessed
1 met criteria as critical occurrence (black)
0 below criteria (grey)

Atlantic salmon (anadromous) (Salmo salar)

This medium sized fish averages 60 cm in length and requires clean, cool, flowing water free from chemical or organic pollution, natural stream channels with rapids and pools, a gravelly bottom. Wide-ranging species but declining, subpopulations at risk, listed as Endangered by US ESA; Inner Bay of Fundy populations listed as endangered by COSEWIC.

61 occurrences assessed
7 met criteria as critical occurrences (black)
54 below criteria (grey)

Landlocked arctic charr (Blue backed trout) (Salvelinus alpinus oquassa)

This subspecies, endemic to the ecoregion, ranges from white/silvery to bright orange with cream-colored spots during spawning but non-breeding individuals are usually pale and non-descript. They occur in deep cold ponds and lakes. Extirpated from NH, VT.

14 occurrences assessed
13 met criteria as critical occurrences (black)
1 below criteria (grey)
Bird Species Targets in the Northern Appalachian – Acadian Ecoregion
Distribution Maps
(Portfolio examples shown in black)

**Razorbill (Alca torda)**
This chunky alcid breeds in small numbers on a few islands off the coasts. It nests on rocky cliffs, and winters in large groups on the ocean. The mapped points are breeding locations; the exception is a major wintering concentration, on Grand Manan Island in New Brunswick.

- 29 occurrences assessed
- 13 met criteria as critical occurrences (black)
- 16 below criteria (gray)

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**Golden eagle (Aquila chrysaetos)**
This large raptor is rare in the ecoregion. It inhabits cliffs and mountaintops, especially near wetlands. The four nest sites in the Gaspé are the only ones known to be currently producing young in the ecoregion—all but one of the Adirondack occurrences are historic.

- 13 occurrences assessed
- 6 met criteria as critical occurrences (black)
- 7 below criteria (gray)
Upland sandpiper (Bartramia longicauda)

Breeding sites are few in the ecoregion, which is peripheral to this species’ core distribution. Upland sandpipers nest in large upland fields, natural grasslands, and extensive blueberry barrens. Disruption to and loss of these habitats pose serious threats.

31 locations assessed
11 met criteria as critical occurrences (black)
20 below criteria (gray)

Barrow's goldeneye, Eastern population (Wintering) (Bucephala islandica)

This sea duck does not breed within the ecoregion, but bays and estuaries and rivers that remain ice-free in winter offer important shelter for large over-wintering eastern populations.

16 populations assessed
6 met criteria as critical occurrences (black)
10 below criteria (gray)
Semipalmated sandpiper, migrant concentrations (Calidris pusilla)

Points on this map represent autumn stopover sites in the Gulf of Maine and the Bay of Fundy, where this shorebird feeds and roosts on extensive mudflats. A high proportion (75%) of the global population passes through this ecoregion in migration, concentrating at relatively few sites, usually with many other shorebird species.

15 sites assessed
15 met criteria as critical occurrences (black)
0 below criteria

Bicknell's thrush (Catharus bicknelli)

Endemic to the ecoregion this thrush nests in thick stunted spruce forests at high elevation, and is difficult to detect, except by song. It is also at risk from loss of habitat on its wintering range on the island of Hispaniola.

66 occurrences assessed
59 met criteria as critical occurrences (black)
7 below criteria (gray)
**Piping plover (Charadrius melodus)**

This globally rare small shorebird nests on sand beaches, where it is particularly vulnerable to human disruption, predators, and high tides. Within this ecoregion it occurs only on Canadian shores.

- 365 occurrences assessed
- 23 met criteria as critical occurrences (black)
- 342 below criteria (gray)

**Sedge wren (Cistothorus platensis)**

Once common in this ecoregion, this small, inconspicuous wren is now rare. It nests in wet grassy meadows or sedge-dominated marshes.

- 13 occurrences assessed
- 7 met criteria as critical occurrences (black)
- 6 below criteria (gray)
**Peregrine falcon (Falco peregrinus anatum)**

The peregrine is recovering from severe decline due to pesticide impacts on breeding success. It is rare throughout the ecoregion where it nests on cliffs near open areas, seabird colonies or heronries.

