

MDIF&W to identify potential permittees (individuals issued Live Smelt Wholesaler permits).

#### Firewood Cutting Program

- Continue the firewood cutting program under which individual and commercial harvesters may harvest firewood in designated areas and under the supervision of the Bureau's forester.

#### Gravel Resources

- Continue to maintain existing gravel pits as needed for road maintenance and pursue a comprehensive survey of gravel resources on the Unit.

#### LUPC P-UA Zoning

- Work with LUPC to petition for a rezoning of the P-UA zone in the Moose Brook drainage based on the abandonment of the former public water supply infrastructure in the drainage following its replacement with a well system elsewhere in the Unit.

### **Days Academy Unit**

Following the same outline as for the Little Moose Unit, the first half of this section provides background information on the Days Academy property, including the general character of the land base; geologic and ecological resources and natural communities; wildlife resources; historic and cultural resources; recreation and visual resources; and timber resources. The second half summarizes the key management issues and opportunities that the Plan will seek to address through the Vision, resource allocations and management recommendations for the unit.

#### *Character of the Land Base and Acquisition History*

The 7,460-acre Days Academy Unit is a nearly entirely forested swath of property on the east shore of Moosehead Lake in Days Academy Grant Township, extending about 5.5 miles from north to south and 2.5 miles from east to west, with about seven miles of undeveloped shoreline. The highest elevation on the Unit is Little Kineo Mountain at 1,927 feet, followed by Shaw Mountain at 1,653 feet; the lowest elevation, 1,029 feet, is at the Moosehead shoreline.

The property was conveyed to the State of Maine in 1990 as a part of land trades between the State and Scott Paper Company. As part of the same transaction, Scott Paper Company granted a conservation easement to the State of Maine on nine miles of Moosehead Lake shoreline in Days Academy Grant, to a depth of 500 feet, extending south of the State property (see Map Figure 8). The conservation easement extinguished development rights but allows the Bureau to locate and maintain up to nine new water access campsites and to continue to manage existing campsites for public use. Scott Paper retained timber harvesting rights, and limited harvesting has occurred.

#### *Natural Resources*

##### **Geology and Soils**

The natural character of the land base is derived from the bedrock and the effects of glaciation which deposited sands and gravels, cobbles, boulders, and other material over the bedrock. Site

productivity for forest and other vegetative cover is largely a function of the quality of the soils formed over the residual glacial material.

On the Days Academy property west of Little Kineo Mountain, the bedrock is part of the Tomhegan Formation. This unit consists of several different rock types, the most common of which in this area is dark gray slate and rusty-weathering siltstone that contain abundant fossils (Boucot and Heath, 1969). Both are thinly bedded units, but with well-developed, near-vertical cleavage planes, which tend to dominate the character of any outcrop. Thickly bedded, dark gray sandstone is less common in this area. The Kineo Mountain Volcanic Member, a rhyolite unit of the Tomhegan Formation that is highly resistant to erosion, underlies areas of high local relief. The main part of this member consists of an extremely fine-grained, almost flinty, blue gray rock characterized by small, glassy crystals of quartz. Other less common rock types in the member are conglomerate with rounded cobbles of several centimeters or more in size, and a flow breccia with angular fragments (Boucot and Heath, 1969).

East of Little Kineo the bedrock is of the fossiliferous Tarratine Formation. The main part of this formation consists of very thickly bedded dark gray sandstone that is medium grained (Boucot and Heath, 1969). Other less common rock types in the formation are gray slate and thinly bedded siltstone.

Glacial ice advanced across the region from northwest to southeast scouring and plucking the bedrock surface leaving hills such as Little Kineo Mountain gentle on their northwest sides and precipitous on their southeast. The ice retreated 12,000--13,000 years ago, leaving a blanket of glacial materials over the bedrock.

### **Hydrology and Wetlands**

There are no lakes or ponds on the Unit but numerous scattered small wetlands. As commonly occurs, beaver have created wetlands by damming culverts of the road system. The land is drained by small brooks flowing into Moosehead Lake.

### **Natural Communities**

Days Academy has a variety of natural communities due to the variations in its topography, bedrock, soils, and drainage, and as a result of the timber harvests prior to State ownership. Little Kineo with its exposed bedrock, cliffs, and slopes provides a variety of sites for unique plants. Biologically, the top of the mountain is comprised of Acidic Summit and Acidic Cliff communities. Due to shallow soils, the summit is dry with sparsely vegetated balds interspersed with wooded patches comprised of red and white spruce, and paper birch. Lichens and mosses were found on the balds, generally along with a grass. Cliff vegetation occurs as scattered patches on narrow ledges or close to the base of the cliffs. Much of the cliff face is nearly vertical, dry, exposed, and lacks vegetation.

Past timber harvesting on Days Academy produced scattered, young, regenerating forests. Half of the property is covered by Northern hardwood type, which includes primarily American beech, red maple, sugar maple, and yellow birch in the older areas along with inclusions of spruce and fir, with aspen and paper birch predominating in more recently cut areas. Botanically, the richest and most diverse area includes the hardwood forests around Little Kineo

Mountain and the lower part of the cliffs. On the slopes of Little Kineo and Shaw Mountains, hardwood trees 18-24 inches in diameter and up to 70 feet tall are growing on the better quality sites. On the west slope of Shaw Mountain is a mature Low Elevation Spruce-Fir Forest, dominated by red spruce, many over 20 inches in diameter and the largest trees over 100 years old. If left uncut, these stands will soon be considered "old growth," providing additional diversity to the natural communities on the property.

Wetlands at the base of Little Kineo include Red Maple Swamp, Spruce-Fir Swamp, Vernal Pool, and Shrub Swamp communities. Wetlands on the north side of Shaw Mountain are similar in character and include Shrub Swamp, Marsh Headwater Stream, and Intermittent Stream Community types. The existing beaver flowages are important elements of habitat diversity. One beaver flowage visited during the natural resource inventory conducted for the 1997 Plan included plant communities typical for this habitat in north central Maine, that is, Beaver Flowage, Shrub Swamp, and Marsh Headwater communities.

### **Exemplary Natural Communities and Rare Plant Species**

The Little Kineo summit supports a ~35 acre Red Spruce-Mixed Conifer Woodland community dominated by stunted red and black spruce. Though not rare, this occurrence is considered exemplary due to that lack of disturbance, intact buffer area and relatively large size of the woodland. Although too small to be mapped as exemplary, patches of late successional Spruce-Northern Hardwood Forest and Low Elevation Spruce-Fir Forest have been documented by MNAP on Little Kineo and Shaw Mountain, respectively.

There is a population of fragrant cliff fern (*Dryopteris fragrans*), rare in Maine, on the cliffs along the southeast side of the mountain. No other rare plants were found within the summit or cliff communities. Although not state-listed, rattlesnake fern (*Botrychium virginianum*) and sweet cicely (*Osmorhiza claytonii*), both of which are uncommon, were found in the hardwood forests around the base of Little Kineo and the base of the cliffs and nowhere else on Days Academy.

### *Wildlife and Fisheries Resources*

The variety of forest types and the varied pattern of timber harvesting across most of Days Academy has resulted in a diverse array of habitats. Compared to adjacent lands the unit has more habitat diversity. The property is dominated by hardwood and mixed wood stands, with only about 10 percent of the area in softwood, and no large softwood stands. Much of the hardwood and mixed wood types are made up of intolerant species such as aspen and white birch, which occurs in a mixture with red maple, sugar maple, beech, and yellow birch. The beech has the potential to be managed to produce beechnut mast, which is an important wildlife food.

Beaver are numerous due to abundant food sources, such as aspen. Their activities have flooded roads, especially in the northern half of the property, creating small wetlands. There are no extensive wetlands. The preponderance of mixed wood types supports a variety of songbirds. Representative species include Canada warbler, yellow-rumped warbler, northern parula, and blackburnian warbler. The Days Academy property has substantial area in the aspen/birch association which is a short-lived, early successional forest type preferred by several species of

wildlife including beaver, grouse, northern redbelly snake, some warblers, and yellow-bellied sapsuckers. Other species such as moose, woodcock, and red fox also benefit from this type.

The old fields at the former Deer Head Farm are an uncommon habitat type in this region of the state, and increase the habitat diversity of the Days Academy property. The fields were reverting to forest but during the past few years BPL has conducted a project to clear most of the young woody vegetation, and will continue to do so biannually. The fields contain old apple trees and scattered alder patches, both of which are managed to benefit wildlife.

No rare animals are known to be resident on this Unit, although the peregrine falcon, a State-listed endangered species (breeding population only), may use the cliffs of Little Kineo as hunting perches. (Peregrines have successfully nested for a number of years on the cliffs of nearby Mount Kineo.)

### History and Culture

Four archeological sites are known on the shoreline of the Days Academy Unit. However, all are heavily eroded due to the lake's elevation having been raised eight feet by dams on the East and West Outlets, and are not considered significant sites (A. Spiess, 2015). Deer Head Farm and Folsom Farm were established on lands near the lake shore in the mid-1800s. Deer Head Farm supplied fresh vegetables, milk, cream, butter, and eggs to the Mount Kineo Hotel and was a popular excursion destination for hotel guests (B. Harris, 2015).

The lands were in commercial timberland company ownership for a number of decades prior to State ownership. Up until the mid-1970s, logs harvested at Days Academy were brought to the lakeshore at Cowan Cove, from where they were rafted or barged to the East Outlet to be floated down the Kennebec to the mills. These lands also once supplied white birch for spools made by the American Thread Company of Milo. The logs were hauled out of the woods to the lake then towed to Greenville and shipped via rail to Milo.

### Access

Vehicle access to the Days Academy Unit is available only from the south, on the gravel Spencer Bay road owned by Weyerhaeuser and connecting to the paved public road system at Kokadjo. The entrance to the Unit is about 36 miles from Greenville, and about 16 miles from Kokadjo (a 45 minute drive). In 2009, Plum Creek granted to the State of Maine the Spencer Bay Roads Easement which allows the public to use the Spencer Bay Road and connecting roads that reach to Days Academy and several points on the Moosehead Lake east shoreline. The easement includes the 1.2 miles of road along the east boundary of the Unit and the half mile of road leading to the Cowan Cove campground, but does not include the remaining 1.5 miles of road along the south boundary of the Unit. The easement does not grant use of the roads by snowmobiles or ATVs; such uses are permitted by special agreements with Weyerhaeuser.

Primary access into the Unit is provided by the six-mile public use loop road in the center of the property that encircles Little Kineo Mountain. Several spur roads branch off the loop road, some of which are maintained to public use road standard and other maintained as management roads and left open to vehicles. Two of these roads approach the shoreline, one at the Kelly Wharf

campsite and the other at Deer Head Farm. Map Figure 8 depicts the road system as well as the recreation resources on the Unit.

### Recreation Resources

The most prominent and attractive features of the Days Academy Unit are the two small mountains, Little Kineo and Shaw. Little Kineo's steep, cliff-like eastern side is particularly dramatic, capturing the view as one approaches the Unit from the south. A one-mile out-and-back trail leads to the summit, with a small trailhead parking area along the public use road. The trail follows the moderately sloping ridgeline, with the frequent open ledges encountered as the trail rises providing views over the lake and over the broad forests spreading out in all other directions. There are also excellent views from the generally flat top of the mountain. This hike is a good option for campers at Cowan Cove, and perhaps Lily Bay State Park, looking for nearby excursions that are not overly challenging (travel time from Lily Bay is about one hour). A less frequently used undesignated trail climbs Shaw Mountain from the closed shoreline road.

There are two shoreline primitive campsites on the property; the Kelly Wharf site, on the west shore, is accessible by vehicle and has room for two parties; the single party Big Duck Cove site, on the north shore, is accessible only by boat. (See Appendix F for a summary of recreation and other improvements completed at Days Academy over the last decade.)



*Kelly Wharf campsite on Moosehead shore.*

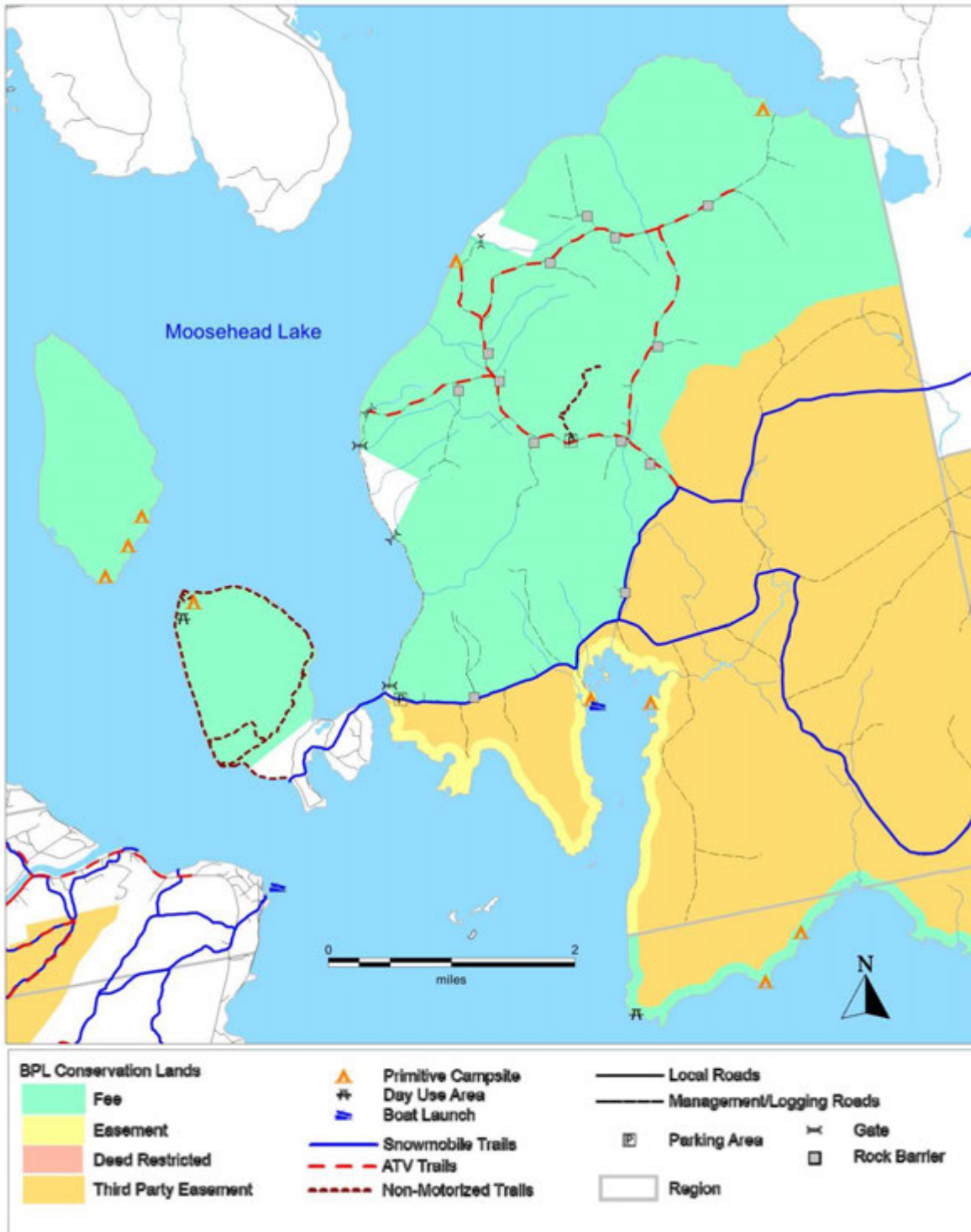


*View from Little Kineo trail.*

A designated snowmobile trail (Route 66) follows the gravel roads owned by Weyerhaeuser along the south and east boundaries of the Unit. ATVs have historically been used on the loop road and on portions of the public use and management roads that branch off the loop, although trails have not been officially designated and these roads signed as “shared use.” Weyerhaeuser has also authorized ATV use of the roads along the south and east boundary of the Unit, providing ATV access from the Kineo peninsula. There are no regional ATV trails connecting to the Days Academy Unit, although trails in the Kokadjo area reach as far as Spencer Bay (please refer to the regional ATV trails map provided in Section II).

The Days Academy property is also used for dispersed activities, particularly hunting, wildlife viewing and sightseeing, with good vehicle and pedestrian access afforded by the road system reaching into nearly all parts of the Unit.

## Days Academy Unit, Kineo and Farm Island SP Lands - Infrastructure and Recreational Facilities



MAP FIGURE 8.

