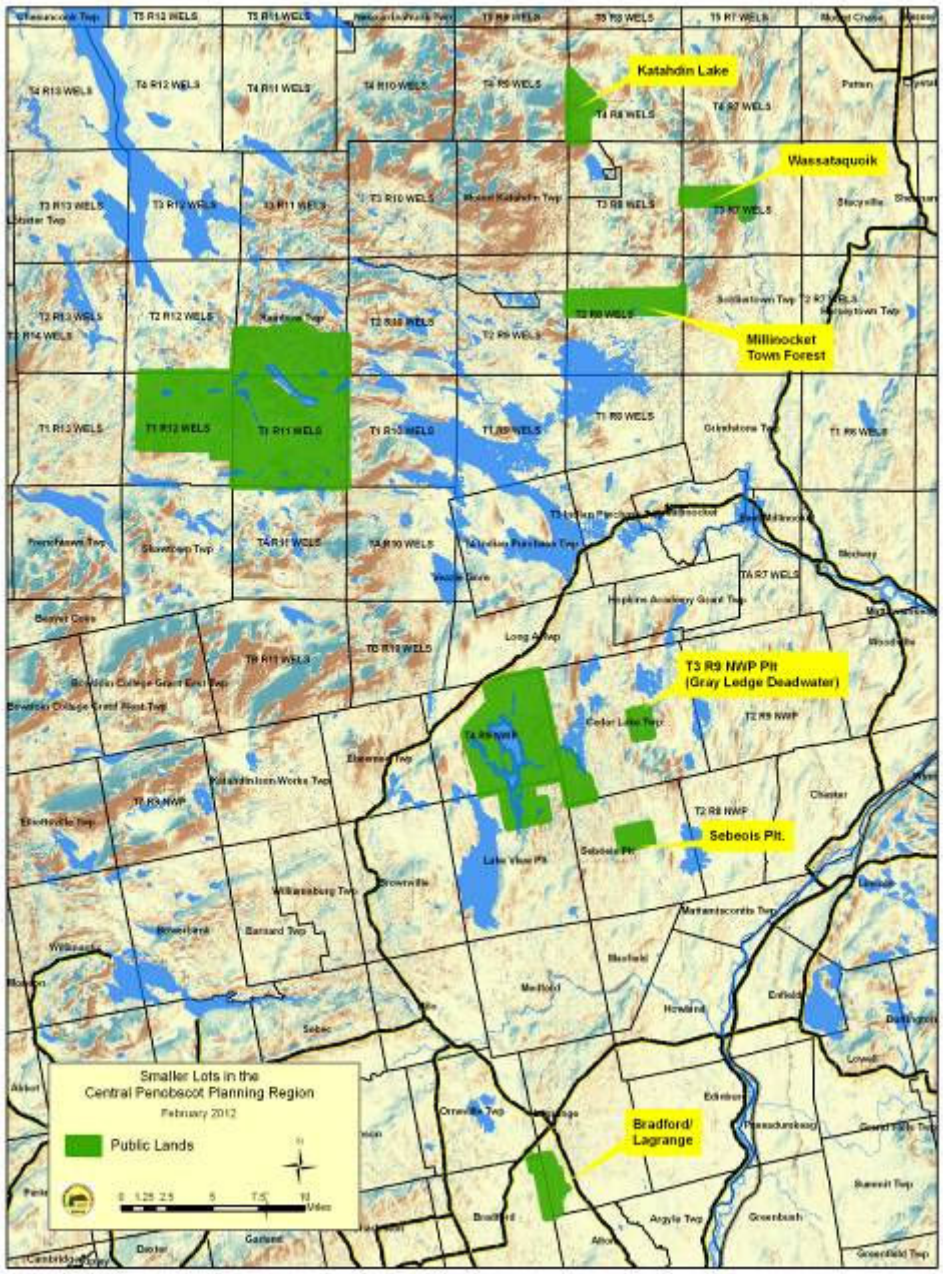
Natural Resource Inventory
of the Central Penobscot Region: Smaller Units



Prepared by
Maine Natural Areas Program
for the
Bureau of Parks and Lands

April 2012

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Overview of the Central Penobscot Smaller Units

The numerous smaller scattered holdings in the Central Penobscot Region are managed primarily for forest products and dispersed recreation, such as boating, hunting and fishing. In general, the Units receive comparatively little public use. Units included in this portion of the report are:

- Bradford/LaGrange
- Turner Mountain Forest
- Millinocket Lake Forest
- Seboeis Plantation
- T3 R9 (Gray Ledge Deadwater), and
- Wassataquoik.

These public land units range in size from 960 to 5,061 acres and support a variety of forest conditions, with mature softwoods and mixed woods the predominant type. Timber stocking on the lots is generally higher than the average stocking on private lands in the region. All the units have been managed for timber by BPL and former owners.

Ecologically, the most notable features on these Units include the extensive floodplain forest along the East Branch of the Penobscot at Wassataquoik Stream, a ~350 acre wetland complex at Gray Ledge Deadwater, scattered mature chestnut trees in the Bradford/LaGrange Unit, steep uncut forests and rocky slopes at Turner Mountain, and unique post-glacial red pine ridges and wetland swales at the Millinocket Unit.

Bradford/Lagrange

The Bradford/Lagrange Unit covers 2,010 acres of mid-successional and mature forest on lowlands west of Dead Stream. Unlike the other BPL parcels in this region, the Bradford/Lagrange lot lies on both well drained till soils and silty, somewhat poorly drained soils derived from glacial marine sediments of the Penobscot Valley (USDA NRCS 2012).

The Unit contains many examples of forest communities typical of Maine's Penobscot Valley lowlands. It was owned by forest industry until 1985 and has been managed by the state since then. Harvesting by the state has been comparatively light and selective, with much retention of much structural diversity (i.e., large trees and snags). Several stands maintain late successional components, including large woody debris and snags.

Lowland spruce-fir and hemlock are the dominant forest types on the northern and eastern sides of the Unit, with stands of northern hardwoods and mixed wood on the west and south side of the tract. Hardwood stands include some patches of Sugar Maple Forest, including large basswood and white ash trees and some other indicators of soil enrichment, such as Christmas fern (*Polystichum acrostichoides*).

Of particular note is the presence of several healthy, medium sized (16"+) American chestnut (*Castanea dentata*) trees on the property, as well as a number of seedlings and saplings (Figure 1). Mature chestnuts are rare in Maine, and BPL forest managers seek to retain them and promote regeneration where possible.

Figure 1: Mature chestnut tree on the Bradford/LaGrange lot

In low wet areas adjacent to streams, patches of Cedar-Seepage Forest occur, the largest of which is ~30-40 acres. Some cedar stands show little evidence of past harvesting.

The lot also contains approximately 100 acres of 'moderate value' Wading Bird and Waterfowl Habitat at beaver flowages along a tributary of the Dead Stream. The Unit also includes over 380 acres of Deer Wintering Area in this same vicinity.

In 2011 several stems of Japanese barberry (*Berberis thunbergii*) were found in the southwest portion of the Unit. Barberry is an invasive plant more typically found in Southern Maine, and it is unusual to find it in intact woods away from homes or roadsides. Most of these stems were pulled. Staff should be vigilant about recognizing and removing additional stems if they are found.

In a summer 2011 visit, a male wood turtle was found near Dead Stream about ½ mile downstream of the BPL property (Figure 2). This turtle species was recently listed as globally vulnerable ('G3') by NatureServe. Suitable wood turtle habitat likely exists on BPL property, and radio-telemetry work in Maine and elsewhere confirms that individual wood turtles may move several miles up and down streams during their active period from early spring through fall. Considered one of the most terrestrial of Maine's turtles, they also frequent riparian and upland habitat adjacent to stream and rivers to bask, forage, and nest.

Figure 2: 15+ year old male wood turtle found near Dead Stream

Although there are no forestry regulations for wood turtles in Maine, MDIFW has developed the following voluntary guidelines for riparian management around wood turtle streams:

- Maintain a 330 ft-wide forested riparian management zone for 2.5 mi upstream and 2.5 mi downstream of any documented occurrences

- Within the riparian management zone it is recommended that:

1. 25 ft of the riparian zone nearest to the waterway remain un-harvested;
2. The rest of the riparian management zone be managed with single-tree or small group-selection cuts that maintain a 60-70% canopy cover; and
3. Construction of roads and log landings within the riparian management zone be avoided or minimized.

Two species of rare freshwater mussel, the **creeper** (*Strophitus undulatus*) and **brook floater** (*Alasmidonta varicosa*), were also found in Dead Stream near South Lagrange Road. Both species inhabit cool, well oxygenated streams in Maine, and both were last observed at this site in 2006. The creeper is listed as Special Concern, and the brook floater is listed as State Threatened in Maine; the brook floater is also listed as globally 'vulnerable ('G3') by NatureServe. In fact Dead Stream is known to support eight of the ten native mussel species in Maine, and its habitat for these species is considered excellent (Swartz, personal communication 2012). Sound riparian management, as outlined for the wood turtle above, would also be appropriate in locations where the creeper occurs.

Past BPL harvesting in riparian zones has occurred in line with the above guidance.

Turner Mountain Forest

The 2,574-acre Turner Mountain parcel drops over 1,600 feet in elevation from the north flank of East Turner Mountain in Baxter State Park to Wassataquoik Stream, which serves as the parcel's eastern boundary for 2.5 miles (Figure 3).

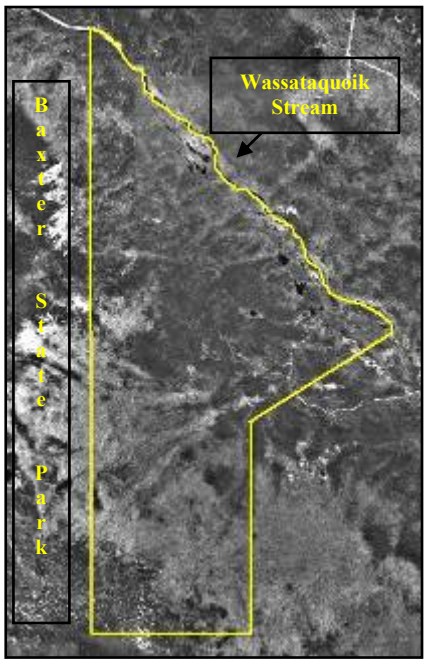

Figure 3: The Katahdin Lake North Parcel

The northern half of the parcel and steep upper slopes of East Turner Mountain support mature softwood forest, while the southern half is characterized by mature northern hardwoods. With the exception of the eastern lobe, forest stands here have relatively little history of human disturbance, and collectively they form an outstanding example of a **Spruce - Northern Hardwood Forest Ecosystem**. This intact forest ecosystem extends well beyond this parcel and covers the majority of the Turner Mountain formation and the area surrounding Katahdin Lake into Baxter State Park. It is remarkable for its near-pristine condition and because it is one of the largest undisturbed examples of its type known from the state.