- 113 occurrences assessed
- 63 met criteria as critical occurrences (black)
- 50 below criteria (gray)
Harlequin duck, Eastern population (Wintering) (Histrionicus histrionicus pop 1)

At risk throughout its eastern range. Large concentrations of this sea duck overwinter in relatively few locations on exposed rocky coastlines, where it feeds on mussels.

41 wintering locations assessed
10 met criteria as critical occurrences (black)
31 below criteria (gray)

Ipswich sparrow (Passerculus sandwichensis princes)

Endemic to the ecoregion. This is a subspecies of Savannah Sparrow. There is only one breeding location known, Sable Island, Nova Scotia, where it nests on open dunes and grasslands.

1 population assessed
1 met criteria as critical occurrence (black)
0 below criteria
Roseate tern (Sterna dougallii)

Limited to this and adjacent ecoregions, the roseate tern is entirely maritime. It breeds on coastal islands or rocky or sandy beaches in Maine and Nova Scotia.

65 breeding locations assessed
11 met criteria as critical occurrences (black)
54 below criteria (gray)
INVERTEBRATE SPECIES TARGETS IN THE NORTHERN APPALACHIAN – ACADIAN ECOREGION

INSECTS

A Tiger beetle (Cicindela ancocisconensis)

A globally rare, habitat specialist. Prefers open sand or a matrix of sand and cobble along permanent streams or medium-sized rivers. Within ecoregion occurs only in NH, VT, NY and Quebec.

- 3 populations assessed
- 2 met criteria as critical occurrences (black)
- 1 below criteria (grey)

Cobblestone tiger beetle (Cicindela marginipennis)

A globally rare, large, dark tiger beetle with whitish markings. Habitat is almost always cobblestone islands in rivers. Within ecoregion occurs only in NH, VT, NY and NB.

- 3 populations assessed
- 2 met criteria as critical occurrences (black)
- 1 below criteria (grey)

Tomah mayfly (Siphlonisca aerodromia)

Ecoregional endemic, only in NY, Maine and Quebec. Benthic - low gradient, pool riverine habitat; also in bogs, fens.

- 16 populations assessed
- 16 met criteria as critical occurrences (black)
- 0 below criteria (grey)
Maritime ringlet (Coenonympha nipisiquit)

An ecoregional endemic, this dark ochre to ochre-brown butterfly lives exclusively in salt marshes. It only occurs at few locations on the Baie de Chaleur, Quebec and New Brunswick.

5 populations assessed
5 met criteria as critical occurrences (black)
0 below criteria (grey)

Clayton's copper (Lycaena dorcas claytoni)

An endemic subspecies, this small, orange-brown butterfly prefers calcareous fens or streamside shrublands. Known populations are restricted to a few cinquefoil fens.

11 populations assessed
11 met criteria as critical occurrences (black)
0 below criteria (grey)

Katahdin arctic (Oeneis polixenes katahdin)

An ecoregion endemic, this grey-brown, translucent butterfly inhabits moist true arctic and arctic-alpine tundra, windswept summits, ridges, well above and north of timberline. Only global location for subspecies is Mt. Katahdin in Maine.

1 population assessed
1 met criteria as critical occurrence (black)
0 below criteria (grey)
Umber shadowdragon (*Neurocordulia obsolete*)

Brown and dull yellow dragonfly. Poorly known in ecoregion, only one documented record in NB - large, slow lotic waters.

0 populations assessed

Pygmy snaketail (*Ophiogomphus howei*)

A small, stocky dragonfly that prefers clear rivers with strong current over coarse cobbles and with periodic rapids sections. One record for NB, rare in the Maritimes and in northern New England.

15 populations assessed
13 met criteria as critical occurrences (black)
1 below criteria, 1 maybe (grey)

Frigga fritillary (*Boloria frigga*)

A butterfly with orange-brown wings spotted with black markings and darker bases. Sedge and sphagnum bogs, arctic tundra. Peripheral/disjunct, newly discovered in ME, not previously known from ecoregion or northeastern NA.

0 populations assessed
Quebec emerald (*Somatochlora brevicincta*)

A moderate sized dragonfly, distinguished by a metallic green thorax with one lateral light stripe and a black dorsal abdomen. Habitat is predominantly bogs, fens, and heaths. Limited to a few ecoregions of northeastern NA and less than 20 known occurrences.