### Timber Resources

Days Academy is primarily timbered with mixedwood and hardwood stands, and to a lesser extent with softwood stands. Substantial quantities of forest products have historically been produced from the lands, and the Unit was heavily harvested prior to State ownership. There are approximately 6,775 acres of regulated forest, greater than 90 percent of the total area. Much of the 685 acres of unregulated forest or non-forest are on the higher portions of Little Kineo and Shaw Mountains, with the shoreline, old fields, beaver flowages, and other open/semi-open wetlands comprising the remainder. Primary access was in place at the time of State acquisition.

### **Harvest History and Stocking**

Most operable acres had received moderate to heavy harvesting by the previous landowner during the 1970s and 1980s, leaving considerable areas of relatively low merchantable volume. Twenty-plus years of growth have brought total stocking up to and above the Bureau-wide average. Some of the softwood stands regenerated during the above harvests have been chemically released and a smaller portion had precommercial thinning. There is also the remnant of a couple hundred acres of Norway spruce plantation established about 1950, nearly all within the riparian buffer as the inland 80-90 percent of this stand was harvested by the previous landowner. This is one of the few places noted by the Bureau where the Norway spruce has successfully regenerated beneath its own overstory.

Harvesting under Bureau management began in 2007 and has totaled about 40,000 cords, more than half coming in 2014. These harvests have been 76 percent hardwood pulp, 83 percent total hardwoods, with most harvesting aimed at improving the overall quality of the forest. Soils are generally fertile enough to grow quality timber, with most areas able to support good hardwoods as well as the less demanding softwoods.

### **Stand Type Characteristics (regulated acres only)**

Softwood types occupy only about 12 percent of the regulated acres, with about 60 percent of stands on the higher elevation and about 40 percent found mainly in small stands on lower elevations. Stocking is about 25 cords per acre but variable, and species composition in the type is 50 percent spruce, 15 percent fir, 10 percent paper birch, 7 percent red maple, and about 5 percent each cedar and aspen. The spruce is generally of good quality, as is the younger fir and most paper birch. Quality of other species is generally only fair. Aspen and paper birch, mainly regenerated by the 1970s-1980s harvests, will begin to decrease in quantity over the next twenty years, due both to maturity and to harvesting.

Mixedwood type is found on 45 percent of regulated forest, and is often found on the still-regulated slopes of the two hills, but also in significant acreage throughout the lot. The type overall holds about 23 cords per acre, with spruce (25 percent), yellow birch (20 percent) and red maple (18 percent) the leading species. Aspen and paper birch, much in the 40-year-old range, split another 20 percent, with fir and sugar maple each about 7 percent. The spruce, younger fir, and some of the aspen/paper birch are of good quality, though some of the latter two are growing on wetter sites and are of lower quality. Sugar maple and yellow birch do reasonably well here, as does the occasional white ash.

Hardwood acres cover 43 percent of the forest, and are most common on mid-slopes where soils are deep. Most hardwood acres had extensive harvesting in the 1970s-80s, which established regeneration but reduced overall quality of the overstory. Stocking is about the same as for mixedwood. Hardwood stands are found in two subtypes. The first and more abundant is Northern Hardwoods, where sugar maple is the leading species and red maple next. Spruce is third, with beech, yellow birch, fir and paper birch also common. The second subtype is a mix of intolerant and tolerant hardwoods established in the 1970s-80s intensive harvests. Here aspen is the top species and paper birch next. Fir and spruce are sufficiently abundant to move overall composition nearly to mixedwood status. Red maple is together with spruce and fir as the next species behind the top two, Yellow birch, sugar maple, and a few beech occupy the better sites in this subtype. Sample sizes are too small to offer meaningful data for each subtype, but for hardwoods overall, sugar maple, aspen, and red maple split 60 percent of total volume, spruce comes next at 14 percent, with birches, beech and fir each in the 5-6 percent range. Hardwood quality is modest at present, though most sites are sufficiently fertile to support higher quality. Spruce and fir do very well within this type.

#### Management Issues, Concerns and Opportunities

The Bureau of Parks and Lands will manage the Days Academy Unit for multiple uses including outdoor recreation, wildlife habitat, scenic and natural area protection, water quality protection, and production of forest products. The following discussion summarizes the key management issues and opportunities associated with each of these uses on the Days Academy lands.

#### **Timber Management**

The majority of the Days Academy lands will continue to be managed as a multiple use working forest. Timber harvests on the Unit will supply forest products to local mills and be a source of employment for loggers, truckers, road construction, and others in related businesses. Timber harvests will also be an important source of timber revenue to support the Bureau's management program.

The Bureau manages timber resources where allocated to provide a diverse forested environment and generate high quality-high value products to support Bureau operations and the local economy. Exemplary management that contributes to public values, including recreation and wildlife habitat, is the standard.

The approximately 6,775 acres of regulated forest in the Days Academy Unit may be allocated to timber management as a dominant or important secondary use. Timber management may be designated as a dominant land use but may also occur as a secondary activity on lands with other dominant resource allocations, such as Remote Recreation or Wildlife Management areas. For example, Wildlife will be the dominant use in riparian buffers, but timber harvesting may occur in those areas. Access is good throughout the Unit, with development of the forest management road system essentially complete.

Management of softwood stands should work to maintain or increase the spruce component while keeping the fir about the same as at present. Closed cover softwoods are not common, and this area is exposed to winter winds off the lake and thus has a decreased potential for deer wintering. Harvesting in mixedwood stands should concentrate on improving overall quality,



especially in stands which had undergone heavy harvests 30-40 years ago. To a similar or greater extent than in the other types, improvement harvests are the preferred management strategy in the hardwoods.

These acres lie at the end of a lengthy access, much crossing through forests cut intensively in the 1980s or later (resulting in low activity by abutters, and thus little opportunity to share access costs), so harvests here need some scale in order to remain economical in the face of those costs. The need to target low-quality, low-value products due to stand conditions exacerbates that issue.

Other than distance of access, harvest operations face only minor obstacles as the terrain on the regulated forest isn't especially steep or rugged. Future harvests will continue in improvement mode, but will also include thinning of some of the younger softwoods that are becoming overly dense.

Visual management is important due to the viewsheds from Kineo and Little Kineo Mountains, and from Moosehead Lake. The relatively flat top of Little Kineo offers 360-degree views, and the southerly portion of the tract can be viewed from Kineo Mountain, immediately to the southwest. Accordingly, much of the south of the unit could warrant Visual Consideration - Class II allocation, along with areas near the lakeshore. Wildlife will be the dominant use in riparian buffers and on the relatively small area in wetlands and beaver flowages. Other areas, where visual allocation isn't needed, would be timber dominant.

#### **Wildlife and Habitat Protection/Special Resources**

No endangered or threatened wildlife is known to be present on the Days Academy Unit. However, the Little Kineo cliffs are monitored by MDIF&W for the presence of peregrine falcons. There has been concern in the past about potential impacts by rock climbers on any falcons that might nest in the area. Canada lynx may also be present, having been detected in nearby towns in recent winter surveys.

In addition to the old fields at Deer Head Farm, the most significant wildlife habitats on the unit are within the wetlands and riparian areas. Protection for these areas is typically provided by a Wildlife dominant allocation, based on the "specialized habitat" criteria described in the IRP. The allocation would be applied so as to demarcate a 330-foot buffer zone on each side of the major streams, and a 75-foot buffer zone around wetlands and in minor riparian zones. (Minor riparian zones are generally designated around flowing water bodies upstream from the point where such water drains less than 50 square miles.) Any trail construction or other recreational development in these areas would need to be carefully planned to minimize potential impacts to these important habitats.

The protected area (allocated to Special Protection in the 1997 Plan) on the upper reaches of Little Kineo Mountain needs to be restructured to better match the locations of the rare and exemplary communities and botanical resources found there. Recent MNAP botanical surveys should serve as the basis for any adjustments.

### **Recreation Facility Development**

The Bureau has identified a location for a hiking trail up the east side of Shaw Mountain, to replace the rough informal trail ascending the west side of the mountain from the closed shoreline road. The new trail would be a one-mile up and back trail beginning at end of a management road to the southeast, near Farm Brook. In addition to construction of a trail, this enhancement would require improvement of the access road, development of a small parking area, and installation of signage.

### Administrative Issues

#### **Access and Road Maintenance**

The Bureau is responsible for maintenance of the several miles of public use roads and management roads that remain open to vehicles on the Unit. The Bureau may conduct maintenance on the Spencer Bay Road leading to the Unit, in consultation with Weyerhaeuser and as required to maintain recreation access, under the terms of the Weyerhaeuser road easement.

Only parts of the spur roads extending from the public use loop road have been improved to the Bureau's public use road standard. Some sections of road that have not been improved have none-the-less been regularly used by vehicles, causing some damage in wet areas. An assessment of access needs would assist in determining what portions of the roads should be upgraded to public use road standard.

#### **Gates on Management Roads**

The owner of the "Pavilion Lot" at the southwest corner of the unit, at the east end of the Kineo causeway, has installed a gate on the old road that runs along the shoreline within the Unit, which was formerly used to access a leased camplot. The road, dating from the Kineo House Hotel era, was closed at the request of LUPC as it did not meet environmental standards. The gate has been taken down by unknown parties on several occasions, presumably to gain access to the closed road.

#### **ATV Routes on Shared Use Roads**

The Bureau needs to assess which portions of the public use and management road system on the Unit should be open to ATV use, and sign those roads as "Shared Use." Some portions of the management roads not suitable for riding have received ATV use, causing unacceptable impacts.

#### **Hiking Trail Maintenance**

The public has expressed the opinion that the Little Kineo hiking trail and parking area would benefit from additional maintenance.

#### **Inholdings**

The Days Academy property encompasses two privately-owned in-holdings along the shore of Moosehead Lake (see Map Figure 8). The Sims Hideaway inholding is 80 acres and the Folsom Farm inholding is 60 acres. There have been no substantial management issues associated with these inholdings in recent years.

### Vision for the Days Academy Unit

*The Days Academy lands are a relatively remote forestland on the shoreline of Moosehead Lake, with noteworthy ecological, wildlife, timber and recreational values.*

*These lands will provide a flow of forest products with a majority of the property managed as a multiple-use working forest for quality timber, respecting wildlife habitat needs and accommodating recreational trails.*

*Protections will be provided with appropriate allocations for sensitive natural resources, such as exemplary natural communities, wetlands and riparian habitats, and the lake shoreline zone. The old field habitat in the Deer Head Farm area will be perpetuated.*

*In addition to natural area protections, the Little Kineo and Shaw Mountain areas will continue to be managed for remote recreation experiences, with potential development of a new hiking trail up Shaw Mountain. Primitive campsites will continue to be provided at two shoreline sites, one accessible only by boat.*

*Traditional dispersed recreation activities such as hunting, trapping, and fishing will continue on the unit. ATV use of public use and management roads designated and signed as shared use roads will continue.*

*The Bureau will take steps to improve signage and other visitor information on the Unit and disseminated through maps and brochures. Ongoing improvement of the road encircling Little Kineo will continue as resources allow, culminating in a completed public use loop road. The Bureau will consider upgrading portions of the spur roads off the loop road to public road standards, as resources allow.*

#### Proposed Resource Allocations for the Days Academy Unit

The following “allocations,” as shown on Map Figure 9 - Days Academy Dominant Use Allocations, define general management objectives and direction for specific areas within the Unit. (Secondary allocations are not shown on the map.) See Appendix C for a description of designation criteria and management direction for the various allocation categories.

#### **Special Protection Areas (Dominant Allocation)**

- An area of approximately 260 acres encompassing the Little Kineo cliffs and the mountain summit above approximately 1,700 feet elevation. This designation recognizes the unique ecological resources associated with the cliffs, the exemplary natural community and fragile soil conditions on the higher elevations of the mountain, and the scenic nature of the area. Recreation will be a secondary use in this area. Commercial timber harvesting is not allowed.
- An area of approximately 57 acres encompassing the west slope of Shaw Mountain, recognizing the special forest community there and the scenic nature of the area. Recreation will be a secondary use in this area. Commercial timber harvesting is not allowed.

### **Wildlife Management Areas (Dominant Allocation)**

- A total of about 465 acres as a dominant allocation within the Moosehead Lake shore zone (330 foot zone from the edge of the water) as well as the minor riparian zone (75 feet) along the perennial streams in the Unit. Remote Recreation is a secondary allocation in these riparian areas.
- The Deer Head Farm area (~70 acres), recognizing the unique habitat value of the old fields there, which will continued to be maintained to prevent the reversion of the area to forest.

A secondary Timber Management allocation is also designated for the riparian buffer areas, subject to wildlife, recreation, and visual resource concerns.

### **Remote Recreation Areas (Dominant Allocation)**

- A Remote Recreation buffer would apply to areas within 500 feet of the proposed Shaw Mountain hiking trail, outside of the Special Protection allocation, totaling about 32 acres. No new motorized trails would be allowed in this area. Skid trails located so as to minimize impacts on trails to the extent practicable would be allowed.

A secondary Timber Management allocation is also designated for the trail buffer areas, subject to wildlife, recreation, and visual resource concerns.

### **Visual Consideration Areas (Secondary Allocation)**

- Visual Class I areas (generally areas where foreground views of natural features that may directly affect the enjoyment of viewers) will be defined as a secondary allocation on the ground for portions of Little Kineo and Shaw Mountain outside of the Special Protection areas, recognizing their high visibility from those mountains. This allocation will also apply to the undeveloped shoreline of Moosehead Lake, recognizing the visual sensitivity of that area as viewed from the lake.
- Visual Class II areas will be defined as a secondary allocation in areas beyond the immediate foreground, such as background views of forest canopies from ridgelines and background hillsides viewed from public use roads, or interior views beyond the Class I area likely to be seen from a road or trail; recognizing the visual sensitivity of areas viewed from Little Kineo and Shaw Mountains on the Unit and from nearby Mount Kineo, much of the southern half of the Unit, in particular areas closer to Moosehead Lake and Mount Kineo, and areas south and east of Little Kineo are included in this allocation.

### **Developed Recreation - Class I Areas (Dominant Allocation)**

- All roads or trails designated for public motor vehicle use, snowmobile use, or ATV use.
- Existing primitive campsites on the Moosehead Lake shoreline, as well as existing parking areas and trail heads and areas set aside for development of these facilities to serve both motorized and non-motorized (hiking) trails; these are small areas of less than an acre in most cases.

### Timber Management Areas (Dominant Allocation)

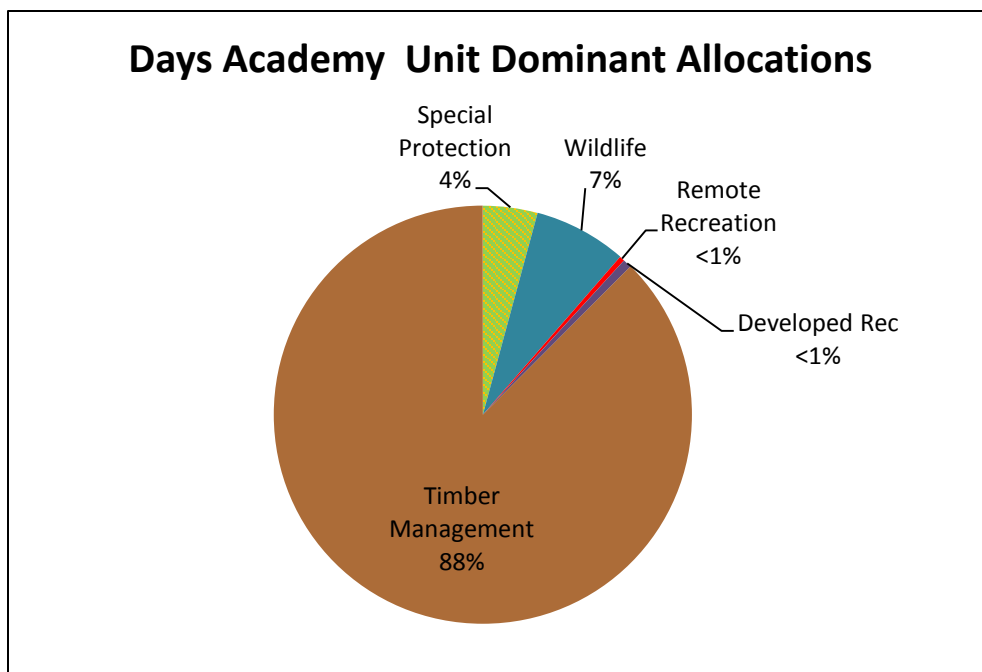
- All other areas not allocated above are designated Timber Management dominant (approximately 6,530 acres); includes a majority of the area outside the Little Kineo and Shaw Mountain Special Protection areas, excepting the portions allocated to Wildlife in the Deer Head Farm and shoreline and stream riparian areas, and the small areas allocated to Developed Recreation and Remote Recreation.
- Recreation will be recognized as an important secondary use within the timber dominant allocation. Timber management will be conducted so as to limit crossings and other direct impacts of any established non-motorized trails to the extent possible without placing excessive constraints on access to timber.