The forest in this Unit is variably aged, but nearly all is mature. Much of the area apparently burned around the turn of the previous century, and there are large areas where the forest is roughly 100 years old. In addition, there are stands where the fire jumped or otherwise did not burn. These stands have older trees in

the 100 to 200+ year age class and reflect the varying cover types found within the Spruce – Northern Hardwood Forest Ecosystem.

Specific natural community types within this broader ecosystem include Beech - Birch - Maple Forest, a Spruce Talus Woodland, and a Lowland Spruce – Fir Forest.

The Beech - Birch - Maple Forest is located on the rocky mid to upper slopes of the Twin Pond Brook drainage (Figure 4). It is dominated by sugar maple and beech with smaller amounts of yellow birch and red maple. Larger sugar maples were in the 24" dbh range and may be 150 years old or older. This northern hardwood stand covers about 170 acres, part of which lies within Baxter State Park.

Downslope of East Turner Mountain is the broad Twin Pond Brook drainage. Much of this area is also beech – birch – maple forest and is regenerating after the historic fire from the early 1900s. The Twin Pond Brook drainage is unusual in that numerous streams and seeps course down over a broad slope (> 0.5 mile in width) of rocky mountain slope (Figure 5). In more typical conditions, this type of drainage would have one or two streams. The high density of streams and seeps creates a dynamic habitat for plants, wildlife, and fisheries and would necessitate special precautions if harvesting were ever considered. Many of these cold headwater streams may provide habitat for brook trout, but fishery surveys have not been conducted.

An approximately 65 acre Spruce Talus Woodland lies just downslope of the conspicuous cliffs and outcrops on the east slope of North Turner Mountain (Figure 6). This community is characterized by a

Figure 4: Late-successional Beech – Birch – Maple Forest on East Turner Mountain

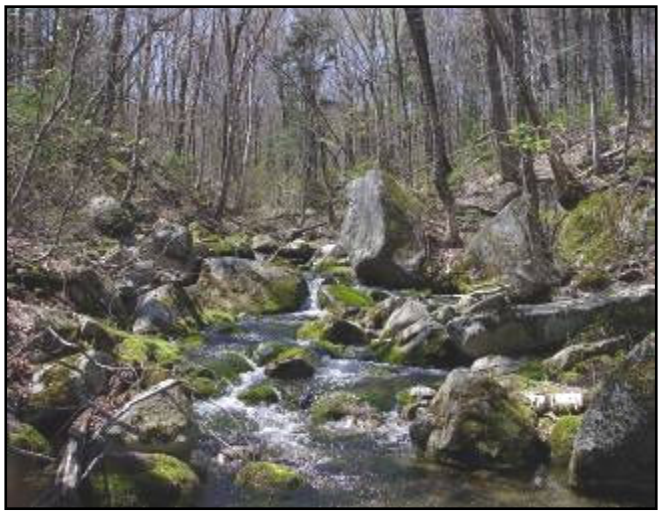

Figure 5: One of the many braided branches of Twin Pond Brook

Figure 6: Spruce Talus Woodland east of North Turner Mt.

partially open canopy of red spruce, mixed with small amounts of paper birch and white pine. The moderately sloped substrate is made up of large rounded boulders, which create stressful growing conditions. The largest red spruces are 12" dbh only about 25 to 40 feet tall. Other vegetation, including creeping snowberry, velvet-leaf blueberry, and northern running pine is thinly distributed and limited to areas where pockets of soil have accumulated. In open areas reindeer lichens form large blue-gray tufts over the boulders. Charcoal from the historic fire was easy to find at this site. This site is one of the largest natural communities of its type known in the state.

The northern border of the lot follows Wassataquoik Stream in which lies the Wassataquoik floodplain. The floodplain has little to no evidence of past timber harvest or other human use (or if there was harvesting, evidence was eradicated by the fires of the early 1900s). The floodplain of the stream supports some scattered older trees including red oak, big tooth aspen, and red maple, but unlike the broader areas further downstream near the confluence of the East Branch of the Penobscot River, it is not extensive in this parcel.

From its origin as a headwater stream on Katahdin, the pristine Wassataquoik Stream follows a lengthy glacial esker along the border of the parcel, with associated gravel ridges and backwater wetlands forming along former stream channels (Figure 7). The stream supports native brook trout and landlocked salmon, as well as fallfish, blacknose dace, creek chub, white sucker, smallmouth bass, and other minnows (Nels Kramer, MDIFW, personal communication).

Figure 7: Wassataquoik Stream

The west side of Wassataquoik Stream supports numerous wetlands and sloughs that together form a large moderate value Waterfowl and Wading Bird Habitat. These wetlands vary in cover and extent, and in some areas have been shaped by beaver activity. Cover types include red maple swamp, spruce - cinnamon fern swamp, alder - red maple shrub swamp, graminoid marsh, and open water. This series of wetlands is likely good habitat for variety of game and non-game species.

The parcel is roadless and there are no roads leading to the parcel, and likely receives little to no recreational use.

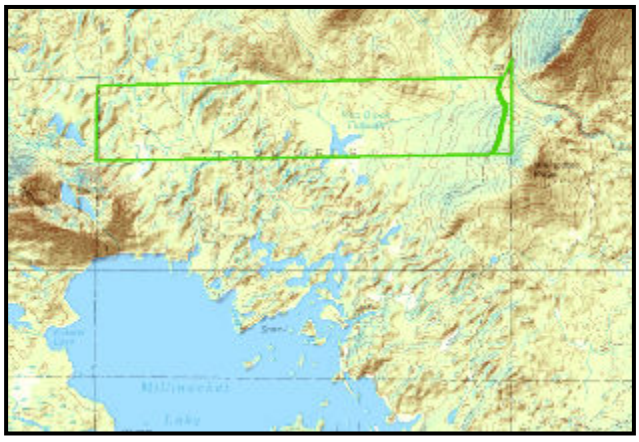

Figure 8: The terrain of the western part of Millinocket Lake Forest Unit shows patterns of alternating ridges and wetlands

Millinocket Lake Forest Unit

The 5,061-acre Millinocket Lake Forest Unit, acquired by the state in 2010, abuts the southeast side of Baxter State Park. It is a rectangular-shaped parcel, and characterized by gentle slopes and young to mid-aged softwood and mixed forests. Prior to state acquisition, this tract was privately managed for forest products for over a century, and many areas within this tract have been heavily harvested within the last decade.

This parcel contains part of the state's largest 'ribbed moraine' – a post-glacial feature of undulating sand and gravel ridges that alternate with shrub-dominated wetlands (Figure 8). Some of the sand and gravel ridges support a large stand of Red Pine-White Pine Forest that extends southward for thousands of acres onto private lands; about 250 acres of this Red Pine – White Pine Forest are on state land.

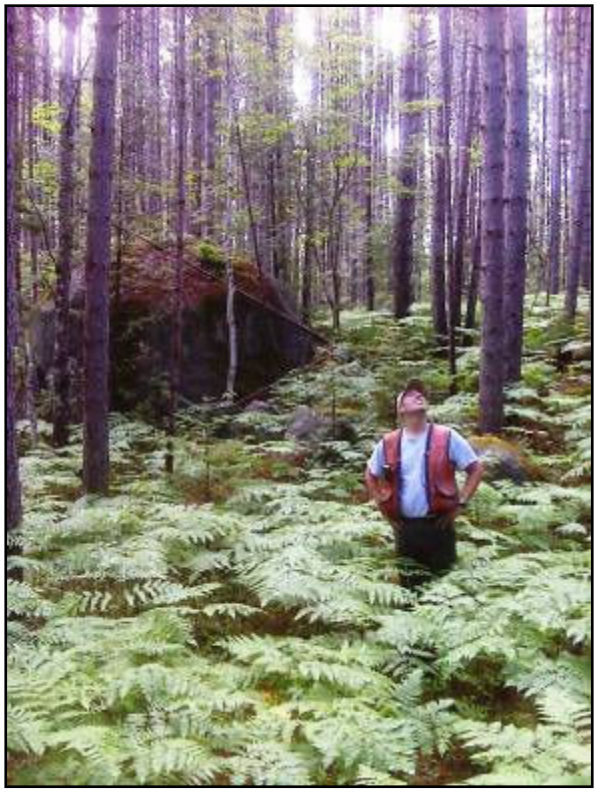

Figure 9: BPL Forester Doug Reed in Red Pine – White Pine Forest

Red Pine – White Pine Forests are uncommon (ranked S3) in Maine, and at over 1,000 acres, this extensive stand (primarily on private lands to the south) is one of the largest of this type in Maine.

The red pine stand here has been at least partly sustained by fire within the last century (Figure 9). Numerous trees that were cored are approximately 70 years old, suggesting the fire that originated the stand was in the 1930s. Most trees are between 8-14" diameter, and the composition varies from red pine dominated stands to a heterogeneous mix of red pine and white pine in lower or wetter sites. Poplars and paper birch are also mixed throughout, residuals from the past fire. The understory composition is characteristic of dry sites and includes lowbush blueberry (*Vaccinium angustifolium* and *V. myrtilloides*), bunchberry, bracken fern (*Pteridium aquilinum*), trailing arbutus (*Epigaea repens*), winterberry (*Gaultheria procumbens*), cowwheat (*Menanpyrum lineare*) and round leaved pyrola (*Pyrola americana*). In some areas stunted burn origin cedar is in the understory. This mature red pine stand is one of the few forest mature stands of any size on the property.

Wetlands within the Unit include numerous kettlehole bogs, beaver meadows and rivershore natural communities. Approximately 25% of the Unit is wetland, according to National Wetland Inventory maps. Most of the wetland acreage is non-forested and has been mapped as Waterfowl and Wading Bird Habitat by MDIFW. In particular, the

western part of the parcel supports two wetlands that are over 250 acres – one along Sandy Stream and another around Mud Brook Flowage.

Many of the wetlands show evidence of past or present beaver activity and are variants of bogs or marshes. Characteristic plants in these beaver meadows include sweetgale (*Myrica gale*), leatherleaf, tussock sedge (*Carex stricta*), Canada bluejoint (*Calamagrostis canadensis*), spirea (*Spirea tomentosa*) and three way sedge (*Dulichium arundinaceum*).

The kettlehole bogs are small acidic peatlands and ponds isolated from other surface water flows (Figure 10). In these bogs the perimeter is a ring of black spruce that transitions to more open communities toward the center, including Leatherleaf Bog and Sedge- Heath Lawn, characterized by leatherleaf (*Chamaedaphne calyculata*), bog rosemary (*Andromeda glaucophylla*), cottongrass (*Eriophorum virginicum*), podgrass (*Scheuczeria palustris*), pitcher plant (*Sarracenia purpurea*) and a carpet of sphagnum (*Sphagnum cuspidatum* and others). A few kettlehole bogs on the western side of the Unit support the orchids grass pink (*Calopogon tuberosus*) and the white fringed bog orchis (*Pletanthera blephariglottis*).