- 3 populations assessed
- 0 met criteria as critical occurrences (black)
- 3 maybe below criteria (grey)

MOLLUSKS

Dwarf wedgemussel (*Alasmidonta heterodon*)

A small freshwater mussel with a trapezoidal-shaped shell found in shallow to deep quick running water on cobble, fine gravel, or on firm silt or sandy bottoms. Globally rare and declining, S1 in NH, VT and NY and SH in NB, unknown in Maine.

- 9 occurrences assessed
- 5 met criteria as critical occurrences (black)
- 1 below criteria, 1 maybe, 2 unknown (grey)

Brook floater (*Alasmidonta varicosa*)

Freshwater mussel with a kidney-shaped shell. Occurs in creeks and small rivers where it is found among rocks in gravel substrates and in sandy shoals. Globally rare and declining, S1 in NS, NH, VT, and NY, S3 in Maine.

- 84 occurrences assessed
- 83 met criteria as critical occurrences (black)
- 1 below criteria (grey)

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Yellow lampmussel (Lampsilis cariosa)

A medium-sized freshwater bivalve with rounded inflated shell. Considered to be a species of larger streams and rivers, typically found in sand and gravel where good current exists. Declining in much of range, healthiest populations appear to be within this ecoregion.

- 63 occurrences assessed
- 62 met criteria as critical occurrences (black)
- 1 below criteria (grey)
Plant Species Targets in the Northern Appalachian-Acadian Ecoregion
Distribution Maps
(Portfolio examples shown in black)

**G1 Ranked Plant Targets**

**Botrychium lineare (a Moonwort)**

Grank: G1
- 2 populations assessed
- 0 met criteria as critical occurrence (black)
- 2 below criteria (grey)

**Draba pycnosperma (a Draba)**

Grank: G1
- 12 populations assessed
- 4 met criteria as critical occurrences (black)
- 4 below criteria (grey)

**Isoetes prototypes (Prototype Quillwort)**

Grank: G1?
- 7 populations assessed
- 1 met criteria as critical occurrence (black)
- 6 below criteria (grey)
**Potentilla robbinsiana (Robbins' Cinquefoil)**

Grank: G1

2 populations assessed
2 met criteria as critical occurrences (black)
0 below criteria (grey)

**Salix chlorolepis (Green-scaled Willow)**

Grank: G1

1 populations assessed
1 met criteria as critical occurrence (black)
0 below criteria (grey)

**Schoenoplectus x steinmetzii (Steinmetz’s Bulrush)**

Grank: G1Q

1 populations assessed
1 met criteria as critical occurrence (black)
0 below criteria (grey)
Suaeda rolandii (Roland’s Sea-Blite)
Grank: G1G2Q
- 3 populations assessed
- 0 met criteria as critical occurrence (black)
- 3 below criteria (grey)

G2 Ranked Plant Targets
Adiantum virdimontanum (Green Mountain Maidenhair Fern)
Grank: G2
- 35 populations assessed
- 18 met criteria as critical occurrences (black)
- 16 below criteria, 1 unknown (grey)

Bidens eatonii (Eaton’s Beggar-Ticks)
Grank: G2
- 4 populations assessed
- 2 met criteria as critical occurrences (black)
- 1 below criteria, 1 blank (grey)
**Bidens heterodoxa (Connecticut Beggar-ticks)**

Grank: G2

- 20 populations assessed
- 5 met criteria as critical occurrences (black)
- 8 below criteria, 7 maybe (grey)

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**Botrychium pallidum (Pale Moonwort)**

Grank: G2G3

- 3 populations assessed
- 2 met criteria as critical occurrences (black)
- 1 below criteria (grey)

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**Geum peckii (Mountain Avens)**

Grank: G2

- 53 populations assessed
- 24 met criteria as critical occurrences (black)
- 20 below criteria, 7 maybe, 2 unknown (grey)
Hieracium robinsonii (Robinson's Hawkweed)
Grank: G2
25 populations assessed
1 met criteria as critical occurrence (black)
21 below criteria, 3 maybe (grey)

Isoetes acadiensis (Acadian Quillwort)
Grank: G2G3
16 populations assessed
5 met criteria as critical occurrences (black)
8 below criteria, 3 maybe (grey)