### Days Academy Unit Allocation Summary

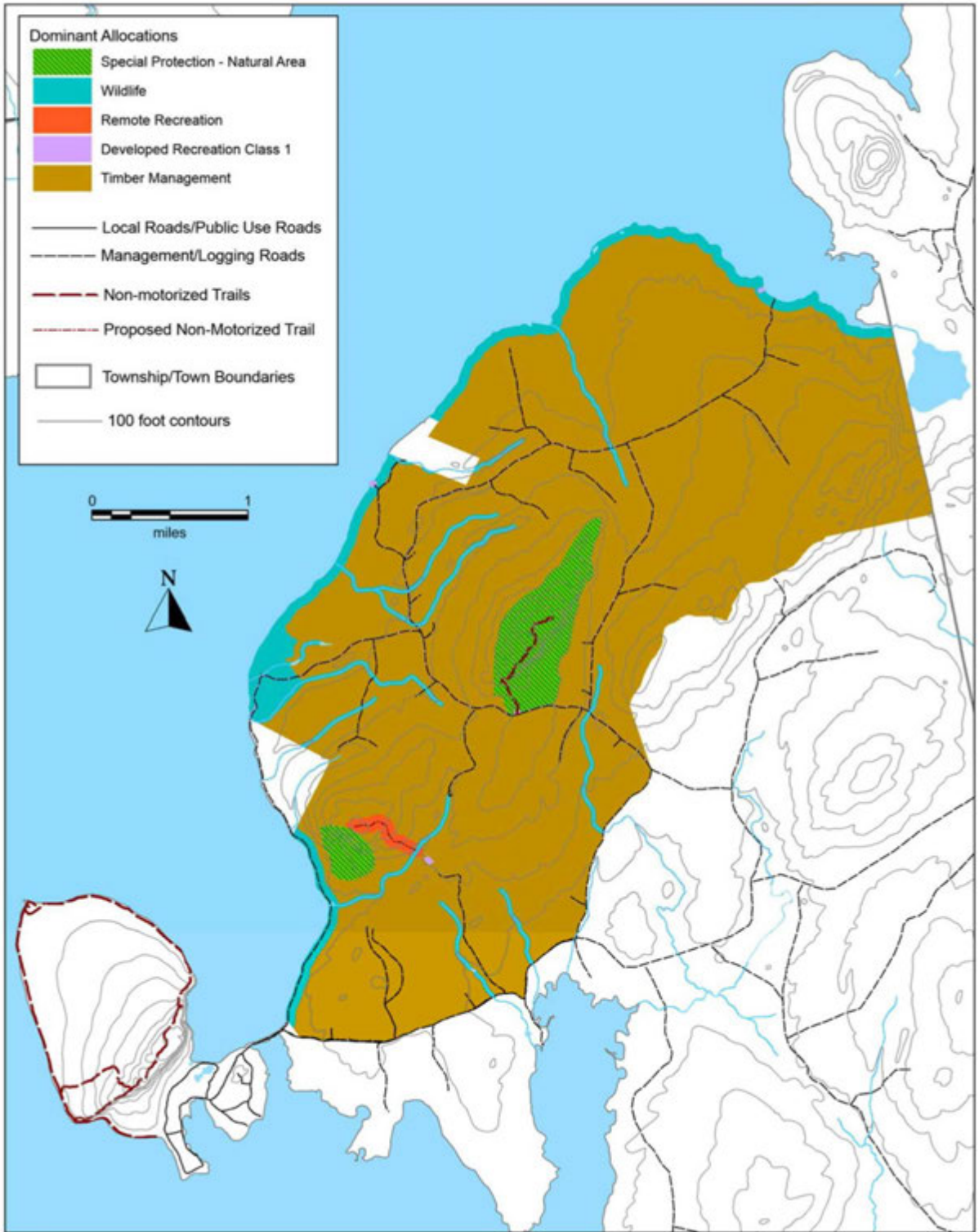
Allocation	Number of Acres			%
	Dominant	Secondary	Total	
Special Protection	315	Not applicable	<b>315</b>	<b>4.2</b>
Wildlife Management	535	Not applicable	<b>535</b>	<b>7.2</b>
Remote Recreation	30	660	<b>690</b>	<b>9.3</b>
Visual Consideration – Class I	0	~660*	<b>~660</b>	<b>8.8</b>
Visual Consideration – Class II	0	~560*	<b>~560</b>	<b>7.5</b>
Developed Recreation – Class I	50	Not applicable	<b>50</b>	<b>&lt;1</b>
Timber Management	6,530	225	<b>6,755</b>	<b>90.5</b>

Note: Acreages are representations based on GIS metrics rounded to the nearest 5 acres, and do not sum to the total Unit acreage due to measuring error and limits of GIS precision (above acres are overall high by approx. 1%).

\* Preliminary estimate, to be refined in the field as part of forest prescription process.



# Days Academy Unit - Dominant Use Allocations



MAP FIGURE 9.

## Management Recommendations for the Days Academy Unit

### **Recreation**

#### New Hiking Trail

- Finalize the route for a new hiking trail up the east side of Shaw Mountain, beginning at the end of the management road that terminates near Farm Brook, and construct the trail, with a parking area and trailhead at the end of the road.

#### Trail Maintenance

- As resources allow, increase BPL maintenance of hiking trails on the Unit to provide more frequent and consistent removal of blowdowns, trail reblazing, etc.

#### Motorized Recreation

- Assess which public use and management roads on the Unit should be open to ATV use; designate those roads as “shared use” roads and installed “shared use” signage.
- Consistent with the assessment, continue to allow ATVs to use the public use and management roads on the Unit. Where needed, replace current gates with wider or “P” style gates to allow side-by-side ATVs to pass while excluding larger vehicles (e.g., jeeps and pickups).

### **Public Access and Management Roads**

- As resources allow, continue improvement of the loop road to the public use road standard with the objective of a complete public use road loop in the central part of the Unit.

### **Wildlife/Rare or Exemplary Ecosystems and Habitats**

- Coordinate with MDIF&W on any potential non-motorized trail development in areas allocated to Special Protection and Wildlife Management to ensure protection of sensitive wildlife habitats.
- Continue periodic mowing of old fields at Deer Head Farm area to perpetuate this scarce and valuable habitat.

### **Timber Management**

- The Bureau will manage areas allocated to Timber Management as a multiple use working forest. Timber resources where allocated will provide a diverse forested environment and generate high quality-high value products to support Bureau operations and Maine’s timber-based economy. The Bureau will practice multi-aged management with a long-term focus primarily on mature quality timber.
- Because of the high elevation lands on this unit and the presence of the Little Kineo hiking trail and the proposed Shaw Mountain hiking trail, certain areas nearest those features will be subject to Visual Class I considerations. Due to the visibility of much of the remainder of the south half of the Unit from Kineo, timber management on much of the south half of the Unit is subject to Visual Class II considerations.

## **Administrative Issues**

### Signage and Visitor Information

- Assess signage and visitor information provided on the Unit for possible improvements, and needs for signage at new locations.
- Develop a Days Academy Unit brochure and map for distribution to the public.

## **Sugar Island Unit**

As done with the preceding Units, the first half of this section provides background information on the Sugar Island property, including the general character of the land base; geologic and ecological resources and natural communities; wildlife resources; historic and cultural resources; recreation and visual resources; and timber resources. The second half summarizes the key management issues and opportunities that the Plan will seek to address through the Vision, resource allocations and management recommendations for the unit.

### Character of the Land Base and Acquisition History

The 4,491-acre Sugar Island Unit comprises nearly all of the state's largest inland island, which is about four miles long and nearly two and a quarter miles across at its widest points, with about 13 miles of undeveloped shoreline. The terrain of Sugar Island is gently rolling with the highest elevation approximately 1,480 feet, about 450 feet higher than the Moosehead shoreline.

The property was conveyed to the State of Maine in 1985 as a part of land trades between the State and Scott Paper Company. There are several outlots occupied by summer homes and camps, mainly clustered along the south and southeast shoreline of the island, along with two lots on the northwest shore.

### Natural Resources

#### **Geology and Soils**

Sugar Island is underlain in large part by fine-grained sedimentary rocks of the Seboomook Group. The primary lithology is fine-grained slate and siltstone arranged in beds of a few cm to 20 cm (1 to 8 inches) in thickness. The northern end of the island is underlain with limey sedimentary rocks. Central areas of the island also include a minor unit of quartzite. Gabbro of the Moxie/Big Squaw intrusions underlies the southern end of the island. Metamorphism caused by the heat of this intrusion is responsible for the more resistant rock underlying the hills on the southern part of the island (Boucot and Heath, 1969).

Most of Sugar Island, like Days Academy and other areas in the vicinity, is underlain with basal till, a heterogeneous mixture of sand, silt, clay, and stones (Genes and others, 1986). Till of this nature is formed through the grinding action of the glacier on the rock beneath it; it is fine-grained and very compact with low permeability and poor drainage. Areas underlain by basal till are characterized by smooth topography like that of Sugar Island.

Sugar Island is underlain by a variety of rock types contained in the basal till. On the northern end of the island soils should be strongly influenced by limey bedrock and be enriched in calcium. The southern end, underlain by gabbroic bedrock, should have soils enriched in iron,



magnesium, and to a lesser degree calcium. In other areas of the island the soils should generally be clay-rich, but without significant enrichment in these elements.

### **Hydrology and Wetlands**

There are no significant ponds on the island, which is drained by small brooks, and just a handful of small wetlands scattered in the interior.

### **Natural Communities**

Most of Sugar Island has been harvested at some time during the last century. Prior to the current ongoing harvest by the Bureau, the most recent harvesting occurred more than 35 years ago, in the southern portion and along the shoreline of Galusha Cove, on the east side of the island. Partial cutting has occurred elsewhere throughout most of the island. The oldest stands are located at the northern tip, in the northwest portion, in the southeast portion at higher elevations, and scattered along the shoreline. Trees in the northwestern areas were measured to be 123, 135 and 145 years old. In addition to timber production, the island's maple trees may have been used for maple syrup production.

Typical tree species found on the island include sugar maple, red maple, American beech, yellow birch, red spruce, hemlock, and white pine. Species in the understory include striped maple and balsam fir. Typical herbaceous species include hay-scented fern, spinulose wood fern (*Dryopteris spinulosa*), wood sorrel (*Oxalis montana*), stiff club-moss (*Lycopodium annotinum*), and starflower (*Trientalis borealis*). Various types of mosses are also found in the moister understory areas. These various herbaceous and moss species are indicators of a hardwood forest with acidic soil conditions.

### **Special Resources**

A small watershed draining into a large un-named cove on the west side of Sugar Island contains two areas of ecological interest. The first is a small, older-growth stand of hemlock where the stream discharges into the lake. The several acre stand may have been selectively cut, but still contains some large, impressive individual trees; one individual measured 32 inches in diameter and was 284 years old. At the head of the stream is a series of beaver flowages with a nearby stand of northern white cedar with diameters ranging from 10 to 20 inches when measured in the early 1990s. This small watershed shows less disturbance from past harvesting activities than other areas of the island; however, the hemlock stand and the beaver flowages are not significant from a regional perspective.

The state's northernmost occurrence of an Ironwood-Oak-Ash Woodland occurs at the rocky summit of a small hill on the southern portion of the island. These natural communities, rare in Maine, form on thin soils on low elevation knolls or mountaintops. This 10 acre woodland is dominated by stunted ironwood and sugar maple, with scattered white ash and red oak.

### ***Wildlife and Rare Animal Species***

Sugar Island has resident deer, black bear and moose. These species, and others, migrate between the island and the mainland. The preponderance of hardwood forest supports a variety of songbirds. Representative species include eastern wood-peewee, black-throated blue warbler, blue jay, and white-breasted nuthatch.

No rare animals are known to be resident on the island. Rusty blackbird (*Euphagus carolinus*) has been recorded by MDIF&W at a site on the east shoreline and had been observed in a wooded swamp along the north shore; although the species is not rare, it is of conservation concern because it has experienced steep population declines in North America and a contraction of its breeding range in Maine. The species breeds in wooded wetlands.

### History and Culture

According to the State Historic Preservation Office (SHPO), six prehistoric archeological sites are known on the shoreline of Sugar Island, with a seventh on an outparcel peninsula at the south end of the island. However, as is the case with nearly all Moosehead shoreline sites, all are heavily eroded due to the lake's elevation having been raised eight feet by dams on the East and West Outlets, and are not considered significant sites (A. Spiess, 2015). Scoping comments indicate that some believe unmarked Native American burial sites may exist on the island.

A 1957 topographic map depicts several woods roads extending into the interior of the island from the west shore, with a scattering of structures where the roads met the shoreline. A landscape analysis conducted prior to the 1997 Plan identified a former structure with a massive dirt foundation (six to eight feet wide at the base) and heavy timber supports at an inland site, and speculated that it may have been an old sugar shack. Two sets of camps are known to have been present on the island beginning in the 1890s, Greenleaf's Camps and Capen's. Wanna Eagle, wife of Chief Henry Red Eagle (1885-1972), Greenville native and first Native American graduate of Greenville High School, established Eagle Haven swim camp on Sugar Island for people who had been stricken with polio (Wikipedia, 2016). Wanna's marked gravesite is on the island, on public land a few feet beyond the boundary of one of the shoreline outlots.

Sugar Island was in commercial timberland company ownership for a number of decades prior to State ownership, and was extensively harvested in the 1960s and 70s. The wood was taken out on the ice and put inside booms or, in later years, yarded across the ice to Lily Bay Landing, which is now part of Lily Bay State Park, and to other nearby locations.

### Access

Access to Sugar Island is only by boat and across the ice in the winter. The south end of the island is less than half a mile across a narrow strait from Lily Bay State Park. The west shore of the island is about 8.5 miles from the boat launches and marina in Greenville and the north shore is about six miles from the Rockwood boat launch, assuming the most direct routes.

A temporary barge landing for loading and unloading of logging trucks and other equipment has been built on the east shoreline north of Galusha Cove. The landing will be blocked off at the conclusion of the current forest harvest cycle (discussed below). There are no permanent roads on the island. Logging roads built for the current harvest will be "put to bed" after the current harvest.

### Recreation and Visual Resources

There are six single and two-party shoreline primitive campsites on the property, four on the east side of the island and two on the west side (see Map Figure 10). Each site has a fire ring and

## Sugar Island and East Shoreline Lands - Infrastructure and Recreation Facilities



MAP FIGURE 10.

picnic table and is marked with a small sign visible from the water. Two of the sites were added in recent years. The nearest of these is 2.0-2.5 miles from the boat launches at Lily Bay State Park, the most convenient place for campsite users to launch. There are no trails or other recreation facilities. Hunters visit Sugar Island in pursuit of deer, moose or bear. Snowmobilers use the recently constructing logging roads as informal trails to explore the interior of the island.

Well over half the island's forest is visible from the lake, and with nearby mountains rising 1,000-2,000 feet higher than Sugar Island, all of its land is easily (though sometimes distantly) visible from a recreational destination.

### Timber Resources

Though the terrain of Sugar Island is largely gentle or moderate in slope and ruggedness, the south center of the island holds perhaps 100 acres of steep and rocky ground that's mostly inoperable, and other areas have smaller places of steepness. Add to that about 13 miles of shoreline, with much lighter harvesting within 100 feet of the lake and somewhat restricted in the rest of the 330-foot riparian buffer, plus a minor area of nonforest, and the operational landbase is likely closer to 4,000 acres. Most of that acreage holds soils of moderate to high fertility, capable of growing high quality timber of all species, though a minority of acres is much better for softwoods than hardwoods.