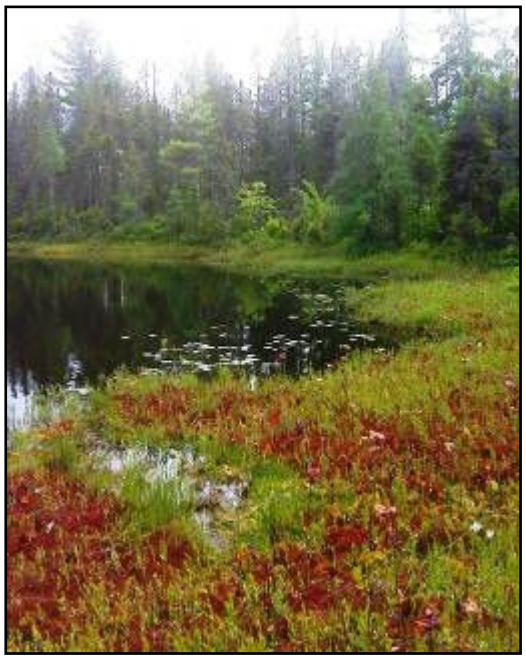

Figure 10: Kettlehole bog on the west side of the Millinocket Lake Unit

Sandy Stream is a free-flowing waterway (i.e., no artificial impoundments) that extends from Sandy Stream Pond in Baxter State Park southward to Millinocket Lake. It cuts through the western side of the property, and flooding and ice scour helps create conditions for Cobble Rivershore communities. These rivershores are typically comprised of numerous disturbance dependant species. Along Sandy Stream, vegetation is sparse and includes lakeshore sedge (*Carex lenticularis*), lance-leaved goldenrod (*Euthamia graminifolia*), shining willow (*Salix lucida*), wile rye (*Elymus sp*.), and other grasses and herbs. Despite its remote location, two introduced (but not particularly invasive) species were found here: white campion (*Lychnis alba*) and coltsfoot (*Tussilago farfara*).

Sandy Stream supports wild brook trout, white sucker, blacknose dace, creek chub, common shiner, smallmouth bass, and other minnows (Nels Kramer, MDIFW, personal communication.)

Seboeis Plantation

The 1,136-acre Seboeis Plantation Unit encompasses gently rolling terrain that slopes down to the West Branch of Seboeis Stream. The Unit's soils are dominated by stony, well drained Plaisted soils on the uplands and poorly drained Monarda and Burnham soils on lowlands (USDA NRCS 2012). Most forest stands on the parcel are a mix of pole-timber and sawtimber, with softwood and mixed wood dominant.

Hazeltine Ridge, on the northeast side of the parcel, supports the Unit's only extensive northern hardwood forest, and in places it has a significant white pine component. Off this ridge, most of the forest within the Unit is a mix of Spruce – Northern Hardwood forest, with spruce, fir, and paper birch dominant in poorly drained areas and northern hardwoods mixed in on mid slopes. There are also scattered stands of Hemlock Forest, including a small uncut patch (basal area 120) near the eastern border of the parcel.

The eastern side of the parcel has been harvested multiple times – once within the past five years and earlier about 25 years ago. The harvests were characteristic of those on public lands – selective cuts that retained considerable standing volume (60 to 70 sq. feet/acre), including a number of super-canopy white pines and large hemlocks. Most trees in residual stands are 6-12" dbh.

The surrounding private lands were very heavily harvested about 20 years ago and is now in early successional status. Following the harvest, abutting lands were subdivided into many camp lots.

In terms of aquatic and wetland features, the Unit contains 142 acres of a 'high value' Waterfowl and Wading Bird Habitat (as ranked by MDIFW) that extends southward along the West Branch of Seboeis Stream. Seboeis Stream is a largely free-flowing stream that is stocked with brook trout by MDIFW. Seboeis Stream also supports common sucker, brown bullhead, fallfish, smallmouth bass, creek chub, common shiner, pickerel, and other minnows (Nels Kramer, MDIFW staff, personal communication).

There are no mapped Deer Wintering Areas or other mapped wildlife habitats on the Unit.

Figure 11: Emily Stone at Gray Ledge Deadwater

T3 R9 WELS (Gray Ledge Deadwater)

The most notable ecological feature of the 924-acre T3 R9 Lot is Gray Ledge Deadwater, a 350 acre Unpatterned Fen

Ecosystem along either side of the East Branch of Seboeis Stream (Figure 11). This entire wetland is mapped by MDIFW as a high value Waterfowl and Wading Bird Habitat.

Soils on the Unit range from well-drained Thorndike silt loams on the northwestern corner to poorly drained Monarda and Burnham soils in the lowlands (USDA 2012). Forest cover consists of mature mixed and hardwood stands that have been selectively harvested by BPL within the last five years. Prior to that, some parts of the Unit were harvested by Diamond International Corporation in the 1950s, and there was a small timber trespass on BPL lands in the 1990s. Stands on the upper west side of the Unit (west of the management road) are hardwood dominated, with sugar maple, yellow birch, and beech key components. Stands on lowlands east of this road consist of spruce, fir, white pine, and hemlock with about 50 acres of cedar abutting the open wetlands. Even in areas that have been harvested, some stands maintain late-successional values.

Abundant beaver activity is evident along Cedar Brook, which enters the large wetland complex from the northwest. Fisheries data indicates that the following species occurred in Seboeis Stream: chubs, white sucker, chain pickerel, sunfish, and smallmouth bass (KnowledgeBase, 2012).

Wassataquoik

The 2,099-acre Wassataquoik Unit lies on gentle slopes along Wassataquoik Stream at its confluence with the East Branch of the Penobscot River. The Wassataquoik Stream originates in Baxter State Park and then flows eastward through a steep-sided V-shaped valley, dropping an average of 42 feet per mile in its last three miles within BPL ownership.

Figure 12: Floodlplain forest on BPL parcel at the mouth of Wassataquoik Stream

For a relatively small parcel, the Wassataquoik Unit is underlain by a complex configuration of bedrock that includes pelite, chert (sedimentary rock with silica), volcanic rocks, and limestone.

The Unit contains a variety of upland and wetland natural communities, including Northern Hardwood Forest, Hemlock Forest, Transitional Aspen-Birch Forest, Lowland Spruce-Fir Forest, Spruce-Larch Forested Bog, and open wetlands. Nearly one quarter of the unit is an Ecological Reserve configured to conserve the exemplary Silver Maple

Floodplain Forest at the mouth of Wassataquoik Stream (Figure 12). At nearly 500 acres, this occurrence is one of the largest and most intact floodplain forests in the state, and it extends both upstream and downstream of state lands along the East Branch of the Penobscot River.

Fire historically occurred in parts of this Unit, giving rise to scattered stands of older aspen that are gradually transitioning to mixed stands of spruce, fir, and northern hardwood. The 1980s spruce budworm outbreak had a limited impact on this Unit but was most prominent in the softwood stands along Deasey Brook.

The Wassataquoik Unit also harbors notable patches of old forests, including a remnant stand (4-5 acres) of white pine and red spruce along a steep slope at the north side of Wassataquoik Stream with trees over 200 years old. There is a stand of spruce and hemlock (approximatley180 acres) at the western boundary of the unit that includes many trees in the 120-150 year old range and scored high on a 'late successional index' (a measure of old forest structure). This stand was selectively harvested in 2006 with the dual intent of removing forest products while retaining many of the valuable old forest structure characteristics of the stand.

Many parts of the Unit north of Wassataquoik Stream were harvested in the 1970s prior to state acquisition, and BPL has harvested limited other parts of the Unit since acquiring the Unit.

Both Wassataquoik Stream and the East Branch of the Penobscot River support native brook trout fisheries. In addition, the East Branch supports fisheries for landlocked salmon and smallmouth bass. Special regulations designed to enhance the brook trout and salmon fisheries have been implemented within the East Branch system, and results have been very encouraging according to MDIFW. The East Branch in this vicinity also harbors two rare riverine invertebrates: the **creeper** (a freshwater mussel) and **pygmy snaketail** (a dragonfly). Both species inhabit swift, clean rivers and both are listed as Special Concern species by MDIFW. Sound riparian management should ensure that habitat for these species remains intact.

An approximately 85 acre series of beaver meadows that drain Deasey Ponds, on the western end of the Unit, have been mapped as Wading Bird and Waterfowl Habitat by MDIFW.

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Appendix 1: Rare Species and Natural Communities of the Smaller Lots

Bradford/Lagrange

Rare Animals	Location	S-Rank/ G-Rank	Occurrence Rank	Last Obs.	Acres
Wood turtle (*Clemmys insculpta*)	Dead Stream (specimen found about 2/3 miles downstream from BPL property)	G3/S3	Not available	2011	N/A
Brook floater (*Alasmidonta varicosa*)	Dead Stream (specimen found about 2/3 miles downstream from BPL property)	G3/S	Not available	2006	N/A
Creeper (*Strophitus undulatus*)	Dead Stream (specimen found about 2/3 miles downstream from BPL property)	G4/S3	Not available	2006	N/A

Turner Mountain

Rare Animals	Location	S-Rank	EO Rank	Last Obs.	Size (ac)
Spruce – Fir – Northern Hardwood Ecosystem	North Turner Mountain, extending into Baxter State Park	S5	A	2006	1,682
Spruce Talus Woodland	North Turner Mountain, east slope	S4	B	2006	71

Millinocket

Natural Communities	Location	S-Rank	EO Rank	Last Obs.	Size (ac)
Red Pine – White Pine Forest	East of Mud Brook Flowage	S4/G4	A	2011	249