Juncus caesariensis (New Jersey Rush)
Grank: G2
25 populations assessed
1 met criteria as critical occurrence (black)
8 below criteria, 16 maybe (grey)
**Minuartia marcescens (Serpentine Stitchwort)**
Grank: G2
- 3 populations assessed
  - 2 met criteria as critical occurrences (black)
  - 1 below criteria (grey)

**Pedicularis furbishiae (Furbish Lousewort)**
Grank: G2
- 44 populations assessed
  - 16 met criteria as critical occurrences (black)
  - 24 below criteria, 2 unknown, 2 blank (grey)

**Platanthera leucophaea (Eastern Prairie White-Fringed Orchid)**
Grank: G2
- 1 populations assessed
  - 1 met criteria as critical occurrence (black)
  - 0 below criteria (grey)
Prenanthes bottii (Boott's Rattlesnake-Root)
Grank:  G2
   16 populations assessed
   15 met criteria as critical occurrences (black)
   1 below criteria (grey)

Saxifraga gaspensis (Gaspe Saxifrage)
Grank:  G2
   5 populations assessed
   0 met criteria as critical occurrence (black)
   5 below criteria (grey)

Scirpus longii (Long’s Bulrush)
Grank:  G2
   29 populations assessed
   1 met criteria as critical occurrence (black)
   23 below criteria, 5 maybe (grey)
Symphyotrichum anticostense
(Anticosti Aster)
Grank: G2Q
20 populations assessed
4 met criteria as critical occurrences (black)
1 below criteria, 15 unknown (grey)

Symphyotrichum laurentianum (St. Lawrence Aster)
Grank: G2
34 populations assessed
5 met criteria as critical occurrences (black)
5 below criteria, 24 unknown (grey)

Taraxacum latilobum (a Dandelion)
Grank: G2Q
3 populations assessed
0 met criteria as critical occurrence (black)
3 below criteria (grey)

G3 PLANT TARGETS
Botrychium mormo (a Moonwort)
Grank: G3
1 populations assessed
0 met criteria as critical occurrence (black)
1 below criteria (grey)

Botrychium rugulosum (Rugulose Grape-Fern)
Grank: G3
4 populations assessed
1 met criteria as critical occurrence (black)
3 below criteria (grey)

Botrycium spathulatum (Spoon-leaf Moonwort)
Grank: G3
1 population assessed
0 met criteria as critical occurrence (black)
1 below criteria (grey)
Carex schweinitzii (Schweinitz’s Sedge)
Grank: G3G4
3 populations assessed
1 met criteria as critical occurrence (black)
2 below criteria (grey)

Coreopsis rosea (Rose Coreopsis)
Grank: G3
80 populations assessed
14 met criteria as critical occurrences (black)
66 below criteria (grey)

Cypripedium arietinum (Ram's-Head Lady's Slipper)
Grank: G3
33 populations assessed
10 met criteria as critical occurrences (black)
23 below criteria (grey)
**Eriocaulon parkeri (Parker's Pipewort)**

Grank: G3

- 13 populations assessed
- 6 met criteria as critical occurrences (black)
- 7 below criteria (grey)

**Listera auriculata (Auricled Twayblade)**

Grank: G3G4

- 43 populations assessed
- 8 met criteria as critical occurrences (black)
- 35 below criteria (grey)

**Panax quinquefolius (American Ginseng)**

Grank: G3G4

- 75 populations assessed
- 21 met criteria as critical occurrences (black)
- 54 below criteria (grey)
Polemonium vanbruntiae (Jacob's Ladder)
Grank: G3
30 populations assessed
24 met criteria as critical occurrences (black)
6 below criteria (grey)

Potamogeton hillii (Hill's Pondweed)
Grank: G3
14 populations assessed
6 met criteria as critical occurrences (black)
8 below criteria (grey)

Ranunculus allenii (Allen’s Buttercup)
Grank: G3G4
3 populations assessed
1 met criteria as critical occurrence (black)
2 below criteria (grey)
Sabatia kennedyana (Plymouth Gentian)

Grank: G3

158 populations assessed
29 met criteria as critical occurrences (black)
129 below criteria (grey)