### **Harvest History**

Although heavily forested with mostly moderate slopes, Sugar Island had long been classified by the Bureau as unregulated due to difficulty of access for timber management. The previous landowner had harvested some 55,000 cords during the 1960s and early 1970s, with logs piled on the ice to be floated down the Kennebec in the spring, or trucked westward across the ice to Deer Island followed by another ice journey to the west shore of Moosehead. Bureau staff had considered several modes of access, including an ice bridge to nearby Lily Bay State Park, but all were abandoned due to potential complications. Recently, a logging contractor has been harvesting on Deer Island, using a sizable barge to transport equipment to and from the island, including loaded log trucks. The Bureau has entered into a harvesting agreement with this contractor, with a plan to harvest some 40,000 cords over the next eight years. Some right-of-way was cut in 2013 and one load of hardwood sawlogs barged to the mainland; more than 4,400 cords crossed the water in 2014. (See Appendix F for a summary of access improvements completed at Sugar Island in recent years.)

### **Stand Type Characteristic and Stocking**

Timber typing of this forest was done in 1995 with only the 1985 photography available (it is currently being retyped using 2013 air photos), so the types breakdown is probably of low confidence though the trend should be reliable. That typing had nearly 70 percent of the area in hardwood types, 21 percent in mixedwood, 10 percent in softwoods, with over two thirds of softwood acres in a single stand lying in the north central part of the island.

Based loosely on the timber types and some preliminary compartment examination fieldwork, the island forest holds over 30 cords per acre, not surprising given 40 years of growth on mostly fertile soils since the last harvest. Though only 10 percent of the land was typed as softwood, spruce is usually the leading component in mixedwood and almost always a minor part of

hardwood stands. Thus it appears to be the most abundant species with over 25 percent of total volume. Next in abundance are sugar maple, yellow birch, and red maple, each with 14-18 percent of forest volume. Beech is under 10 percent and declining, as elsewhere, and fir, hemlock, and white pine are each 3-4 percent of stocking. Some of the pine is in superstory trees, and those near the shore will mostly be retained, both for visual character and for raptor nest/perch trees. A scattered component of older-growth hemlock remains on the island.



*Log truck unloading from Sugar Island barge.*

### Management Issues, Concerns and Opportunities

The Bureau of Parks and Lands will manage Sugar Island for multiple uses including outdoor recreation, wildlife habitat, scenic and natural area protection, water quality protection, and production of forest products. The following discussion summarizes the key management issues and opportunities associated with each of these uses on the Sugar Island lands.

#### **Timber Management**

The majority of Sugar Island will continue to be managed as a multiple use working forest. Timber harvests on the Unit will supply forest products to local mills and be a source of employment for loggers, truckers, road construction (in this case, on the east side of Moosehead Lake, where logging roads to the barge landing have been improved), and others in related businesses. Timber harvests will also be an important source of timber revenue to support the Bureau's management program.

The Bureau manages timber resources where allocated to provide a diverse forested environment and generate high quality-high value products to support Bureau operations and the local economy. Exemplary management that contributes to public values, including recreation and wildlife habitat, is the standard.

The approximately 4,000 acres of regulated forest on Sugar Island may be allocated to timber management as a dominant or important secondary use. Timber management may be designated as a dominant land use but may also occur as a secondary activity on lands with other dominant

resource allocations, such as Wildlife Management areas. For example, Wildlife will be the dominant use in riparian buffers and on wetlands and beaver flowages.

In accordance with current policy, management of the older-growth trees will seek to retain that component at a similar proportion in the residual stand as it occurred pre-harvest.

Access for harvesting depends on the availability of large barges, two of which are operating on the lake in 2015. Use of the barge mandates warm-season operations.

A timber harvest on an island in Maine's biggest lake is potentially a high-visibility operation. From a silvicultural standpoint, the harvest is well justified; however, extra care is needed to ensure that from visual and ecological standpoints the harvest will also be appropriate. The two hills on the southern third of the island, one facing Lily Bay State Park, are the most visually sensitive portion of the island, but are probably inoperable. Nevertheless, those areas and smaller hills on the northern half of the island warrant Visual Consideration - Class I secondary allocation; the remainder should be allocated to Visual Consideration - Class II. The lakeshore riparian buffer plus some internal brooks and beaver flowages will be allocated to Wildlife Management.

### **Wildlife and Habitat Protection/Special Resources**

No endangered or threatened wildlife is known to be present on Sugar Island. The most significant wildlife habitats on the unit are within the wetlands and riparian areas. Protection for these areas is typically provided by a Wildlife dominant allocation, based on the "specialized habitat" criteria described in the IRP. The allocation would be applied so as to demarcate a 330-foot buffer zone on the entire shore zone, and a 75-foot buffer zone around the small wetlands and in minor riparian zones associated with the island's small brooks.

The only botanical resources on the Unit of a significance that would justify Special Protection allocations is the 10-acre Ironwood-Oak-Ash Woodland.

### **Recreation Facilities**

No additional recreation sites are envisioned at this time for Sugar Island. The Bureau should continue to monitor use of the shoreline campsites for an increase in use levels that might justify adding new sites or expanding existing ones.

### **Cultural Resources**

The IRP contains a number of policies addressing the treatment of historic and cultural resources, including archeological resources and burial sites and cemeteries. For example, the policy states that, generally, archeological resources will be left undisturbed, and provides legal and policy requirements if removal or disturbance is justified by development or other requirements. No recreational improvement projects are planned for Sugar Island that could have an impact on cultural and historical resources, and construction of seasonal management roads for timber harvesting is not expected to have such impacts. Nevertheless, state and federal law, as outlined in the IRP, will be followed in the management of cultural resources on the Unit.

### Vision for the Sugar Island Unit

*The Sugar Island lands are a highly visible forestland surrounded by Moosehead Lake and adjacent to a popular state park, with significant timber, wildlife, scenic and recreational values.*

*The Sugar Island lands will provide a flow of forest products with a majority of the property managed as a multiple-use working forest for quality timber, respecting wildlife habitat needs. The barge landing on the island will be removed when the current harvest cycle is complete, restoring the shoreline to a natural condition.*

*Protections will be provided with appropriate allocations for sensitive natural resources, such as wetlands and riparian habitats, the lake shoreline zone, and the small area of Ironwood-Oak-Ash woodland. The lakeshore zone will be managed for wildlife and for remote recreation experiences. Primitive boat-access campsites will continue to be provided at six shoreline sites; additional sites will be considered if justified by demand and as resources allow. Traditional dispersed recreation activities such as hunting, trapping, and fishing will continue on the unit. The Bureau will take steps to improve dissemination of information to boat-in campers who may desire to use the Unit, particularly those accessing the lake from Lily Bay State Park.*

### Proposed Resource Allocations for the Sugar Island Unit

The following “allocations,” as shown on Map Figure 11 - Sugar Island Dominant Use Allocations, define general management objectives and direction for specific areas within the Unit. (Secondary allocations are not shown on the map.) See Appendix C for a description of designation criteria and management direction for the various allocation categories.

#### **Special Protection Areas (Dominant Allocation)**

- An area of approximately 10 acres on a hill top at the southern end of the island, encompassing an Ironwood-Oak-Ash Woodland community. This designation recognizes the unique ecological resources associated this rare natural community. Recreation will be a secondary use in this area. Commercial timber harvesting is not allowed.

#### **Wildlife Management Areas (Dominant Allocation)**

- A total of about 475 acres as a dominant allocation within the Moosehead Lake shore zone (330 foot zone from the edge of the water) as well as the minor riparian zone (75 feet) along the small streams on the island. Remote Recreation is a secondary allocation in the shoreline riparian area.

A secondary Timber Management allocation is also designated for the riparian buffer areas, subject to wildlife, recreation, and visual resource concerns.

#### **Visual Consideration Areas (Secondary Allocation)**

- Visual Class I areas (generally areas where foreground views of natural features that may directly affect the enjoyment of viewers) will be defined as a secondary allocation on the ground for the island’s highest prominences on the south and north parts of the island and adjacent slopes, recognizing their high visibility from Lily Bay State Park and/or the lake.

This allocation will also apply to the undeveloped shoreline of the island, recognizing the visual sensitivity of that area as viewed from the lake.

- **Visual Class II** areas will be defined as a secondary allocation in areas beyond the immediate foreground, such as interior views beyond the Class I area likely to be seen from the lake or more distant ridges and mountains; recognizing the visual sensitivity of much of the interior island from those locations, the remainder of the island is included in this allocation.

**Timber Management Areas (Dominant Allocation)**

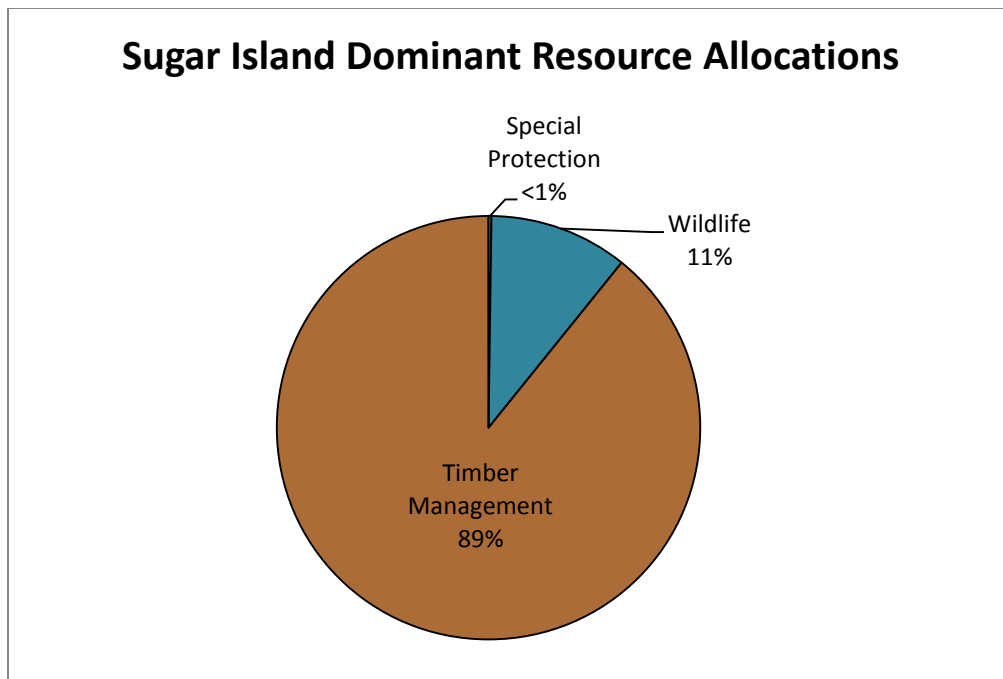
- All other areas not allocated above are designated Timber Management dominant (approximately 4,010 acres); includes the entire interior of the island excepting the portions allocated to Wildlife in shoreline and stream riparian areas.

**Sugar Island Unit Allocation Summary**

Allocation	Number of Acres			%
	Dominant	Secondary	Total	
Special Protection	10	Not applicable	<b>10</b>	<b>&lt;1</b>
Wildlife Management	475	Not applicable	<b>475</b>	<b>10.6</b>
Remote Recreation	0	450	<b>450</b>	<b>10.0</b>
Visual Consideration – Class I	0	1,630*	<b>1,630</b>	<b>36.3</b>
Visual Consideration – Class II	0	2,860*	<b>2,860</b>	<b>63.7</b>
Timber Management	4,010	475	<b>4,485</b>	<b>99.9</b>

Note: Acreages are representations based on GIS metrics rounded to the nearest 5 acres, and do not sum to the total Unit acreage due to measuring error and limits of GIS precision (above acres are overall high by <1%).

\* Preliminary estimate, to be refined in the field as part of forest prescription process.





### Sugar Island Unit - Dominant Use Allocations



MAP FIGURE 11.

## Management Recommendations for the Sugar Island Unit

### **Recreation**

- Continue periodic boat-based maintenance of the shoreline campsites. In conjunction with maintenance activities, monitor use levels to determine if capacity limits have been reached or exceeded. Consider expansion or addition of campsites at suitable sites if justified by use levels/demand, as resources allow.

### **Wildlife**

- Coordinate with MDIF&W on any potential campsite expansion or additions in the shoreline riparian buffer zone to ensure protection of sensitive wildlife habitats.

### **Timber Management**

- The Bureau will manage areas allocated to Timber Management as a multiple use working forest. Timber resources where allocated will provide a diverse forested environment and generate high quality-high value products to support Bureau operations and Maine's timber-based economy. The Bureau will practice multi-aged management with a long-term focus primarily on mature quality timber.
- The highest elevation lands on the island and the shoreline zone, the most visible parts of the island from the lake and from Lily Bay State Park, will be subject to Visual Class I considerations. Due to the visibility of much of the remainder of the island from the lake and more distant ridges and mountains, timber management on the remainder of the island is subject to Visual Class II considerations.
- The dock at the barge landing on the east side of the island will be removed at the conclusion of the current harvest cycle (approximately seven years from now) and the landing blocked.

### **Administrative Issues**

- Develop a map of the island and nearby areas (one 8.5" x 11" sheet) with GPS campsite locations and boating safety information for distribution to the members of the public interested in boating to one of the Sugar Island shoreline campsites, particularly those launching from Lily Bay State Park.

### **Moosehead Lake East Shore Lands**

The Moosehead East Shore Lands management unit is composed of a narrow strip of land and a few small near-shore islands rather than a large block of contiguous ground like the management units addressed above. Also unlike those units, ecological field surveys have not been conducted and no timber management has occurred on the lands. Therefore, there is less resource information available. Nevertheless, this section will describe the general character of the land base, the forest on the parcels and associated wildlife; historic and cultural resources; and recreation and visual resources. This will be followed by the key management issues and opportunities that the Plan will seek to address (though without a Vision statement, which are not normally developed for smaller units, due to the limited area and more limited range of uses), resource allocations, and management recommendations for the unit.

### Character of the Land Base and Acquisition History

The 1,660 acres within the Moosehead Lake East Shore Lands Unit comprises nearly all of the shoreline lands in Lily Bay, Spencer Bay, and Days Academy Grant townships. The 550-foot wide strip of fee lands extends across 27 miles of mainly undeveloped shoreline.

The east shoreline property was purchased from Plum Creek by the State of Maine in 1999. There are five scattered outlots on Spencer Bay occupied by private camps.

### Natural Resources and Timber

Most of the shoreline parcels were harvested at some time during the last century, with the wood taken out onto the ice for floating to the East Outlet in the spring. In some areas, shoreline buffers were left uncut; however, most were cut due to being easily accessed from the lake. Today, the shoreline is generally forested with a variety of young and mature hardwood and mixed wood stands. A number of streams and brooks draining into the lake cross the shoreline parcels, and bogs and other wetlands are scattered in various location on and adjacent to the parcels, some of which are designated as significant inland waterfowl and wading bird habitat.

The softwood, mixedwood, and hardwood forest that variously dominate different sections of the shoreline supports a variety of songbirds, as well as being attractive to eagles and osprey which forage on the lake and often nest in trees and snags in proximity to the water. Shorebirds and waterfowl would also be expected to be present. The lakeshore is also important habitat for a variety of mammals and other wildlife drawn to the water. No rare animals are known to be present on the shoreline parcels, although Canada lynx may be present, having been detected in Lily Bay Township in recent winter surveys. Two bald eagle nesting sites are recorded next to the East Shoreline parcels, both on Spencer Bay.

### History and Culture

According to SHPO, a number of prehistoric archeological sites are known on the shoreline in this area of the lake. However, as is the case with nearly all Moosehead shoreline sites, all are heavily eroded due to the lake's elevation having been raised eight feet by dams on the East and West Outlets, and are not considered significant sites (A.Spiess, 2015).

These lands were in commercial timberland company ownership for a number of decades prior to State ownership. Several of the drive-to campgrounds were formerly log yards or gravel pits developed by the past owners. A commercially-operated campground has been located on Stevens Point, on the south side of Spencer Bay, for a number of decades. The small peninsula on which the campground is located is one of the few sections of the shoreline in this area of the lake that is not owned by the State or under a conservation easement.

### Access

Access to these parcels is via forest management roads owned by Weyerhaeuser, and by boat. The Spencer Bay roads easement granted to the State by Plum Creek in 2009 provides a right-of-way for the public to access the shoreline lands. Roads enter or closely approach the shoreline parcels in several locations. The Bureau is required to obtain a road use permit for commercial activity involving heavy trucking, such as logging.

Recreation and Visual Resources

There are 15 single-party shoreline primitive campsites on the Unit, accessed only or primarily by boat, each with a picnic table, fire ring and privy. Three larger campgrounds at former log landings, accessible by road, provide from 3 to 35 sites and pit toilets. All but one of these facilities is on Spencer Bay (see Map Figure 10). The adjacent Cowan Cove easement area contains an additional drive-to campground and boat-in campsite. There is also a water access day use site at Big Dry Point, on the point between Spencer Bay and Cowan Cove. The table below summarizes the camping facilities on the Unit and Cowan Cove.