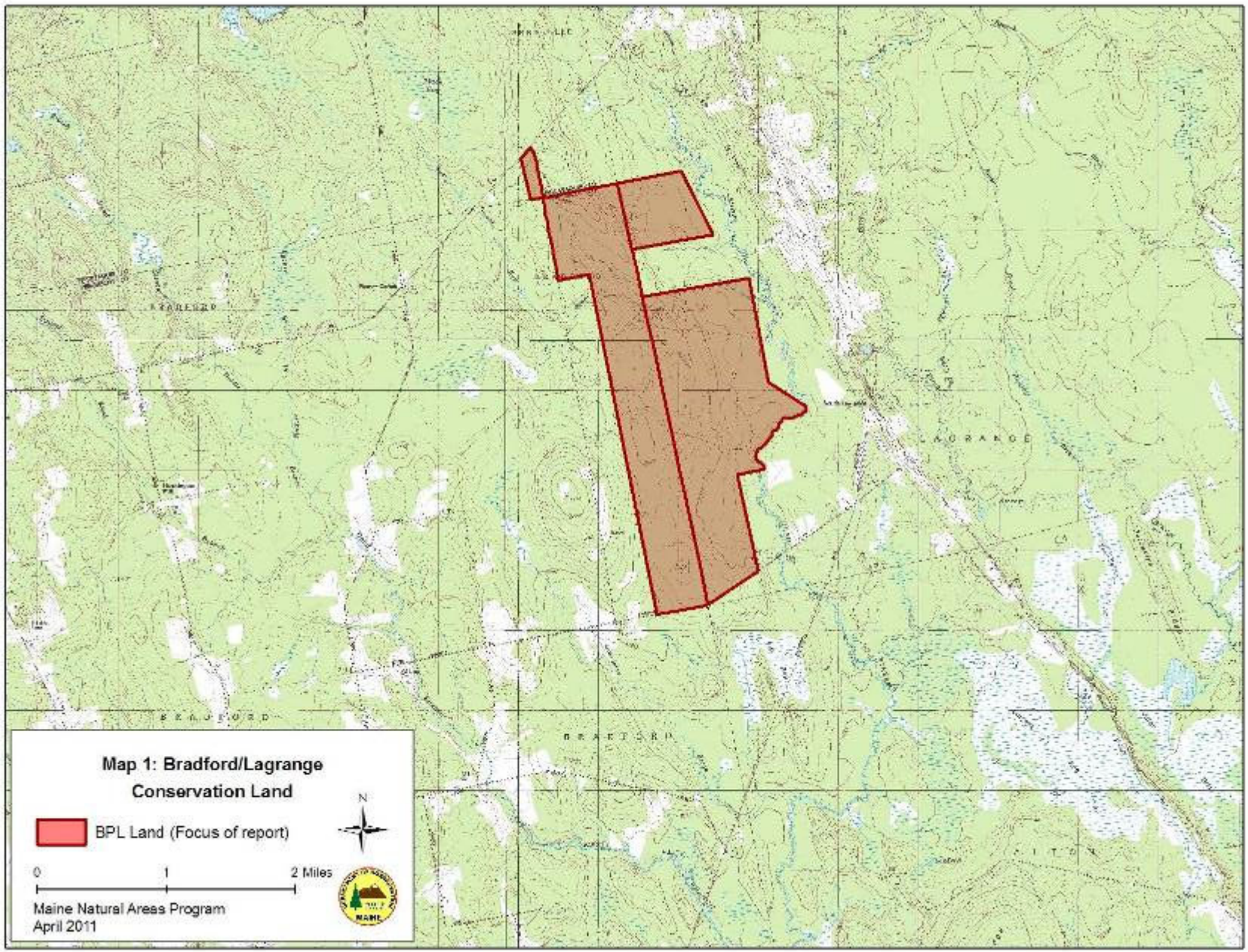
T3 R9 WELS (Gray Ledge Deadwater)

Natural Communities	Location	S-Rank	EO Rank	Last Obs.	Size (ac)
Unpatterned Fen Ecosystem	Gray Ledge Deadwater	S4	B	2010	279

Wassataquoik

Natural Communities	Location	S-Rank	EO Rank	Last Obs.	Size (ac)
Silver Maple Floodplain Forest	Wassataquoik/East Branch confluence	S3	A	2007	398
Sugar Maple Forest	Hunt Mountain	S4	B	2007	22
White Pine – Mixed Conifer Forest	Hunt Mountain	S5	B	1995	30
Lowland Spruce Fir Forest	Wassataquoik	S5	B	2005	180

Appendix 2: Maps of the Small Units


Map 1: Bradford/Lagrange
Conservation Land
BPL Land (Focus of report)
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Maine Natural Areas Program
April 2011
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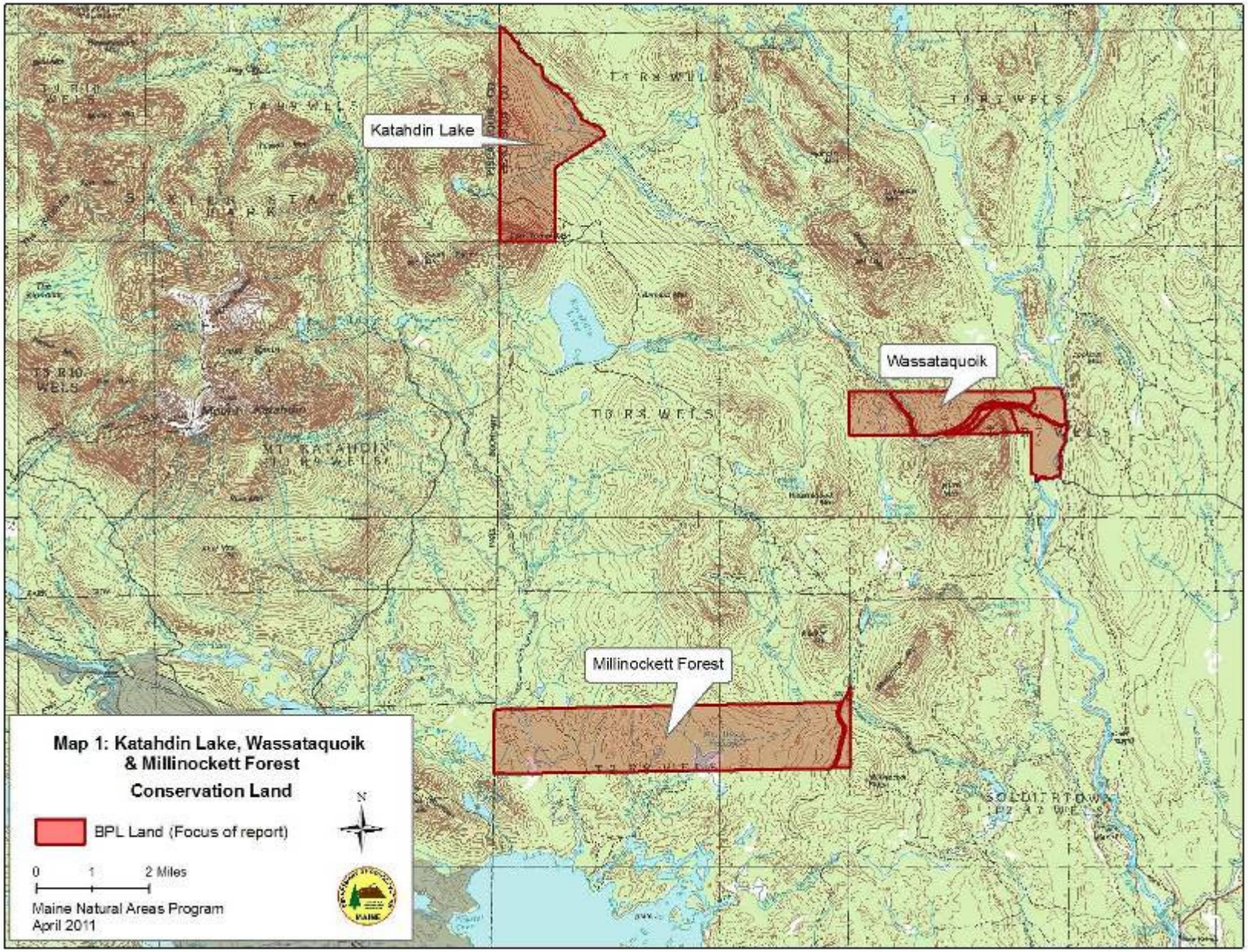
Katahdin Lake
Wassataquoik
Millinockett Forest
Map 1: Katahdin Lake, Wassataquoik & Millinockett Forest Conservation Land
BPL Land (Focus of report)
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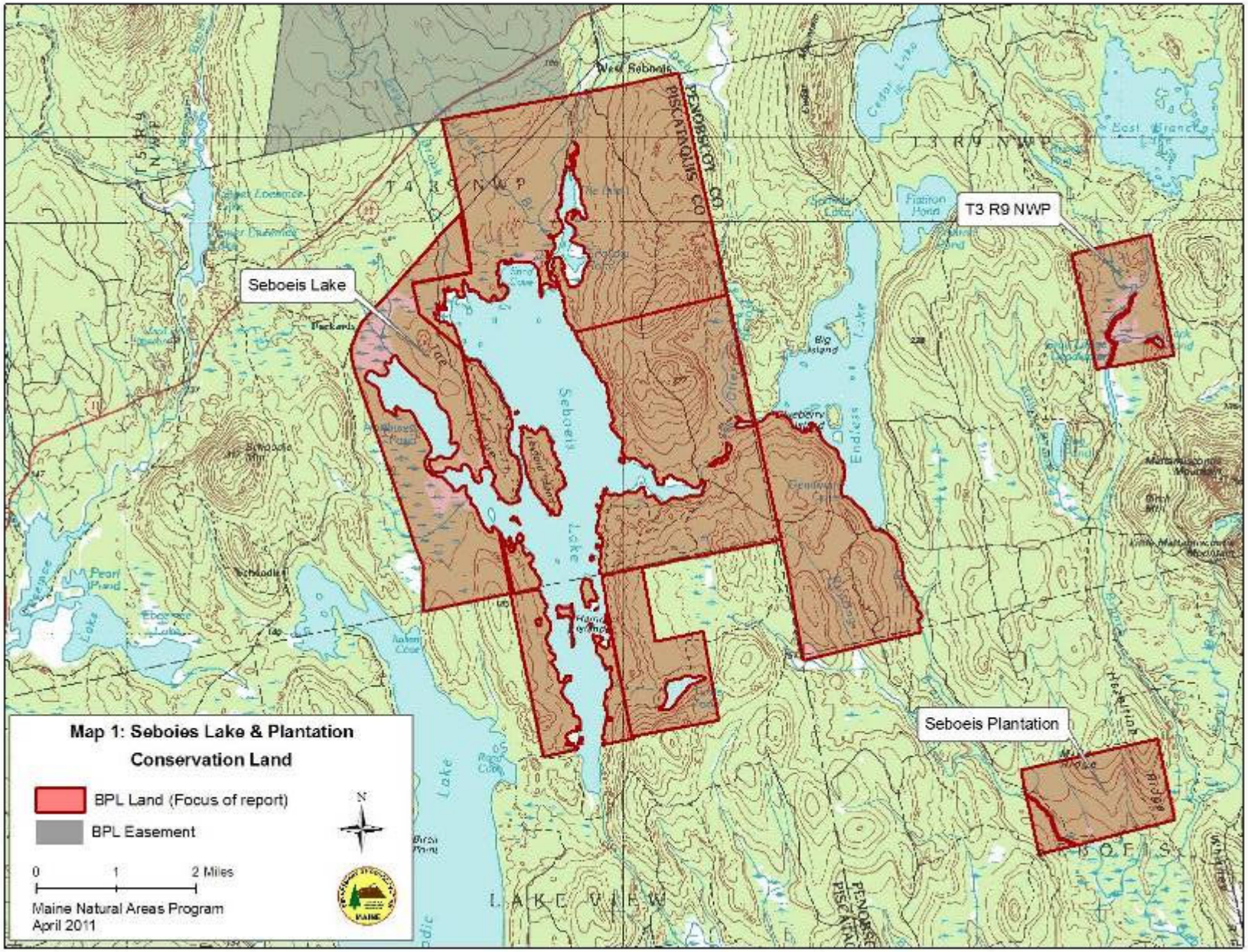
Maine Natural Areas Program
April 2011