*Drive-in campsite at Jewett Cove.*



*Boat-in campsite at Ronco Cove.*

<b>Moosehead Lake East Shore Camping Facilities</b>			
<b>Name</b>	<b># of Sites</b>	<b>Type of Access*</b>	<b>Comments</b>
High Bank campsite	2	W	Possible to walk in
North Point campsite	1	W	
Spencer View campsite	1	W	
Beach Haven campsite	1	W	Possible to walk in
Fox Island campsites	2	W	
Jewett Cove campground	3	D, W	Gravel boat launch
Salmon Island campsite	1	W	
Roach Inlet campsite	1	W	
Spencer Bay campground	35	D, W	Gravel boat launch
Spencer Bay North campground	5	D, W	
Sunrise campsite	1	W	Possible to walk in
Lucky Point campsite	1	W	
The Narrows campsite	1	W	
Ronco Cove campsites	2	W	Possible to walk in
Outward Bound campsite	1	W	
<i>Cowan Cove Conservation Easement Area</i>			
Cowan Cove campground	18	D, W	Gravel boat launch
Cowan Cove campsite	1	W	

\* W = water access, D = Drive-in access

See Appendix F for a summary of recreation improvements completed on the Moosehead Lake East Shore Lands over the past decade.

Resident campground hosts are present at the Spencer Bay and Cowan Cove campgrounds during the summer season to oversee and maintain the facilities. Bureau field staff maintain the boat-in campsites. In addition to these recreation amenities, these shoreline lands are particularly valued for the visual buffer they provide from the adjacent commercial forestlands.

#### Management Issues, Concerns and Opportunities

The Bureau of Parks and Lands will manage the Moosehead Lake East Shoreline Lands for multiple uses including outdoor recreation, wildlife habitat, scenic protection, and water quality protection. The following discussion summarizes the key management issues and opportunities associated with each of these uses on the shoreline lands.

#### **Wildlife and Habitat Protection/Special Resources**

No endangered or threatened wildlife is known to be present on the shoreline lands. However, most of the unit is considered to be significant wildlife habitat due to being within the riparian zone of the lake as well as containing adjoining wetlands. Protection for these areas is typically provided by a Wildlife dominant allocation, based on the “specialized habitat” criteria described in the IRP. The allocation would be applied so as to demarcate a 330-foot buffer zone on the entire shore zone, and a 75-foot buffer zone around the small wetlands and in minor riparian zones associated with any streams that cross the parcels. There are no botanical resources on the Unit of a significance that would justify Special Protection allocations.

#### **Recreation Facilities**

No additional recreation sites are envisioned at this time for the shoreline lands. The Bureau should continue to monitor use of the shoreline camping facilities for an increase in use levels that might justify adding new sites or expanding existing ones. This would occur in conjunction with the routine maintenance of the boat-in campsites conducted by Bureau field staff (along with maintenance of the campsites on Sugar Island) and by campground hosts.

#### **Timber Management**

Selective harvesting is needed to maintain the wildlife and aesthetic values in the shoreline buffer area as mortality of the trees increases with age. Harvesting is restricted within 250 feet of the shoreline under MFS regulations, but is allowed under certain guidelines. Current road use agreements and easements provide access to the shoreline parcels for harvesting.

#### Proposed Resource Allocations for the Moosehead Lake East Shore Lands Unit

The following “allocations,” as shown on Map Figure 12 - Moosehead East Shore Lands Dominant Use Allocations, define general management objectives and direction for specific areas within the Unit. (Secondary allocations are not shown on the map.) See Appendix C for a description of designation criteria and management direction for the various allocation categories.

#### **Wildlife Management Areas (Dominant Allocation)**

- A total of about 1,130 acres as a dominant allocation within the Moosehead Lake shore zone (330 foot zone from the edge of the water) as well as the minor riparian zone (75

feet) along the streams that cross the parcels. Remote Recreation is a secondary allocation in the shoreline riparian area, as is Timber Management.

**Remote Recreation Areas (Dominant Allocation)**

- A total of about 500 acres as a dominant allocation beyond the 330 foot Moosehead Lake shore zone. Timber Management is a secondary allocation.

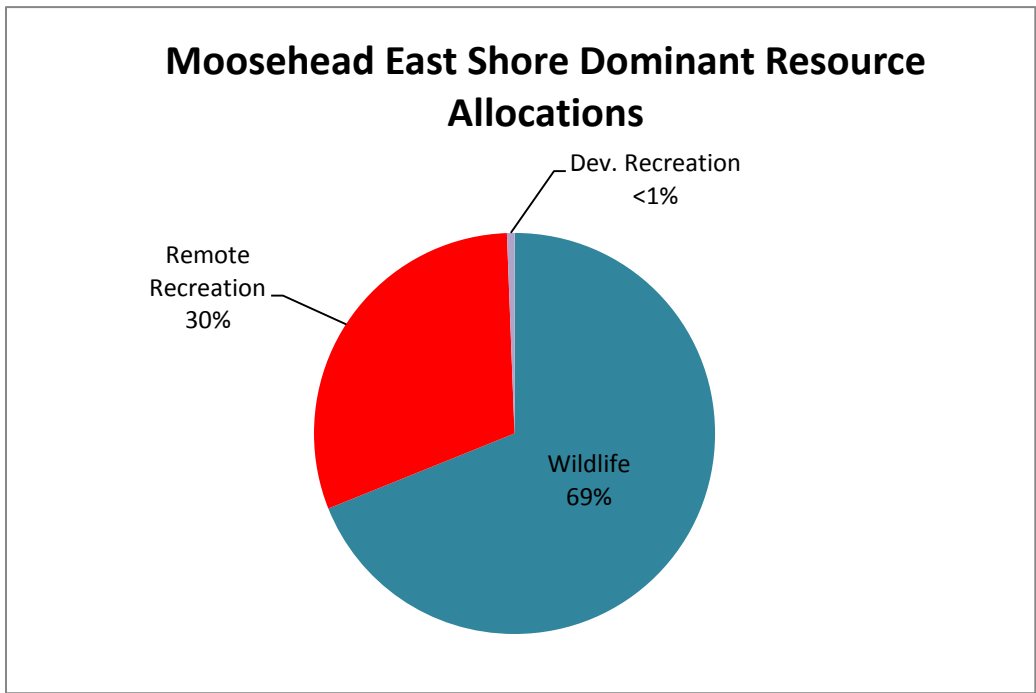
**Developed Recreation - Class I Areas (Dominant Allocation)**

- All roads designated for public motor vehicle use, snowmobile use, or ATV use.
- Existing drive-to campgrounds and drive-to primitive campsites on the Moosehead Lake shoreline (at former log yards); these are each approximately one to four acres in area.

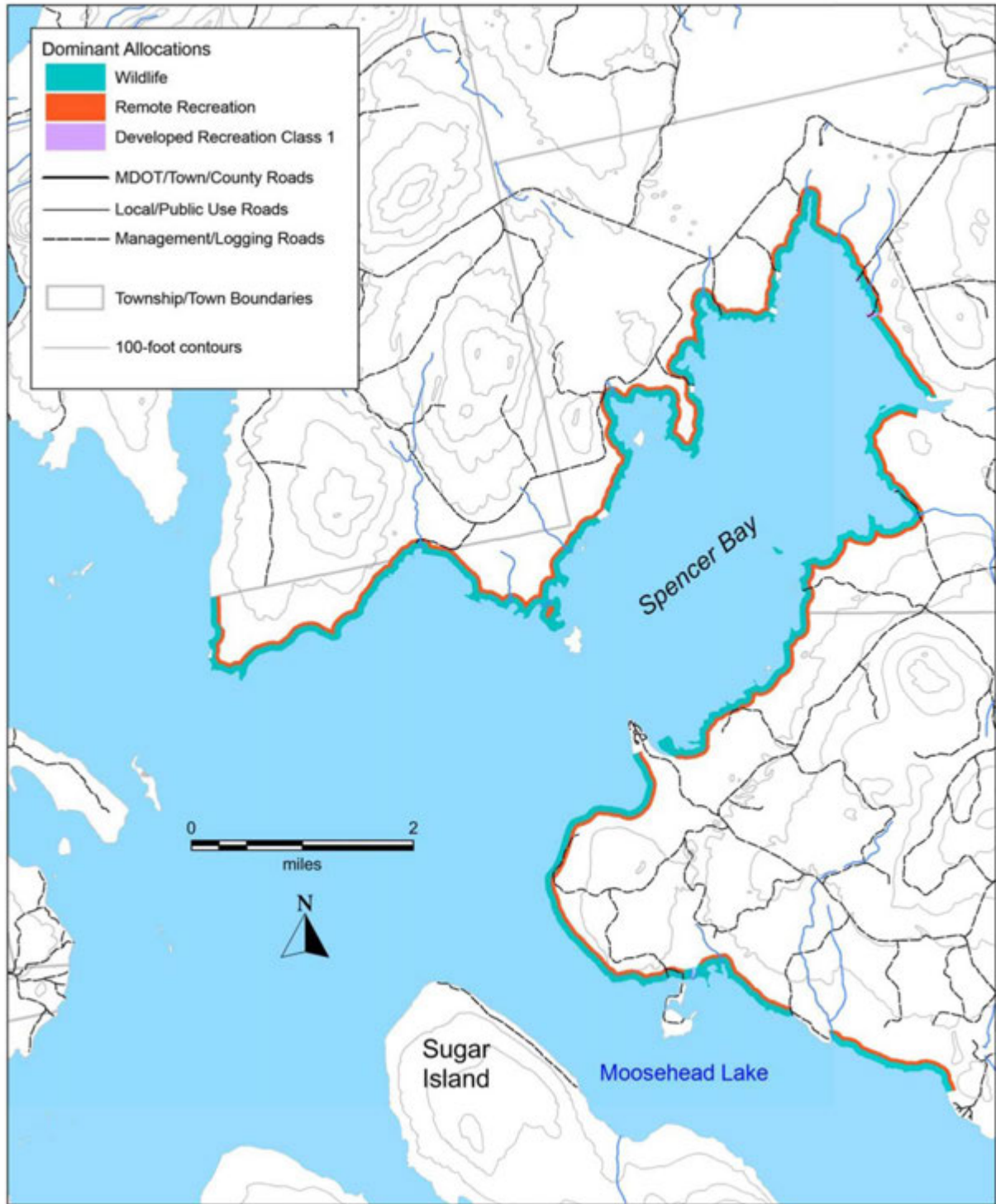
**Moosehead East Shore Lands Allocation Summary**

Allocation	Number of Acres			%
	Dominant	Secondary	Total	
Wildlife Management	1,135	Not applicable	<b>1,135</b>	<b>69.0</b>
Remote Recreation	500	1,135	<b>1,635</b>	<b>99.4</b>
Developed Recreation Class 1	10	Not applicable	<b>10</b>	<b>&lt;1</b>
Timber Management	0	1,635	<b>1,635</b>	<b>99.4</b>

Note: Acreages are representations based on GIS metrics rounded to the nearest 5 acres, and do not sum to the total Unit acreage due to measuring error and limits of GIS precision (above acres are overall low by approx. 1.5%).



## Moosehead East Shoreline Unit - Dominant Use Allocations



MAP FIGURE 12.

## Management Recommendations for the Moosehead East Shoreline Lands Unit

### **Recreation**

- Continue periodic boat and vehicle-based maintenance of the shoreline campsites, and camp host arrangement at the Spencer Bay drive-to campground. In conjunction with maintenance activities, monitor use levels to determine if capacity limits have been reached or exceeded. Consider expansion or addition of campsites at suitable sites if justified by use levels/demand, as resources allow.

### **Wildlife**

- Coordinate with MDIF&W on any potential campsite expansion or additions in the shoreline riparian buffer zone to ensure protection of sensitive wildlife habitats.

## **Kineo and Farm Island Undeveloped State Park Lands**

This section will address the Kineo and Farm Island undeveloped State Park lands. The Kineo lands are on a peninsula in the central part of Moosehead Lake just west of the Days Academy Unit. Farm Island is half a mile from the north end of the Kineo peninsula. MNAP surveyed the natural communities and rare plants on Mount Kineo in 1997 in support of the previous management plan, and a few sporadic surveys have been conducted since. However, comprehensive ecological surveys have not been conducted on these lands; therefore, there is less resource information available. Also, no timber management has occurred on these lands. Nevertheless, this section will describe the general character of the land base and the forest on the parcels and associated wildlife; historic and cultural resources; and recreation and visual resources. This will be followed by the key management issues and opportunities that the Plan will seek to address (though without a Vision statement, which are not normally developed for smaller units, due to the limited area and more limited range of uses), resource allocations, and management recommendations for the unit.

### Character of the Land Base and Acquisition History

The land base includes 800 acres surrounding Mount Kineo in Kineo Township and all of Farm Island, which is 980 acres. Mount Kineo is Moosehead's most prominent and spectacular land feature, visible from much of the lake and from miles around. The cliffs of Mount Kineo rise about 700 feet above the lake, with the top of the mountain at 1,789 feet elevation. Adjacent Farm Island is also a prominent feature of the north end of the lake. Elevations on Farm Island range to about 1,160 feet, 130 feet above the mean lake level.

Farm Island and Kineo were acquired by the former Bureau of Parks and Recreation. Farm Island was acquired in 1971 as a gift from Julia E. Crafts Sheridan and R. Philip Sheridan. Kineo was acquired in 1990 from Louis O. Hilton with monies from the Land for Maine's Future program. Neither property has any inholdings or leases. Most of the southern part of the Kineo peninsula abutting the State parcel is occupied by the Kineo resort and other private commercial facilities, which include a golf course and lodging. Several private homes, historic structures formerly part of the Kineo resort, are along the west shoreline.



### Natural Resources

Kineo is primarily timbered with hardwood with an area of mixed wood and softwood in the north central end of the peninsula, and spruce on the ledges. Farm Island is rimmed with mixed hardwood on the east, north, and west shores, while the south shore and interior are primarily mixed hardwoods and conifers. Species include sugar and red maple, beech, birch, poplar, red spruce, balsam fir, and white pine. Farm Island was extensively harvested (most recently) during the 1960s, with over half of the island harvested for softwood pulp, and the hardwood and mixed wood stands high-graded for hardwood logs.

Surface water on Farm Island is limited to a small pond on the southwest shore, a spring on the east shore, and a number of small seeps. Wetlands are small and few. The island shoreline is generally rocky with a few, narrow, shallow coves and gravel beaches.

Kineo is noted for a rare community type, the Circumneutral Outcrop Community, found on the steep cliff faces. The list of rare plants found on Mount Kineo in past botanical surveys includes rock Whitlow-grass, smooth draba, birdseye primrose, and fragrant cliff wood-fern. Forested slopes stretch steeply down from the summit to the west, more gradually to the north. At Farm Island, generally uniform site conditions, a lack of exposed bedrock and wetlands, and poor soil conditions mean there a low potential for the property to contain rare or sensitive plants.

### Wildlife Resources

Deer, bear and moose are resident at Kineo and Farm Island. No rare animals are known to be present on Farm Island. Peregrine falcons have nested on the cliffs of Mount Kineo since 1987, after having been absent from the state's breeding bird populations for a number of years, and have successfully raised a number of fledglings. (Although federally delisted as Endangered, the resident peregrine breeding population is listed as Endangered in Maine.) MDIF&W biologists continue to monitor nesting on the cliffs annually.

There are about 300 acres of LURC-zoned deer yard (P-FW) on Farm Island and 150 acres on Kineo. There has been little evidence of significant deer use of the Farm Island deer yard, which has lost much of its winter shelter value due to a decline in the softwood component of the forest. The deer yard on Kineo was receiving limited use at the time of the last Plan, and was found to be in poor condition due to mortality of over-mature fir and numerous blowdowns. Due to the blowdowns, deer were using adjacent stands with poor winter cover. Suitable winter shelter in both deer yards has continued to decline and they are no longer functional. It is unlikely that these yards will provide functional winter shelter without management intervention.

### History and Culture

Kineo is perhaps the most historic setting on the lake, with a rich cultural history stretching from ancient times to the present. The rhyolite forming Mount Kineo was extensively gathered, shaped, and traded by Native peoples for thousands of years. Henry David Thoreau climbed Mount Kineo and camped along the peninsula's shores during his 1857 trip to Maine; his writing about these travels helped popularize Moosehead Lake and Kineo. The large and luxurious Mount Kineo House hotel (several versions of which were successively built after the predecessor was lost to fire) was a famous attraction from the post-Civil War period to the 1930s. Farm Island had a smaller and more rustic accommodation called Camp Ogontz. For

many years, the Maine Forest Service manned a fire tower on Kineo, with a warden's cabin near the west shoreline. In 2001 the camplot lease for the warden's cabin site was discontinued and the structure was purchased by the State and later removed. (More details of Kineo's history are provided in Appendix D.)

According to SHPO, there are five known prehistoric archaeological sites at Kineo, four on State property: a site in the vicinity of Hardscrabble Point and three along the Kineo cliff face and talus slope. Most of these sites were combination workshop and campsites. A substantial amount of debris from the manufacture of stone tools has been found along the Kineo cliff face; however, the increase in lake level (due to construction of the East and West Outlet dams) has flooded the majority of the site. The site at Hardscrabble Point is eroded and not significant. The other three sites are designations for various portions of the cliff and talus slope, recognized by archeologists for more than a century as an important quarry location (A. Spiess, 2015).

SHPO has also advised that on Farm Island there are six known prehistoric archaeological sites scattered around the southern shoreline, five of which are eroded and not significant and one of which is highly significant (A. Spiess, 2015). This latter site was professionally excavated and surveyed in 2002 to meet FERC hydropower license requirements. Artifacts from the site, which has both shoreline and backshore components, are particularly important because they are similar to artifacts found in the Gaspé Peninsula (Quebec, Canada) suggesting the possibility of a temporal, cultural relationship among native peoples from the two areas. The information from this site suggests that more human activity took place in Maine earlier (during the Early and Middle Archaic Traditions ca. 9,500 - 6,000 B.P.) than previously recognized (R. Will, et al., 2003).

#### Access

Access to these properties is only available by boat and by snowmobile. Most summer visitors to Kineo arrive via a commercial shuttle that operates from the Rockwood boat launch and which utilizes a boat landing on the west shore of the Kineo peninsula, about a quarter mile south of the public land boundary. The Bureau has a right-of-way "to provide convenient and protected access from the water" to State property. The owner of the boat landing has agreed to allow the general public to use open slips at the boat landing for the 2015 season; the space at the end of the dock is reserved for the commercial shuttle.

#### Recreation and Visual Resources

There are four hiking trails on Kineo, three of which can be used to reach the summit. The Indian Trail (0.9 miles) climbs steeply along open ledge, making it the shortest but most strenuous route to the summit and fire tower. The Bridle Trail (1.1 miles) is the original fire warden trail and provides a less steep route to the summit for hiker, converging with the Indian Trail just shy of the summit. Both of these trails begin along the Carriage Trail (2.2 miles), which parallels the west shore of the peninsula, following an old road along the shore to Hardscrabble Point, at the north end of the peninsula. The Carriage Trail then connects to the North Trail (1.9 miles) along the east shore creating a perimeter hike of the peninsula. The North Trail when combined with the Carriage Trail offers the longest hike to the summit of Mount Kineo.



*View from Indian Trail on Kineo (Photo by Carrie Barton, used with permission.)*

The former fire tower on top of Mount Kineo serves as a viewing platform. The tower was refurbished in the early 1990s and converted into a viewing platform. From the platform the observer has a 360 degree view taking in Kineo, Days Academy, Farm Island, the open expanse of Moosehead Lake and much of the surrounding territory.

There is a multi-party campsite (three sites) and day use site at Hardscrabble Point and three single-party water access campsites on the east shore of Farm Island. These campsites are along the route of the Northern Forest Canoe Trail (described in Section II). The recreation facilities at Kineo and Farm Island are maintained by Lily Bay State Park staff.

Farm Island is a part of the Moosehead Lake Game Sanctuary and is closed to hunting and trapping. Kineo is open to hunting and trapping, with the exception of the period between June 1 and Labor Day. A snowmobile trail (Route 66) crosses the Kineo resort property on the south end of the peninsula, linking areas to the east with Rockwood. The route between Rockwood and Kineo is staked out on the ice each season. Snowmobilers use the Bridle Trail to reach the summit. Map Figure 8 (page 55) depicts the recreation facilities on Kineo and Farm Island.

#### Timber Resources

**Kineo** - The forest types of the 800-acre Kineo parcel are 65 percent hardwood, 25 percent softwood, and 10 percent mixed wood. The entire peninsula slopes from the top Mount Kineo to a softwood flat in the north central area. Most of the softwood stand on the southern end of the property is growing on ledge on Mount Kineo.

Aside from the softwood stands on top of Mount Kineo and in the north central area, and a fringe of mixed wood bordering the north central softwoods, hardwoods dominate the peninsula. The eastern side of the peninsula is a fire-origin stand of white birch and aspen, approximately 60 years old, overtopping fir and spruce. The rest of the hardwood is found in large, uneven-aged stands, containing a high proportion of sawlogs, with a relatively small component of mid-sized pole stems. Overall, the hardwood quality is generally good, and species include sugar maple, beech, yellow birch, and red maple. Sites on the mid slopes of Mount Kineo appear to be above average in quality.

The southern softwood stand growing on Mount Kineo ledge is characteristic of a mountaintop spruce stand. This thin-soiled, ledgy, exposed site has smaller diameter, old spruce stems dominating the stand, which is generally low quality due to site and age. The northern softwood stand has been reducing in size because its aging balsam fir component has been subject to blowdown. At this time, the fir has almost completely died out or fallen down. Blowdown is continuing in the spruce component of the stand with drastic results to the overall stand integrity. The regeneration is irregular, at best, with the highest percentage being intolerant hardwoods, as well as nonmerchantable hardwood interspersed with patches of spruce-fir. The site quality in this area is low.

The mixed wood stands are generally the residuals left from the dying softwood type; species include red maple, beech, and sugar maple, mixed with spruce, and a minor component of hemlock. The site quality in this area is only fair.

**Farm Island** - Most of the island was harvested in the early 1960s for all high value species and products which could be utilized at that time. The resulting stand conditions are more a result of past practices than a reflection of site quality. Today, common species include beech, red maple, white birch, red spruce, and balsam fir, with abundant advanced regeneration and small poles well represented in the mix of size classes.

In the hardwood stands (778 acres) the primary tree species are beech, red maple, and sugar maple with a small component of yellow birch. Site quality is above average; however, the stem quality is generally very low due to past harvesting practices. The softwood stands (102 acres) are the residual stems left from the last harvest that were not merchantable at that time. Red spruce, fir, and to a lesser amount cedar and hemlock make up the softwood stands, which are growing on the poorer and wetter sites of the island. Today, the island's mixed wood stands (100 acres) are heavy to hardwoods because they predominated over softwood before the last harvest. These stands are now primarily low quality hardwoods, mainly beech and red maple mixed with spruce and fir. Site quality is slightly better than in the softwood areas, but not as good as in the hardwood areas.

#### Management Issues, Concerns and Opportunities

The Bureau of Parks and Lands will manage the undeveloped State Park lands at Kineo and Farm Island for multiple uses including outdoor recreation, wildlife habitat, historic resource and scenic protection, and water quality protection. The following discussion summarizes the key management issues and opportunities associated with each of these uses on the park lands.

### **Recreation Facilities**

No additional recreation sites are proposed at this time, although Farm Island may have potential for one or two additional campsites on its eastern shore. The Bureau should continue to monitor use of the shoreline camping facilities for an increase in use levels that might justify adding new sites or expanding existing ones. This would occur in conjunction with the routine maintenance of the boat-in campsites conducted by Bureau field staff.

### **Cultural and Historic Interpretation**

Native American residents of the region have drawn attention to a noteworthy opportunity for cultural education at Kineo given the mountain's importance to Native peoples over a long period of history and the present lack of interpretive signage or other information for visitors. It was further suggested that Kineo may present an opportunity to present or demonstrate ethnobotany to visitors. As indicated above, there is also a colorful and eventful history at Kineo associated with European settlement and the first phases of tourism and logging during the 1800s and early 1900s. There is a large body of professional and popular literature available addressing both Native and post-settlement history at Kineo and Farm Island.

### **Wildlife and Habitat Protection/Special Resources**

The most significant wildlife habitat on these properties is contained and the within the riparian zone of the lake and a small near-shore pond at Farm Island, as well as in the deer yards (although they are not currently functional). Protection for these areas is typically provided by a Wildlife dominant allocation, based on the "specialized habitat" (e.g., riparian areas) and "significant habitat" (e.g., deer yards) criteria described in the IRP. The allocation would be applied so as to demarcate a 330-foot buffer zone on the entire shore zone, and to coincide with the LUPC-zone deer yards.

Timber can be harvested on park lands to enhance wildlife habitats; for example, harvesting occurred on 117 acres at Lily Bay State Park in 2006-07 to enhance the deer yard there. As described above, the deer yards are in poor condition and would benefit for silvicultural treatments aimed at creating and enhancing long-term winter shelter. Additional discussion is provided below under *Timber Management*.

There are no botanical resources on Farm Island that would justify Special Protection allocations. The rare community type and rare plants on the Kineo cliffs along with the important cultural and historic features of the mountain and its uniqueness as a geological formation justify a Special Protection allocation for the cliffs and the upper elevations of the mountain.

In the past, there has been concern about the potential for rock climbing activity on the Kineo cliffs to impact nesting peregrine falcons, although the nesting has historically taken place on the northeastern portion of the cliffs, which is a less attractive area for rock climbing than the western part of the cliffs. The former Bureau of Parks and Recreation developed a climbing policy, with assistance from members of Maine's climbing community, to manage technical rock and ice climbing activities with the objectives of protecting the safety of park users, as well as cultural and natural resources. Should conflicts arise between rock climbers and peregrine falcon nesting, the policy could be employed to address the situation. Options include closing the

climbing area during the nesting season or limiting the area where climbing is allowed, so that there is sufficient buffer to avoid disturbance of the nesting site(s).

### **Timber Management**

Because of their status as park lands, both Kineo and Farm Island have legislatively imposed limitations on timber harvesting. Timber management on park lands can be undertaken to provide wood for the use of the Bureau; to meet deed requirements; to preserve their natural, recreational, and scenic qualities; to improve wildlife habitat; to control insect infestation and disease; to reduce the risk of fire and other hazards; or to demonstrate exemplary multiple use forest management techniques. The primary reason to manage timber on Kineo and Farm Island would be to increase the softwood component of the mixed wood stands in the deer yards to improve their long-term winter shelter value, which is an appropriate goal in concert with the legislative mandate. Harvesting timber to maintain the deer yards would have to be done in a visually sensitive manner, since these areas are visible from Mount Kineo, Little Kineo Mountain, and Shaw Mountain. Barge-based harvesting, as is occurring at Sugar Island, would be required.

### Administrative Issues

#### **Kineo Hiking Trail Maintenance**

The public has expressed concern about maintenance of hiking trails at Kineo, particularly in reference to blowdowns and hard to see trail blazes. In the past, Parks has utilized several volunteer groups along with the Maine Conservation Corps and park staff to repair and maintain the trails. Currently, park staff from Lily Bay State Park maintain the trails at least once per year. Volunteers are always welcomed within the guidelines set up by the Maine Volunteer in Parks program.

#### **Private Boat Access to Kineo**

There has been a long-standing interest in improving motorized and non-motorized boat access to Kineo. There is currently no public boat access. In 2005, the Bureau's Boating Facilities Program conducted a detailed field assessment (updated and revised in 2015) of potential public boat access locations on the south end of the peninsula, mainly on private land (the western shore is generally too exposed to wind and waves to be feasible). The assessment concluded that there were few good options due to potential interference with private property, water depth, exposure to wind and wave action, etc. and recommended pursuing a formal agreement for public use of the dock used by the commercial shuttle from Rockwood (the dock is owned by the Kineo golf course). As mentioned above, the Bureau obtained permission for the 2015 season for the general public to use slips at that dock in order to access the Kineo state park lands. The Bureau should investigate whether a longer-term arrangement for public use of the dock is possible.

### Proposed Resource Allocations for Kineo and Farm Island State Park Lands

The following "allocations," as shown on Map Figure 13 - Kineo and Farm Island Dominant Use Allocations, define general management objectives and direction for specific areas within the Unit. (Secondary allocations are not shown on the map.) See Appendix C for a description of designation criteria and management direction for the various allocation categories.

## Kineo

### Special Protection

- A total of about 140 acres enclosing the Mount Kineo summit and cliffs and the upper elevations of the mountain.

### Wildlife Management Areas (Dominant Allocation)

- A total of about 260 acres as a dominant allocation within the Moosehead Lake shore zone (330 foot zone from the edge of the water) and the LUPC-zoned deer yard. Remote Recreation is a secondary allocation.

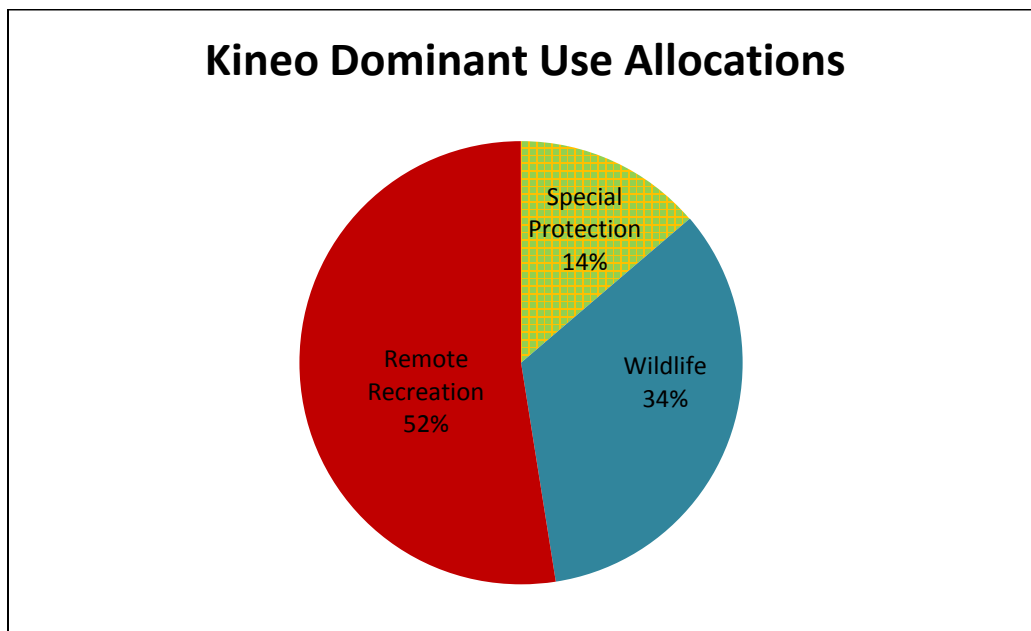
### Remote Recreation Areas (Dominant Allocation)

- A total of about 410 acres as a dominant allocation on the remainder of the peninsula, beyond the 330 foot Moosehead Lake shore zone and outside the deer yard.

### Kineo State Park Lands Allocation Summary

Allocation	Number of Acres			%
	Dominant	Secondary	Total	
Special Protection – Natural Area	110	Not Applicable	<b>110</b>	<b>13.8</b>
Wildlife Management	270	Not applicable	<b>270</b>	<b>33.8</b>
Remote Recreation	420	270	<b>690</b>	<b>86.3</b>

Note: Acreages are representations based on GIS metrics rounded to the nearest 5 acres.



## Farm Island

### **Wildlife Management Areas (Dominant Allocation)**

- A total of about 500 acres as a dominant allocation within the Moosehead Lake shore zone (330 foot zone from the edge of the water) and the LUPC-zoned deer yard. Remote Recreation is a secondary allocation in this area.