Seboeis Lake
T3 R9 NWP
Seboeis Plantation
Map 1: Seboies Lake & Plantation
Conservation Land
BPL Land (Focus of report)
BPL Easement
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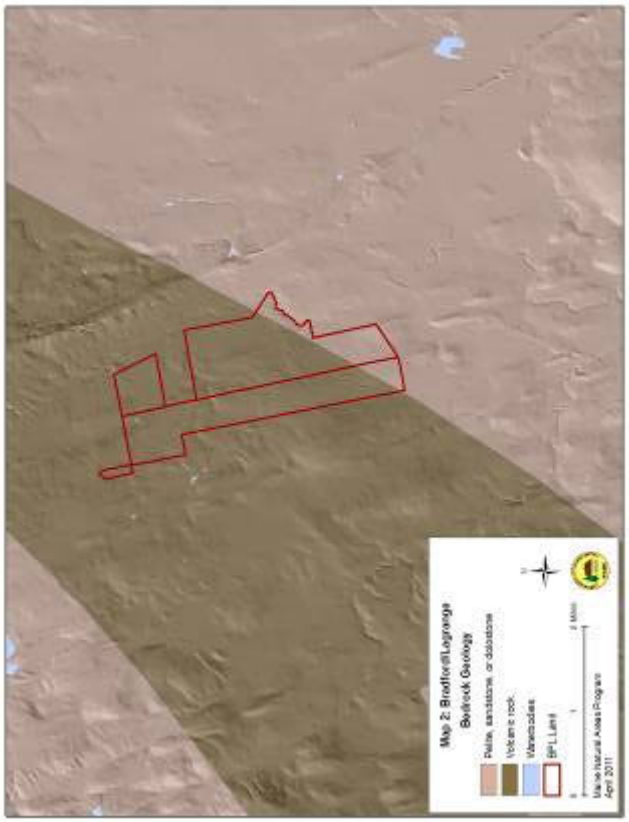
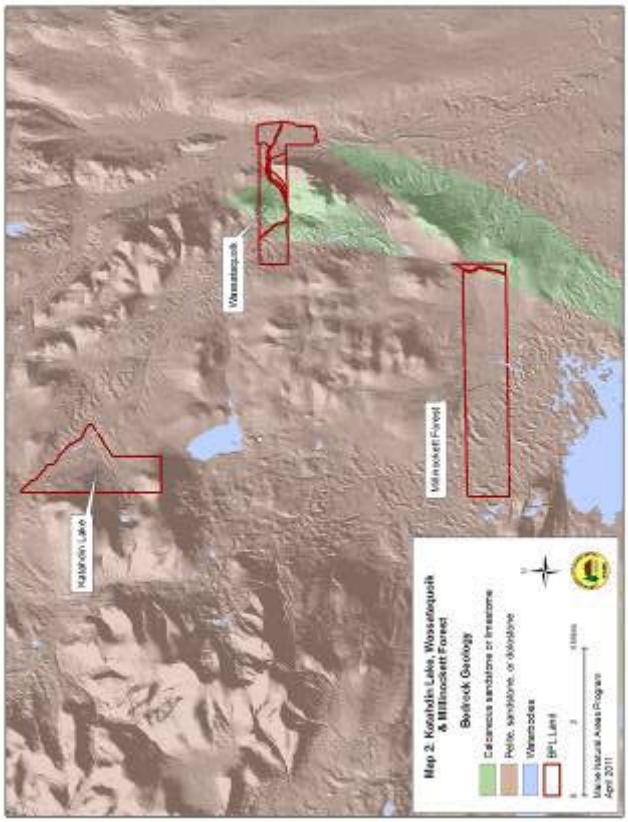
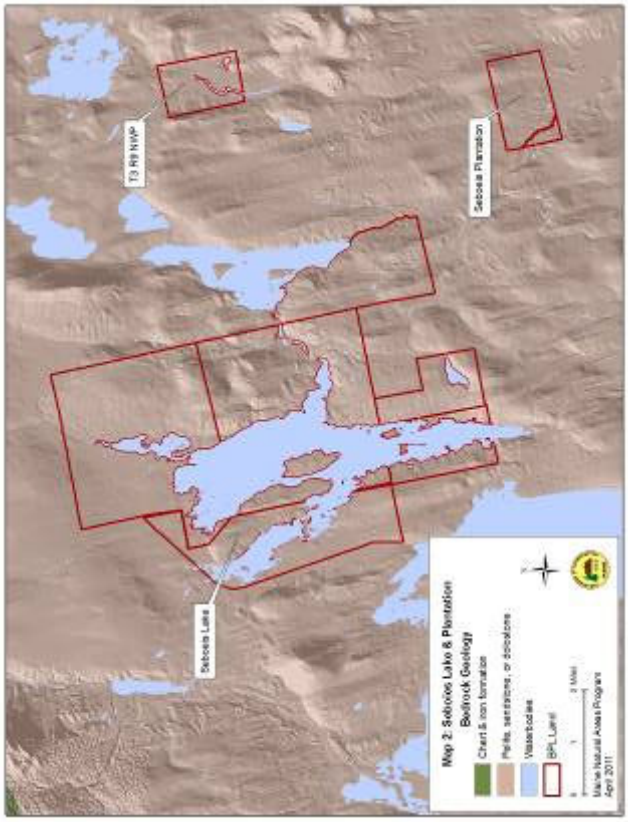
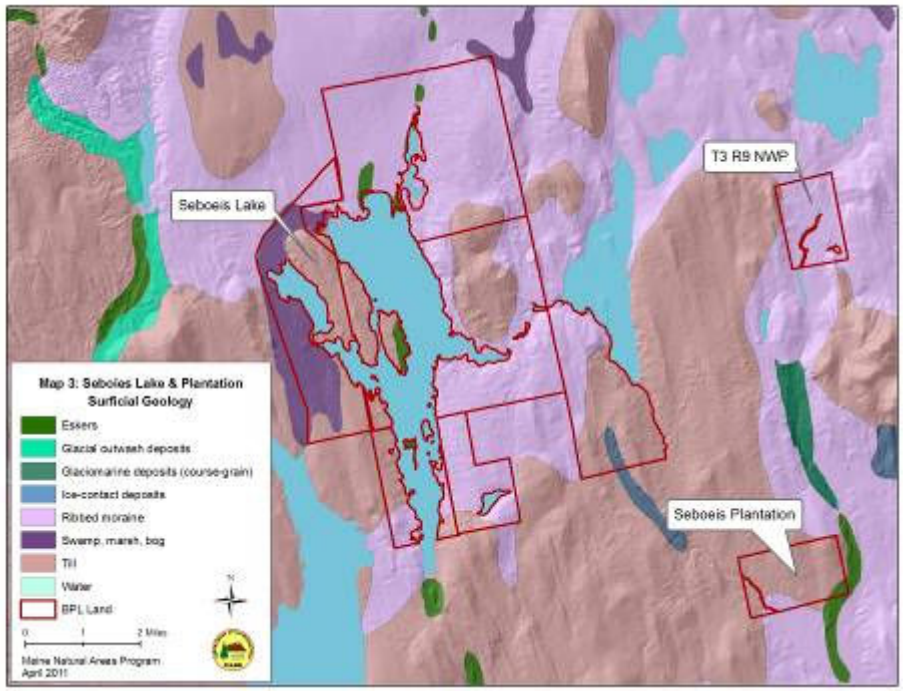
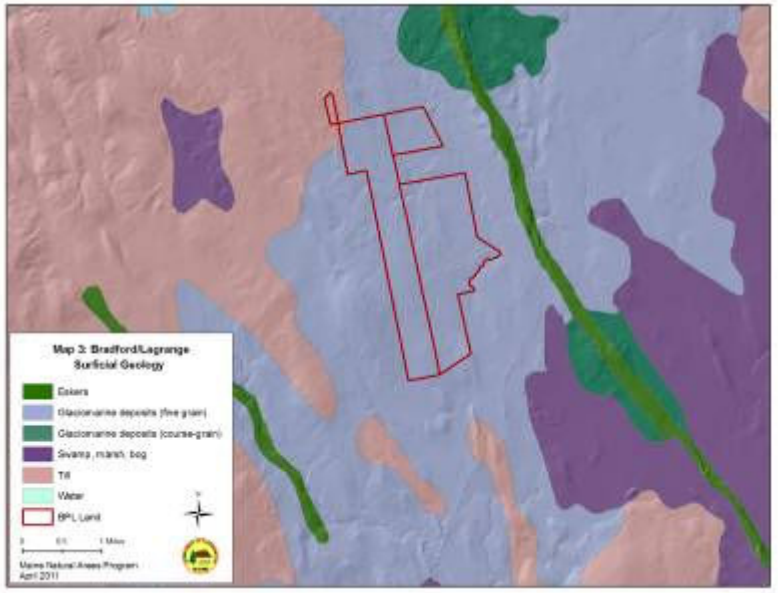
Maine Natural Areas Program
April 2011
T5 R9 NWP
T4 R9 NWP
T3 R9 NWP
PENOBSCOT CO
PISCATAQUIS CO
Seboeis Lake
Pearl Pond
Schoodic Mtn
Big Island
Endless Lake
Mattamiscontis Mountain
L A K E V I E W
T. O. F. S.

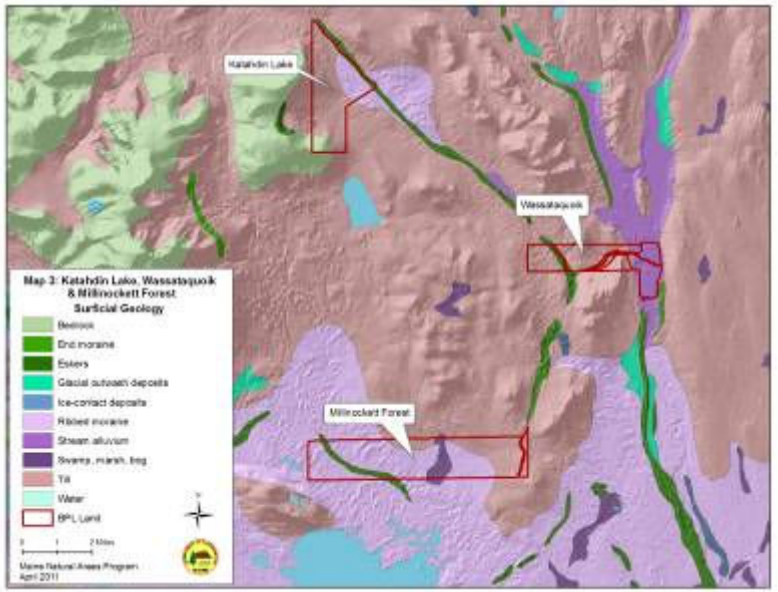

Map 2: Bradford/Lagrange
Bedrock Geology
Pelite, sandstone, or dolostone
Volcanic rock
Waterbodies
BPL Land
Maine Natural Areas Program
April 2011