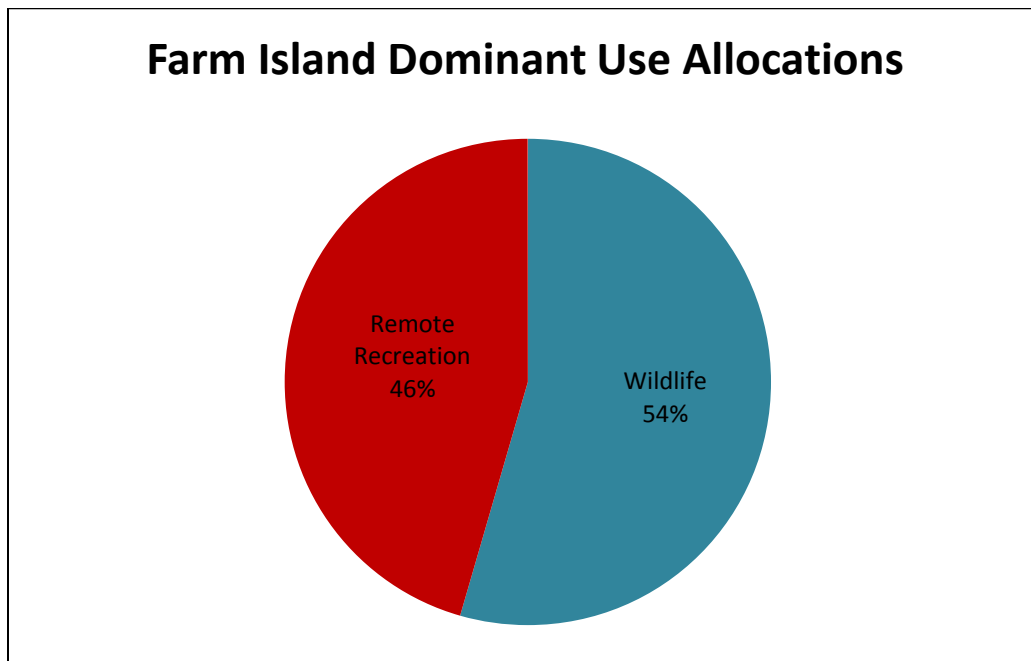
### **Remote Recreation Areas (Dominant Allocation)**

- A total of about 400 acres as a dominant allocation on the remainder of the island, beyond the 330 foot Moosehead Lake shore zone and outside the deer yard.

### **Farm Island State Park Lands Allocation Summary**

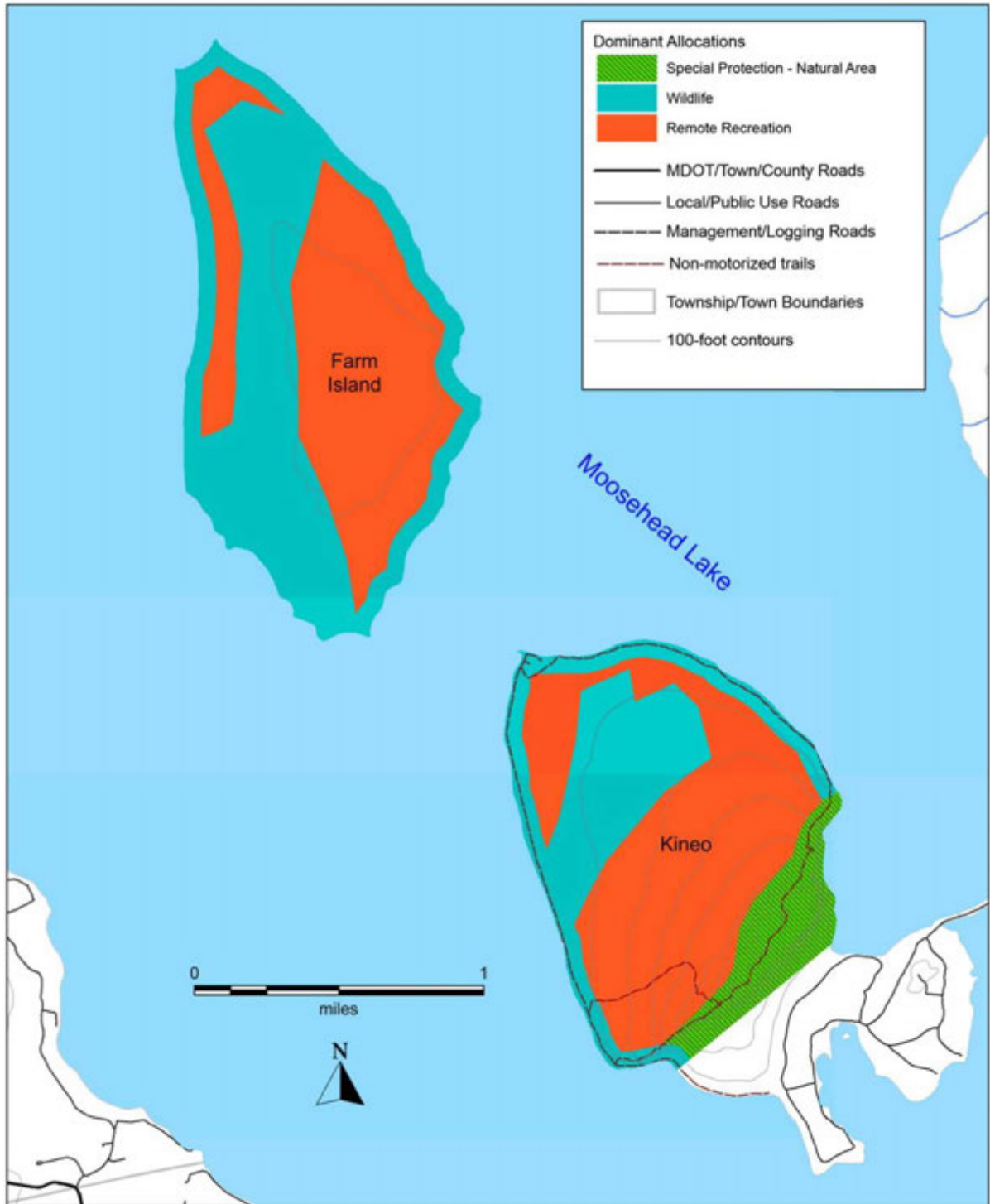
Allocation	Number of Acres			%
	Dominant	Secondary	Total	
Wildlife Management	485	Not applicable	<b>485</b>	<b>54.5</b>
Remote Recreation	405	485	<b>890</b>	<b>100.0</b>

Note: Acreages are representations based on GIS metrics rounded to the nearest 5 acres, and are subject to measuring error and limits of GIS precision. The total of 890 acres is 90 acres less than the acres specified in the deed for the island parcel. A reason for the discrepancy has not been established; however, a possible explanation is that the deed acreage figure dates from before the construction of the East and West Outlet dams in the early 1900s, which raised the elevation of the lake's surface 8 feet and reduced the size of the island to some degree.





# Kineo and Farm Island - Dominant Use Allocations



MAP FIGURE 13.

## Management Recommendations for Kineo and Farm Island State Park Lands

### **Recreation**

- Continue periodic boat-based maintenance of the shoreline campsites and the Kineo day use facility. As resources allow, Parks will seek to increase maintenance of the day use site and campsites at Hardscrabble Point. In conjunction with maintenance activities, monitor use levels to determine if capacity limits have been reached or exceeded. Consider expansion or addition of campsites at suitable sites on Farm Island if justified by use levels/demand, as resources allow.
- As resources allow, increase BPL maintenance of Kineo hiking trails to provide more frequent and consistent removal of blowdowns, trail reblazing, etc. Parks will explore the potential to reestablish a volunteer trail maintenance group. In the longer term, Parks will seek to increase staff presence with a goal of providing a seasonal staff of two rangers for Kineo and Farm Island.
- Pursue a formal longer-term arrangement for public use of slips at the boat dock used by the Kineo shuttle, along the lines of the one-year agreement for the 2015 season.

### **Cultural and Historic Resources**

- Work with Native American tribes, groups and individuals; the State Historic Preservation Office; and other interested organizations and individuals to develop an Interpretation Plan for the Kineo State Park Lands. The plan would address the location, design, construction and installation of interpretive displays and possibly other materials to transmit to visitors the distinctive history and cultural importance of Mount Kineo and the peninsula. A preliminary list of potential themes to address in the plan include Paleo-Indian and pre- and post-European contact native history at Kineo, Thoreau's visit to the mountain and related writings, the era of Kineo House and "rusticators," and the history of the Maine Forest Service fire tower and fire detection in the region.

### **Wildlife**

- Coordinate with MDIF&W on any potential campsite expansion or additions in the shoreline riparian buffer zone to ensure protection of sensitive wildlife habitats.
- Continue to monitor rock climbing activity at Kineo for potential impacts on nesting peregrine falcons.

## Other Public Lots

The seven other public lots in the Moosehead Region are relatively small units, all less than 1,000 acres and several less than 500 acres. Most of these lots are presently managed primarily for timber, with wildlife management and dispersed recreation important secondary uses. The lots in this category (all named for the township in which they lie) are: Shawtown, Beaver Cove, Bowdoin College Grant East, Rockwood Strip, and Sandwich Academy Grant. Two of the lots, Frenchtown and West Outlet (also known as Taunton & Raynham Academy Grant), are primarily managed for wildlife and recreation associated with the adjacent water bodies, although timber management also occurs on a portion of the West Outlet lot. Map Figures 14 and 15 depict the lots east of Moosehead Lake and surrounding areas. Map Figure 16 depicts the lots west of Moosehead Lake and the surrounding area.

### Shawtown Lot

The Shawtown public lot is a 248 acre parcel remaining from a 1,080 acre original public reservation, after most acres were traded away to industrial timberland owners in the 1980s. The current lot was retained throughout Bureau land trades in the general area largely due to its shore frontage on the largely undeveloped Second Roach Pond. The one mile wide by 0.4 mile deep lot lies on the south shore of the pond, with the land sloping gently toward the waterbody. The parcel is surrounded by AMC's Roach Ponds tract, which is covered by The Roaches conservation easement held by BPL.

### **Natural Resources**

The lot is entirely forested, with the exception of three log yards (each about 1 acre) near the lot's south and east boundaries. There are no wetlands. However, the lot has increased importance for wildlife due to the diversity in size and age structure of the timber on the lot as compared to the surrounding commercial forest lands. There is a major sand and gravel deposit associated with the esker that is on the south end of the lot.

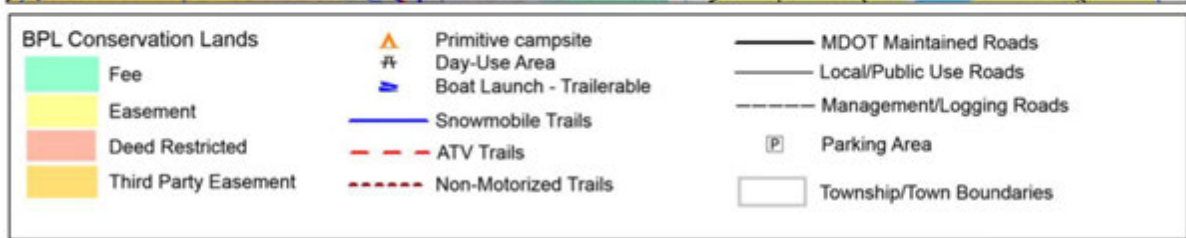
### **Recreation and Access**

Access to the lot is via gravel roads maintained by AMC, one of which skirts the south boundary of the property. An old road runs parallel to and about 500-800 feet inland from the shoreline and is being used by AMC as a biking and groomed ski trail. The trail connects to AMC's Medawisla Lodge and cabins (currently closed for renovations), about two miles from the lot at the west end of the pond. There are no other recreational facilities on the lot, but the property is open to hunting and fishing and other dispersed uses. There are no active roads but numerous skid trails cross the property and may be used for pedestrian access, along with the old road mentioned above.

### **Timber Resources**

The lot remains heavily stocked with a multi-aged stands, a significant component of which are trees 24 inches in diameter and larger, mainly sugar maple. The tract's high stocking level precluded most regeneration prior to the Bureau's frozen-ground harvest in early 2010. This entry produced 2,200 cords – 70 percent hardwood pulpwood – and had two main objectives. First was to remove low quality hardwoods and overmature fir, and second was to create group selection openings large enough to obtain sugar maple and yellow birch regeneration. These groups were located so as not to impact the view from the trail, though individual tree selection

### Base Map - Shawtown and Frenchtown Lots



MAP FIGURE 14.

was made near to it and a limited number of skid trail crossings were necessary. Current stocking is about 26 cords per acre, with sugar maple (37 percent) most common, followed by red maple with 19 percent, yellow birch and spruce with 15 percent each, and beech at 7 percent. Quality is generally good to very good for most species; even the red maple is relatively high quality. Even with the trail and shore frontage, this is a fine timber lot on fertile soils.

#### Frenchtown Lot

The Frenchtown public lot is an approximately 30 acre group of parcels on the south shore of First Roach Pond remaining from a 1,000 acre original public reservation, after 876 acres were traded away to an industrial timberland owner (1991) and approximately 98 acres were sold to a group of 32 shoreline camplot lease holders (2004). A commercial camp lease and six non-contiguous undeveloped camplots remain. The campground has approximately 1,300 feet of shoreline frontage. Much of the shoreline on the east half of the pond and adjacent to the leased lot is under a conservation easement.

#### **Natural Resources**

Although the campground lease parcel retains substantial tree cover, it is essentially developed property. Several of the unsold camplots are wet areas between the developed camps; one formerly was used as a gravel pit. The pond shoreline is mainly occupied with campsites and with an informal boat launch on a small gravel peninsula. Seven mile long First Roach Pond is a deep pond with good water quality, providing quality salmon and trout fishing, including wild brook trout and lake trout.

#### **Recreation**

Most of the pond frontage is occupied by the South Inlet Campground, which is operated on a 13 acre commercial campground lease lot. The campground provides several RV and tent campsites on the shoreline and across the shoreline road, with informal boat access to the pond. The current five year lease expires at the end of 2017.



*Boat Access at South Inlet Campground on First Roach Pond.*

The public lot includes approximately 1,250 feet of additional undeveloped shoreline within the six undeveloped camplots. First Roach Pond is one of the more popular and heavily fished waters in the area, and the lot provides important fisheries access to the pond.

### **Timber Resources**

The property is unregulated for timber management, as there are no timber resources of significance on the remaining acres of the former original public reservation, given the predominance of the commercial campground lease and individual camplots on the property.

#### ***Beaver Cove Lot***

The Beaver Cove public lot is a 780 acre original public reservation at the narrow far eastern end of wedge-shaped Beaver Cove Township and is divided by the West Branch of the Pleasant River. Baker Mountain (3,520 feet), a prominent landmark and scenic resource in the east part of the Plan area, is three miles to the west. To the south and east the parcel abuts AMC's Katahdin Iron Works and Roach Ponds Tracts, all of which are under BPL conservation easements. To the north the lot abuts Weyerhaeuser lands that are included in the Moosehead Region conservation easement. AMC recently purchased over 4,000 acres on Baker Mountain, such that this lot is now entirely surrounded by conservation land.

### **Natural Resources**

The lot is predominantly forested but there are several sizeable wetlands, particularly in the southeast quadrant of the parcel. A corridor extending 250 feet on each side of the West Branch of the Pleasant River is zoned by LUPC as a Protection Subdistrict, Recreation – Water (P-RR). The river is an important fisheries resource that provides valuable habitat for brook trout, and is within the area designated by NOAA as critical habitat for the Gulf of Maine Distinct Population Segment of Atlantic Salmon, which is federally listed as endangered. A zoned deer yard is located along the river at the southwest corner of the lot, extending onto adjacent private forest land.