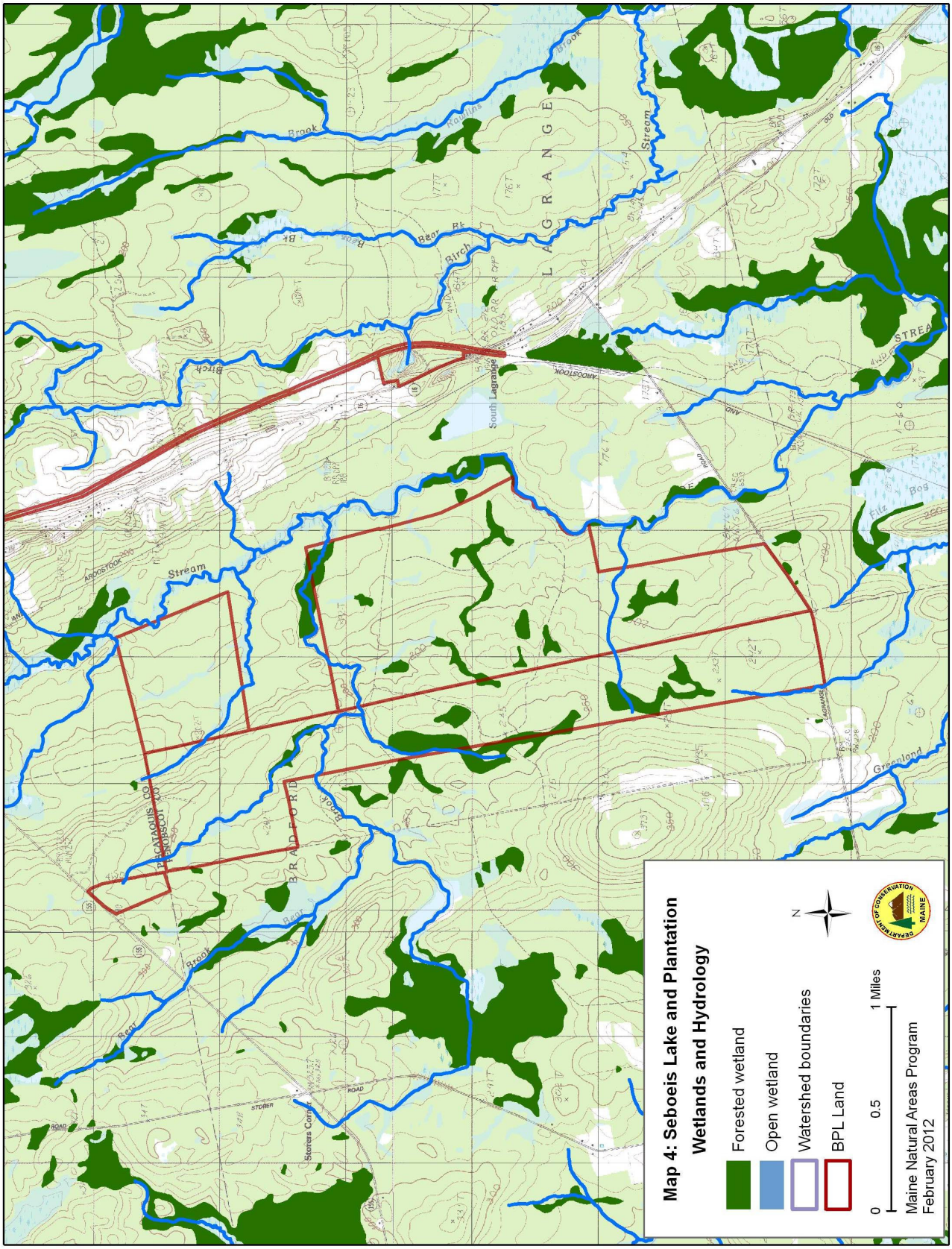

Wassataquis
Katahdin Lake
Matagamon Forest
Map 2: Katahdin Lake, Wassataquis
& Matagamon Forest
Bedrock Geology
Calcareous sandstone or limestone
Pelite, sandstone, or dolostone
Waterbodies
BPL Land
Maine Natural Areas Program
April 2011

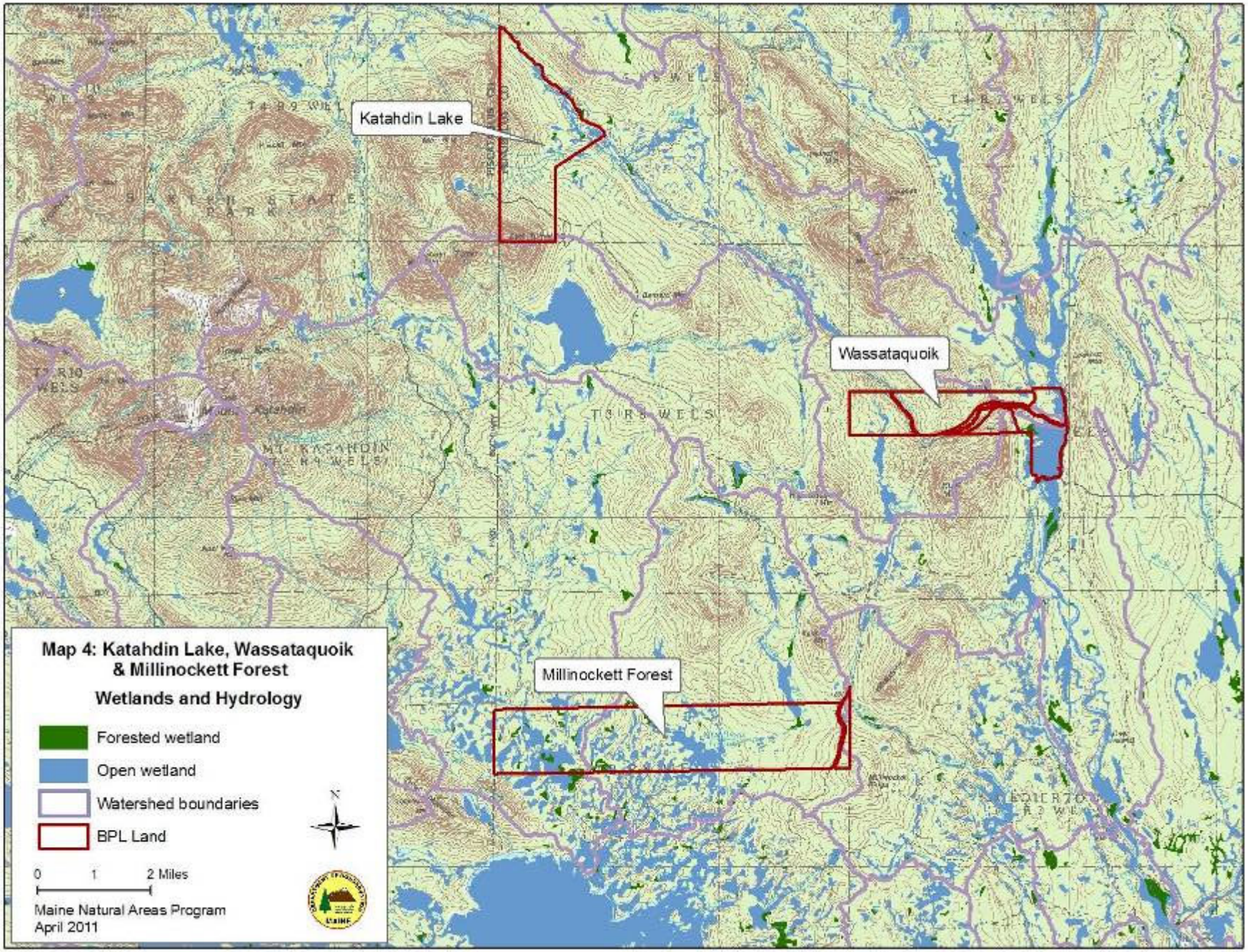

T3 R9 NWP
Seboois Plantation
Seboois Lake
Map 2: Seboois Lake & Plantation
Bedrock Geology
Chert & iron formation
Pelite, sandstone, or dolostone
Waterbodies
BPL Land
Maine Natural Areas Program
April 2011

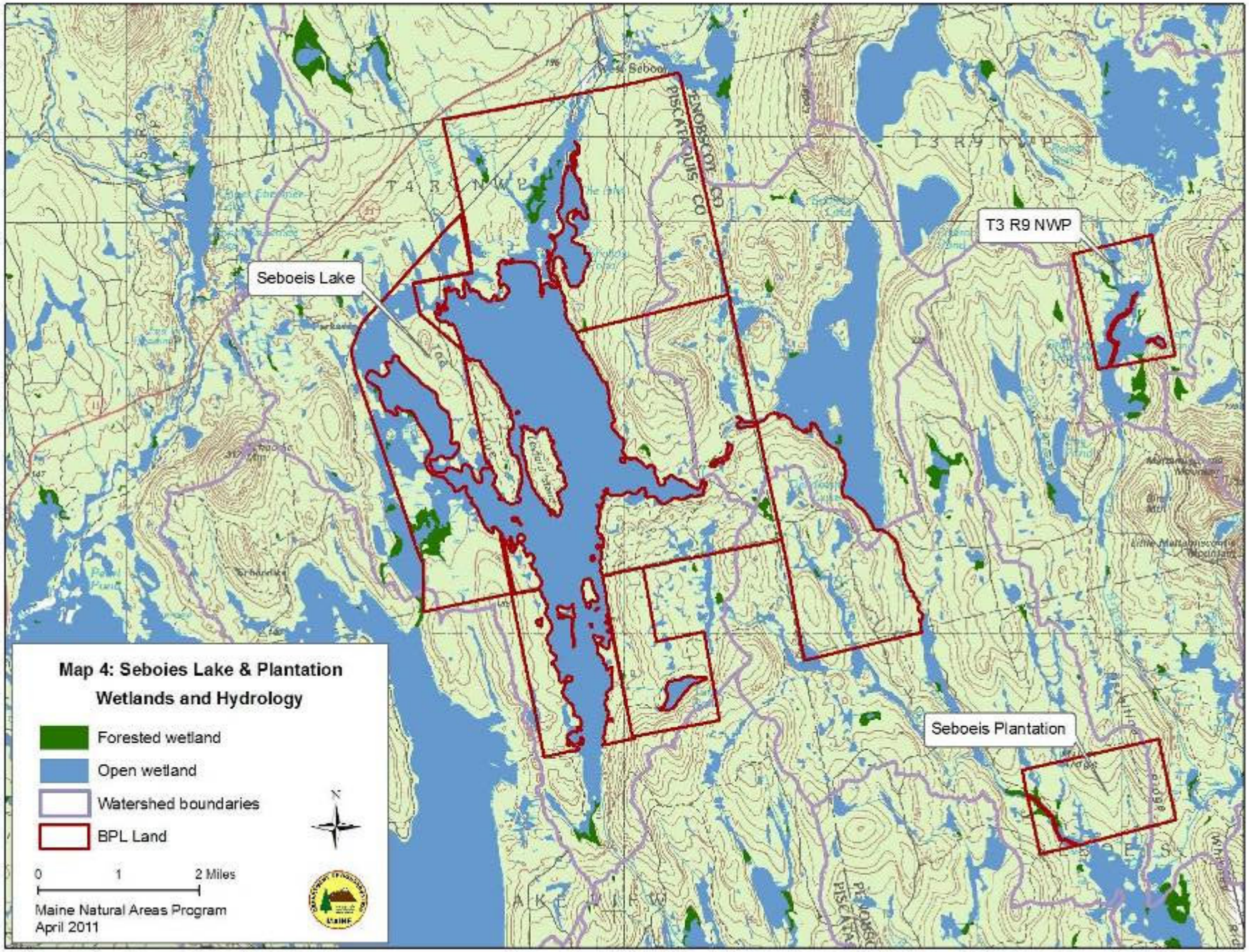

Seboeis Lake
T3 R9 NWP
Seboeis Plantation
Map 3: Seboeis Lake & Plantation
Surficial Geology
Eskers
Glacial outwash deposits
Glaciomarine deposits (course-grain)
Ice-contact deposits
Ribbed moraine
Swamp, marsh, bog
Till
Water
BPL Land
0
1
2 Miles
Maine Natural Areas Program
April 2011

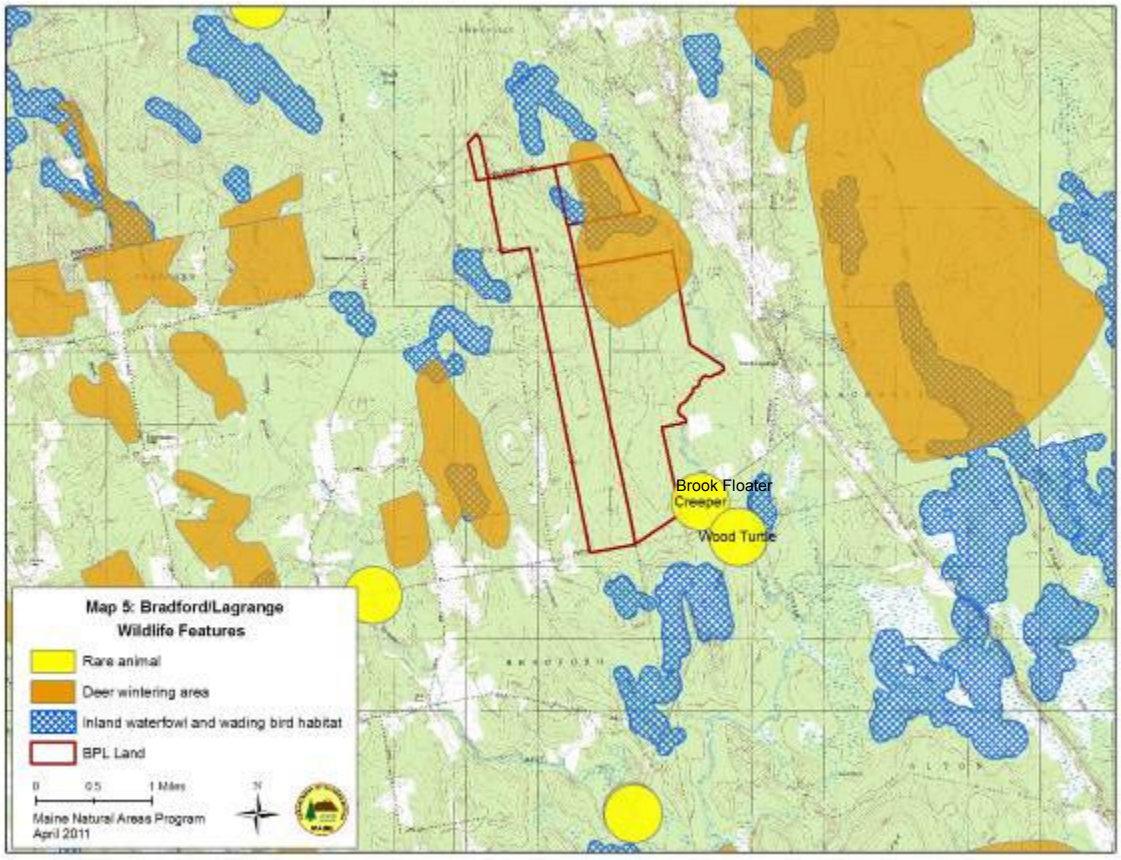

Map 3: Bradford/Lagrange
Surficial Geology
Eskers
Glaciomarine deposits (fine grain)
Glaciomarine deposits (course-grain)
Swamp, marsh, bog
Till
Water
BPL Land
Maine Natural Areas Program
April 2011

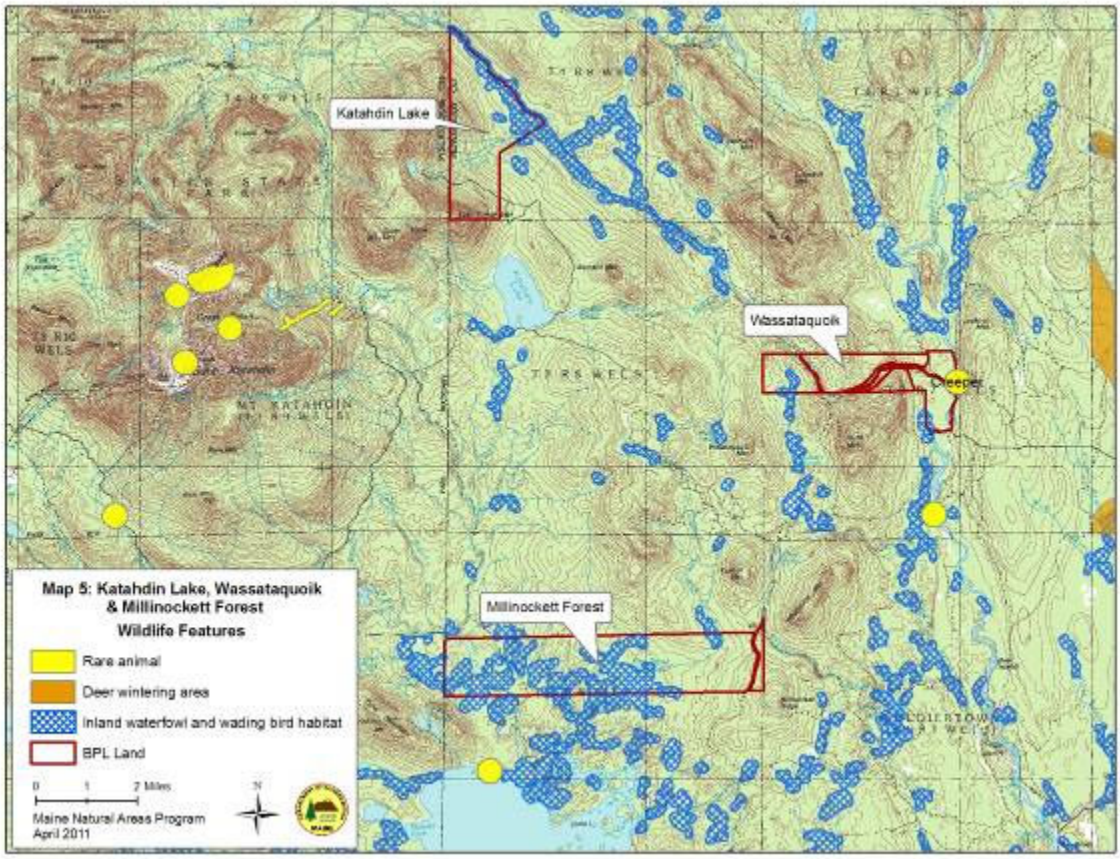

Katahdin Lake
Wassataquoik
Millinocket Forest
Map 3: Katahdin Lake, Wassataquoik
& Millinocket Forest
Surficial Geology
Bedrock
End moraine
Eskers
Glacial outwash deposits
Ice-contact deposits
Ribbed moraine
Stream alluvium
Swamp, marsh, bog
Till
Water
BPL Land
Maine Natural Areas Program
April 2011

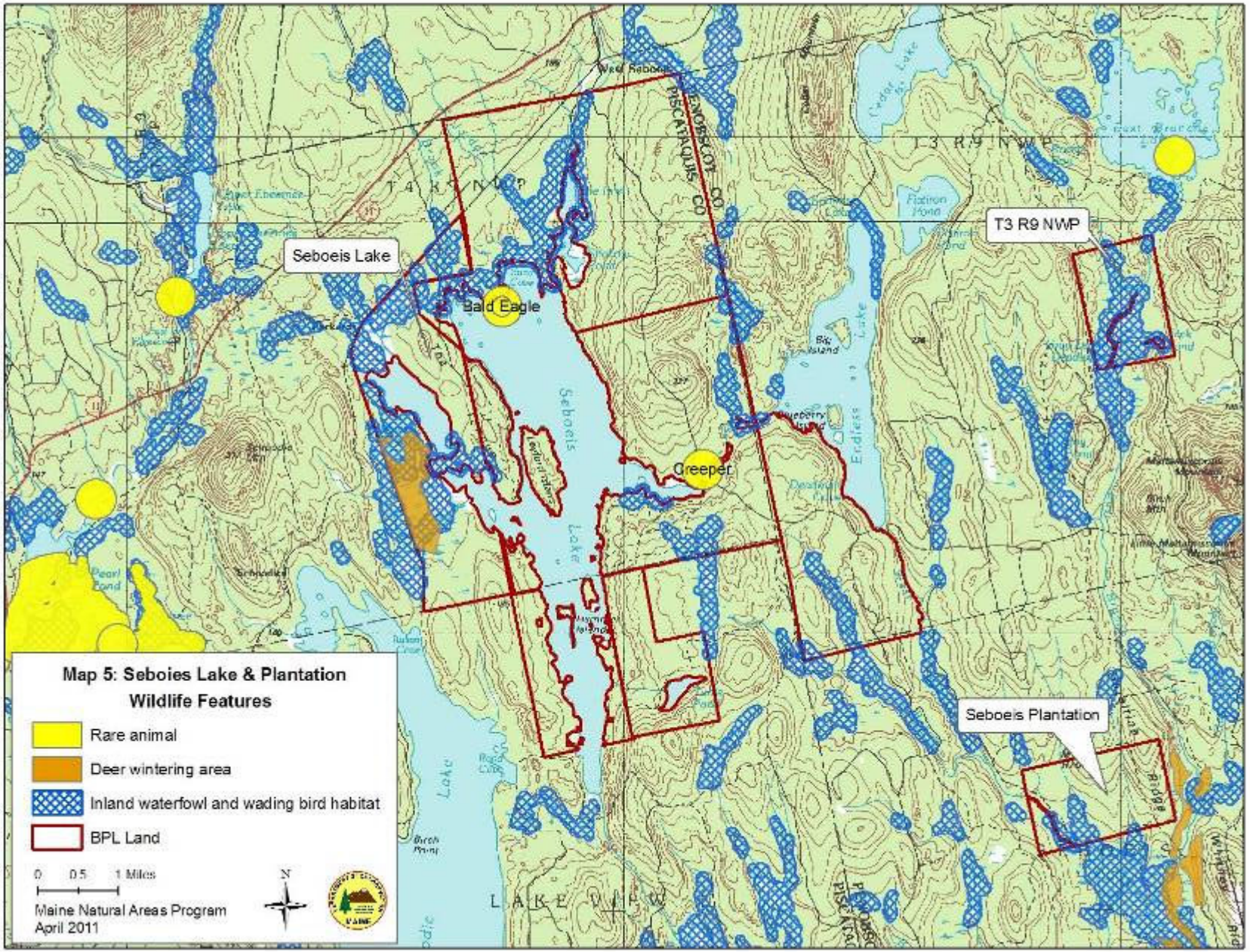

Map 4: Seboeis Lake and Plantation
Wetlands and Hydrology
Forested wetland
Open wetland
Watershed boundaries
BPL Land
N
0
0.5
1 Miles
Maine Natural Areas Program
February 2012
DEPARTMENT OF CONSERVATION
MAINE
LAGRANGE
BRADFORD
Stream
Brook
Bog
Greenland
South Lagrange
ROAD

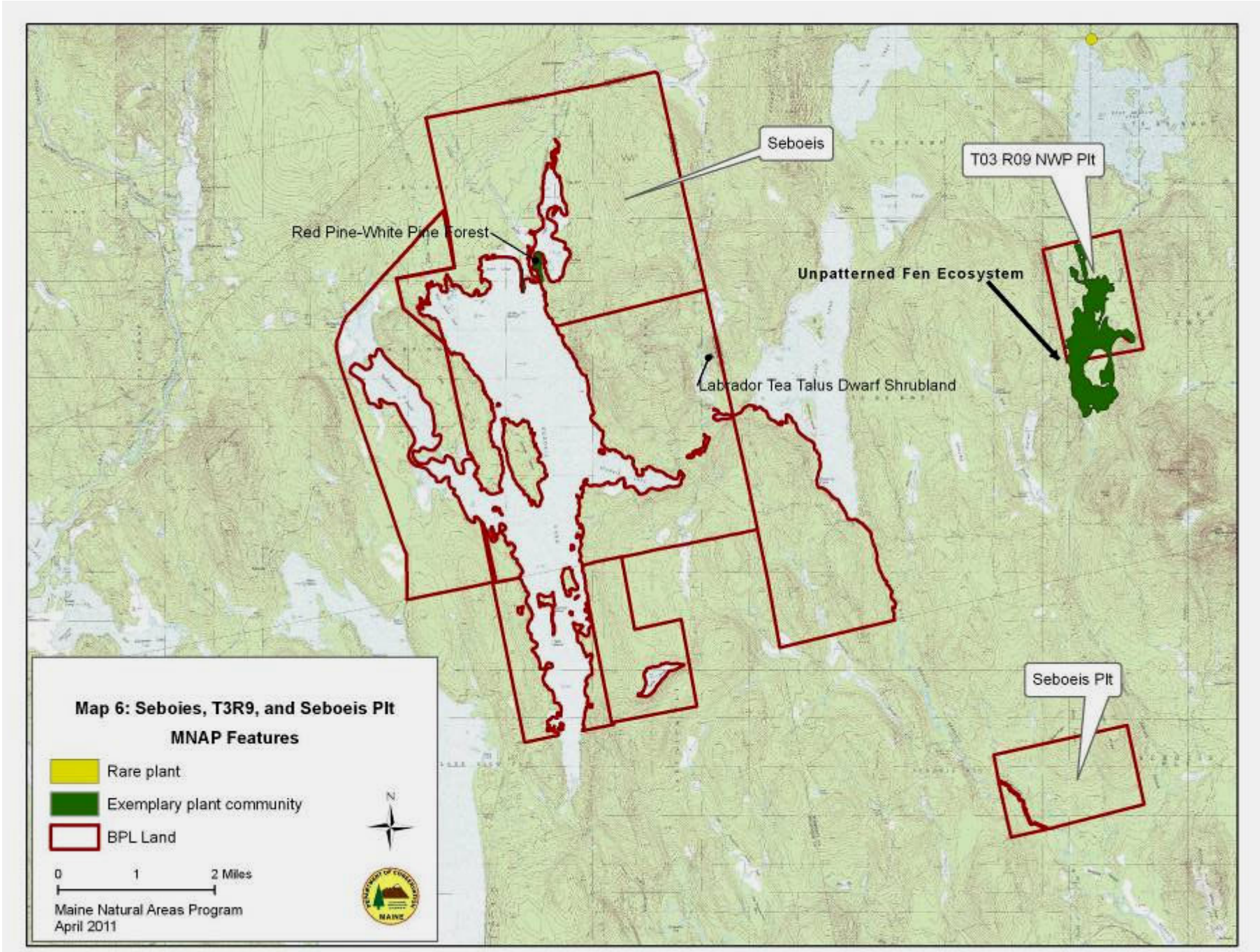

Katahdin Lake
Wassataquoik
Millinockett Forest
Map 4: Katahdin Lake, Wassataquoik & Millinockett Forest
Wetlands and Hydrology
Forested wetland
Open wetland
Watershed boundaries
BPL Land
0 1 2 Miles
Maine Natural Areas Program
April 2011

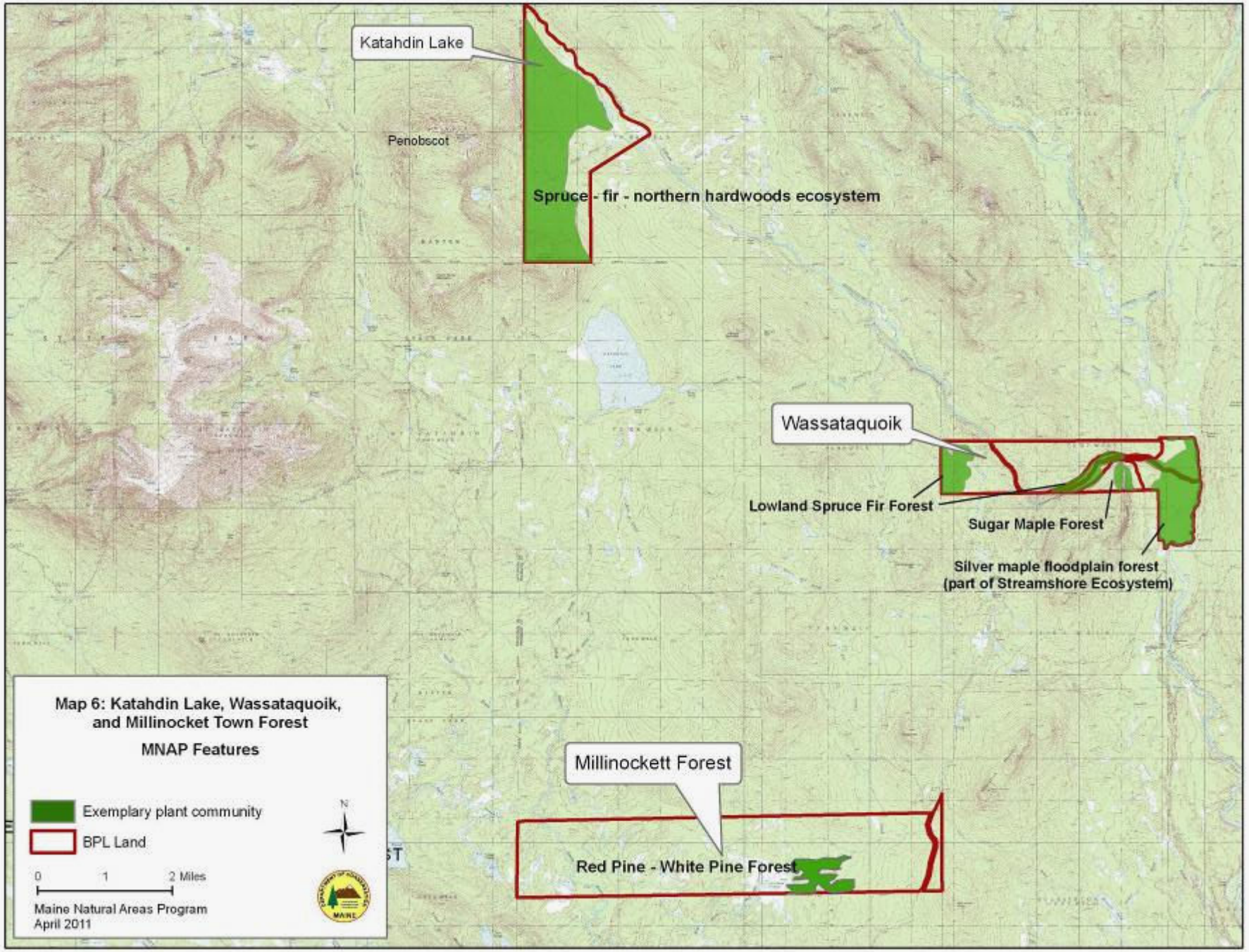

Seboeis Lake
T3 R9 NWP
Seboeis Plantation
PISCATAQUIS CO
PENOBSCOT CO
T4 R 9 NWP
T3 R9 NWP
Map 4: Seboies Lake & Plantation
Wetlands and Hydrology
Forested wetland
Open wetland
Watershed boundaries
BPL Land
N
0
1
2 Miles
Maine Natural Areas Program
April 2011


Brook Floater
Creeper
Wood Turtle
Map 5: Bradford/Lagrange
Wildlife Features
Rare animal
Deer wintering area
Inland waterfowl and wading bird habitat
BPL Land
0 0.5 1 Miles
N
Maine Natural Areas Program
April 2011


Katahdin Lake
Wassataquoik
Millinockett Forest
Map 5: Katahdin Lake, Wassataquoik
& Millinockett Forest
Wildlife Features
Rare animal
Deer wintering area
Inland waterfowl and wading bird habitat
BPL Land
0 1 2 Miles
N
Maine Natural Areas Program
April 2011


Seboeis Lake
Bald Eagle
Creeper
T3 R9 NWP
Seboeis Plantation
T 4 R 9 NWP
T 3 R 9 NWP
L A K E D U P E W
PENOBSCOT CO
PISCATAQUIS CO
Map 5: Seboeis Lake & Plantation
Wildlife Features
Rare animal
Deer wintering area
Inland waterfowl and wading bird habitat
BPL Land
0 0.5 1 Miles
N
Maine Natural Areas Program
April 2011


Seboeis
T03 R09 NWP Plt
Red Pine-White Pine Forest
Unpatterned Fen Ecosystem
Labrador Tea Talus Dwarf Shrubland
Seboeis Plt
Map 6: Seboies, T3R9, and Seboeis Plt
MNAP Features
Rare plant
Exemplary plant community
BPL Land
N
0
1
2 Miles
Maine Natural Areas Program
April 2011


Katahdin Lake
Penobscot
Spruce - fir - northern hardwoods ecosystem
Wassataquoik
Lowland Spruce Fir Forest
Sugar Maple Forest
Silver maple floodplain forest
(part of Streamshore Ecosystem)
Millinockett Forest
Red Pine - White Pine Forest
Map 6: Katahdin Lake, Wassataquoik,
and Millinocket Town Forest
MNAP Features
Exemplary plant community
BPL Land
N
0 1 2 Miles
Maine Natural Areas Program
April 2011