### **Recreation and Access**

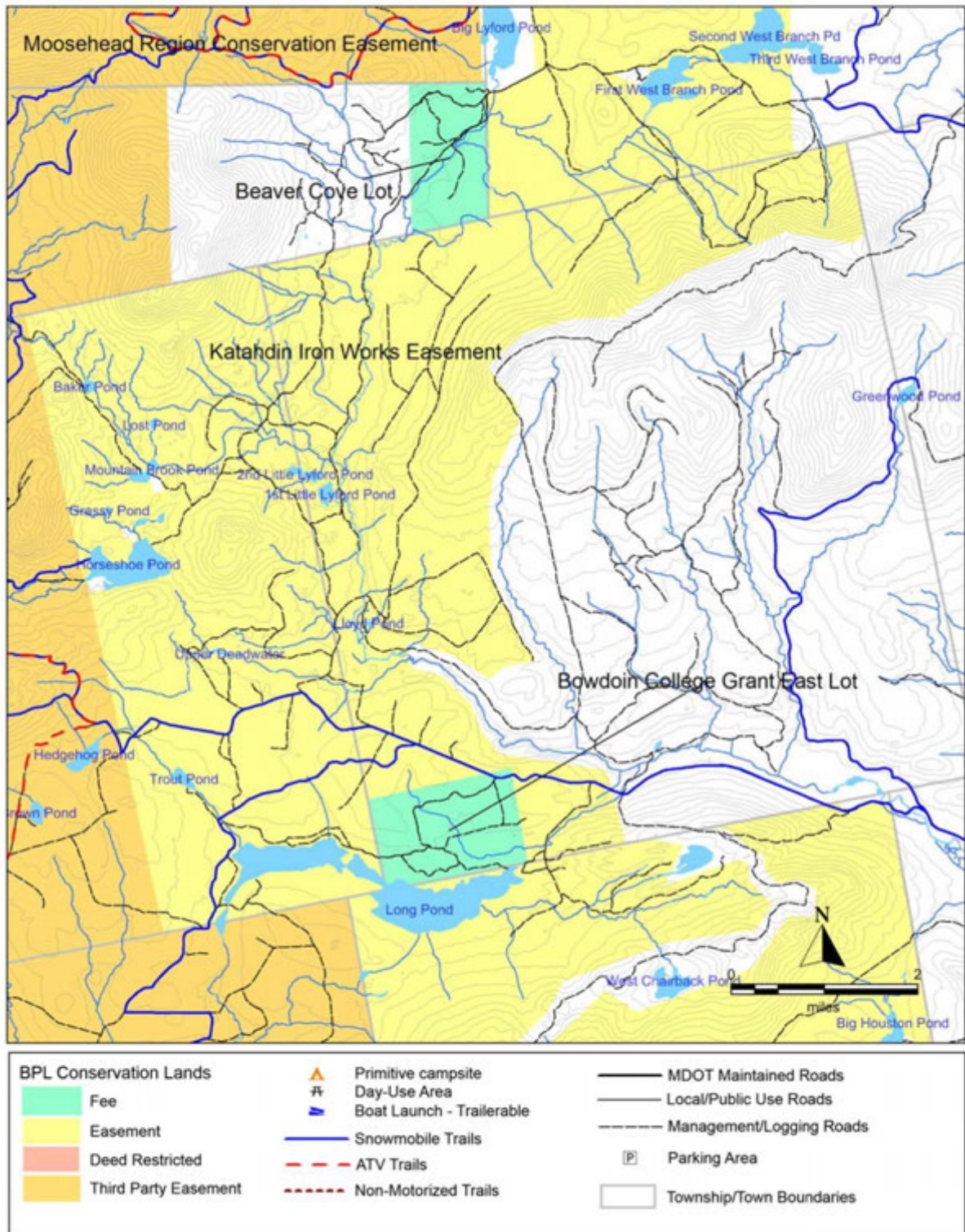
Access to the lot is via gravel roads on Weyerhaeuser and AMC lands, which link to logging roads on the north half of the property. The AMC Pleasant River hiking/ski trail traverses the lot, connecting the West Branch Pond camps on the Roach Pond tract to the north with the Little Lyford Lodge and Cabins on the Katahdin Iron Works tract to the south. The trail follows an old logging road and parallels the north shore of the West Branch Pleasant River. There are no other recreational facilities on the lot.

### **Timber Resources**

Of the 726 forested acres, about 400 lie north of the river. The river and the LUPC zone complicate access to the area south of the river, requiring either a sizable bridge or two separate access routes, along with the Forestry Operations Permit possibly needed to harvest and re-open the road in the P-RR zone. Also, the use of the road along the river as an AMC ski trail in recent years has precluded the possibility of plowing the road for a winter harvest.

The Bureau conducted a significant harvest here in the mid-1980s, removing close to 5,000 cords, mainly spruce and fir as spruce budworm damage was significant. In the 25 or so years

## Base Map - Beaver Cove and Bowdoin College Grant East Lots



MAP FIGURE 15.

between that harvest and the recent prescription, a sizable fraction of the taller residual softwood has blown down, reducing the softwood stands' value for current deer use, though regeneration is well established on most acres. A second harvest in 2012 yielded 3,500 cords, targeting high risk softwoods and low quality hardwoods. Though the lot includes 60 acres of open wetland, much of the forest is on rocky and well-drained land, and remains heavy to spruce. Current stocking two years after the most recent harvest is 18-19 cords per acre, 55 percent spruce and just 3 percent fir. Second leading species is red maple at 17 percent, followed by sugar maple (7 percent), yellow birch (6 percent), paper birch (5 percent), and white pine/cedar with 3 percent each. Some of the older spruce is mature and was retained to increase cover in the short term, while the younger spruce is growing well. Red maple and much of the other hardwood is of poor to fair quality, while most softwoods other than cedar are good quality. However, the cedar is valuable both for winter cover and food. Management should favor spruce, pine, and good quality hardwoods, and work toward development of high value winter cover.

#### Bowdoin College Grant East Lot

The Bowdoin College Grant East public lot is a 935 acre original public reservation occupying a 1.5 by 1.0 mile block of land at the southwest corner of the township. The lot lies mostly north of Long Pond (in the adjoining township), but has about a third of a mile of shoreline frontage on the pond. The Gulf Hagas National Natural Landmark, federally-owned and managed as part of the Appalachian Trail corridor, is nearby to the northeast. The parcel is surrounded by AMC's Katahdin Iron Works Tract, which is covered by a BPL conservation easement.

#### **Natural Resources**

The parcel has been intensively managed, and the majority of the parcel is early to mid-successional Beech-Birch-Maple Forest. These stands are dominated by diseased beech, yellow birch and sugar maple in the overstory and heavy spruce-fir regeneration in the understory. Low, wet areas of this unit contain extensive Spruce-Fir Cinnamon Fern Forest with scattered cedar. Some mature cedar were left during the most recent harvest event (~30 years ago), with a representative white cedar being 141 years old. Red spruce, white cedar and yellow birch are dominant with an average diameter of roughly 12 inches.

In small drainage in the Southeast corner of the parcel, the stream bisects a small Bluejoint Meadow, dominated by Canada blue joint grass (*Calamagrostis canadensis*) along the water edge and speckled alder (*Alnus incana*) along the upland edge. It is bordered by a small mature stand of Low Elevation Spruce-Fir Forest to the south, where 100+/- year old red spruce are common.

#### **Recreation and Access**

Bowdoin East features frontage on Long Pond at the lot's southwest corner and has the area's major access road crossing the northeast corner, plus considerable length of internal gravel roads (some of which are grown in and no longer drivable). The AMC Lodge to Lodge hiking/ski trail traverses the lot, connecting the Little Lyford Lodge and Cabins located a few miles to the north with the Gorman-Chairback Lodge and Cabins at the east end of Long Pond; the Gorman Lodge ski trail branches off that trail to connect to Long Pond Road west of the lot. These trails primarily follow logging roads. There are no other recreational facilities on the lot.



## **Timber Resources**

All but 15 non-forest acres of the lot, including road area and some small bogs, are regulated forest. For the most part, the roads date from the most recent harvest, about 1981-82, and would doubtless need re-opening. That harvest was mainly in response to spruce budworm damage and took mostly spruce and fir. The lot currently holds an estimated 28 cords per acre on its 900 regulated acres, with about 30 acres of steep lakeshore being unregulated forest. Spruce is the most abundant species, and is about 41 percent of total volume. Next are red maple (15 percent), yellow birch (13 percent), fir (11 percent), and beech (9 percent). The stocking includes lesser amounts of cedar, sugar maple, paper birch, aspen, and white pine. Quality is generally good on spruce, fair to good on yellow birch, and variable on other species. The forest includes a significant stocking in trees that were of sapling size when measured during the 1999 inventory.

Given the timespan since the last harvest, and the narrow objective of that harvest, the lot would greatly benefit from an improvement harvest, favoring spruce and the occasional pine plus the better quality hardwoods. Much of the fir is mature or beyond by now, and this harvest might also be able to work in the component just approaching/reaching conventional merchantability. This is potentially a fine timber lot, with high stocking and good access, plus relatively few constraints on management. The pond shore warrants Visual Class I protection, and there may be some upland acres prominent enough to need Class II allocation in association with views from the pond.

### West Outlet Lot

The West Outlet public lot consists of a 330 acre original public reservation on the south side of the outlet and approximately 510 acres of land in a strip up to 250 feet wide on both sides of the West Outlet stream. The streamside parcels include most of the nine miles of waterway from Moosehead Lake to Indian Pond, with the exception of a large outlot occupying about one mile of the stream banks and some smaller out lots. The original public reservation portion is on the south side of the West Outlet at its mouth, with about 0.4 miles of Moosehead Lake shoreline, and straddles Route 6/15. The streamside acres were sold to the State by Plum Creek in 1999. Both the north and south sides of the West Outlet dam are within the lot. The shoreline lands on adjacent Indian Pond are covered by the Indian Pond conservation easement.

## **Natural Resources**

Riparian habitat along the river's edge consists of narrow bands of Cedar Spruce Seepage Forest and alluvial Alder Thicket, interspersed with small peatlands of Northern White Cedar Swamp, Northern White Cedar Woodland Fen, and Sweetgale Mixed Shrub Fen. A small open peatland ('Low Sedge – Buckbean Fen Lawn') on the south side of the West Outlet supports a population of the Beaked Sedge, a rare plant typical of more boreal regions. Adjacent upland forests are characterized as mid-successional Lowland Spruce Fir Forest and Spruce – Northern Hardwood Forest.

Under the Maine DEP stream classification, the Kennebec River West Outlet is considered a class AA stream, the highest classification for water quality.

## Recreation and Access

The main attraction of this lot is the West Outlet stream, most often used by canoe day-trippers and smallmouth bass anglers. A popular fishing spot is the pool directly below the West Outlet dam. Parking and car-top boat access is available near the dam immediately downstream of the Route 6/15 bridge. (A take-out is available on Indian Pond near to where the outlet flows into the pond, about one mile beyond the state parcels.) Route 6/15 also provides ready access to the main parcel. Access to much of the waterway downstream of the highway is available from the gravel road that parallels the west shoreline. An ITS snowmobile trail and ATV trail share a route crossing the original public lot from north to south (using the shoulder of the highway bridge to cross the outlet stream), on a shared route.



*West Outlet dam.*



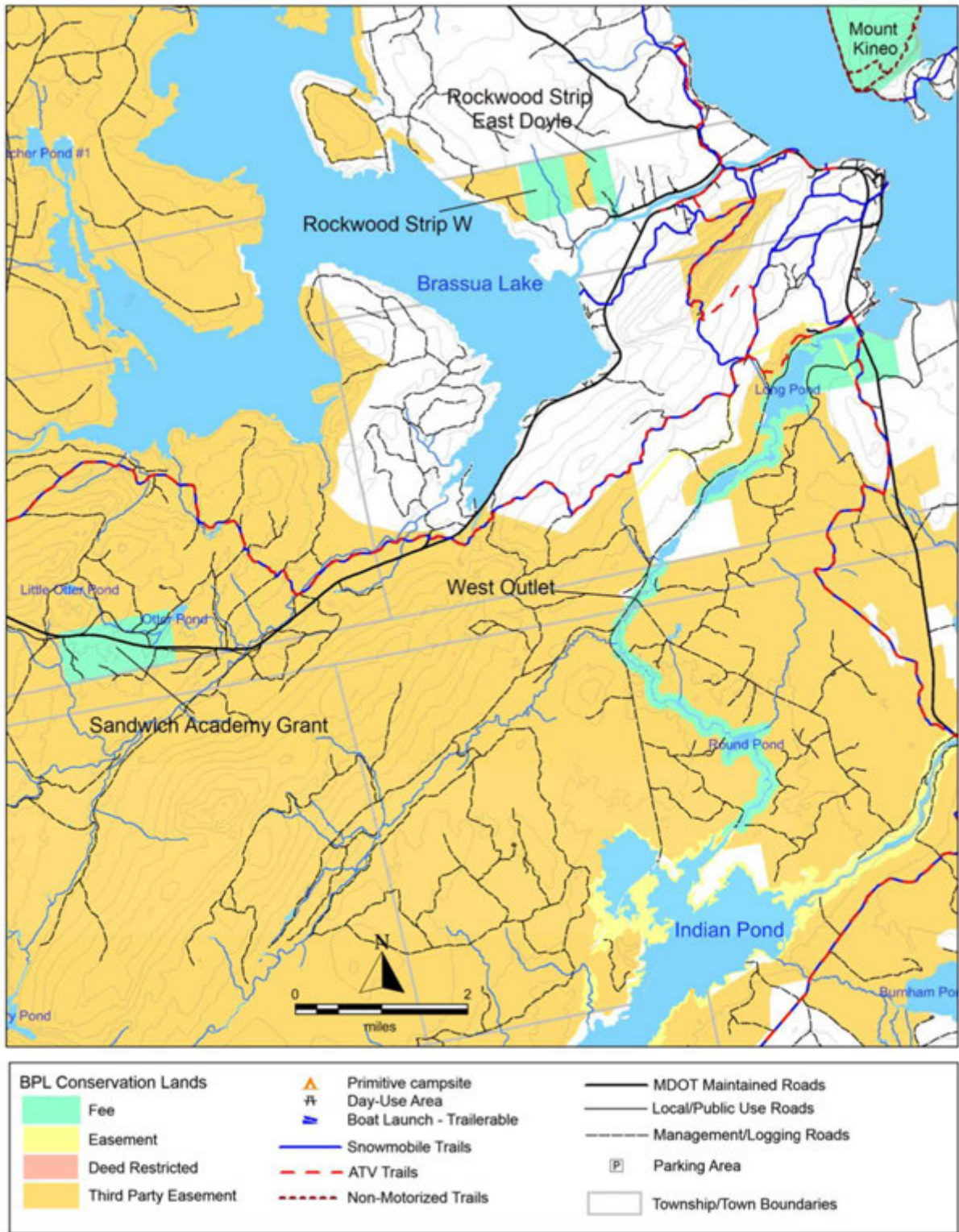
*Hand-launch boat access to West Outlet.*

There may be the potential to develop a short pedestrian trail that would provide the public with an opportunity to experience Moosehead's shoreline from an undeveloped and relatively quiet location. Such a trail would begin at a parking area along Route 6/15 and wind perhaps a quarter mile through the woods to a vista point on the shoreline. The BPL shoreline presents an attractive view to the north across the open waters of the lake and to the cliffs of Kineo three miles distant. This trail could be an enhancement to the Moosehead Lake Scenic Byway, where travelers could get out of their vehicles and experience the lake at some remove from the road. There is also a need to provide information at the boat access along Route 6/15 about the canoeing and kayaking opportunity on the West Outlet and the take out location on Indian Pond, in partnership with Brookfield and Weyerhaeuser.

## Timber Resources

All but seven acres of bog on the original reservation portion of the lot is regulated forest. Most of the forest was cut heavily during the 1960s, with the harvest taking the best trees, especially in hardwoods. No BPL harvests have occurred and over forty years of growth since that harvest has increased stocking to 25-26 cords per acre, though the average quality is still modest on many species – most hardwoods and cedar. The spruce is fair to very good, and fir is either overmature/high risk or younger and in good health. The remainder is yellow birch and sugar maple, with a few pines near the water. About half the lot is somewhat poorly to poorly drained, which also limits quality, and the rest a bit drier. Management should favor softwoods,

### Basemap - West Outlet, Rockwood Strip and Sandwich Academy Lots



MAP FIGURE 16.

especially spruce, on most acres while retaining any good quality hardwoods when on the better drained areas.

The roadside and shorefront portions of the lot are high visibility, and any harvesting there must be especially careful about visual impact. The shoreline lands along the stream are often steep toward the water, and timber management (if any) would need to be coordinated with the abutters farther from the river.

In 2012, at the request of the Maine Dept. of Transportation, a 75-foot wide strip along the south side of the highway was harvested, with the removal of softwood to improve winter road maintenance.

### Rockwood Strip Lots

The Rockwood Strip lots total about 300 acres, the west lot being an original public reservation and the smaller east lot (also known as the Doyle lot) acquired in an interagency transfer in the 1970s. The lots are about a third of a mile apart and lie just north of the Moose River, about two miles west of the outlet to Moosehead Lake. The east parcel has a few hundred feet of frontage on the Moose River at its southern boundary. A former Bureau of Forestry storage building is on the east lot, near the parcel boundary and the county road.

### **Natural Resources**

The Rockwood lots are characteristic of the low elevation region northwest of Moosehead, and have had a long history of timber harvesting, likely including many harvesting events. No exceptional or rare features were found. Most of these properties are relatively well drained, dominated by spruce-fir forest and spruce-northern hardwoods forest. Spruce fir forests are largely even aged and mid successional. Spruce is dominant, with scattered cedar, white pine, paper birch, red maple and balsam fir. Though uncommon in the overstory, balsam fir is the dominant understory species, with scattered red spruce and very few herbaceous species.

Spruce Flats are the dominant lowland forest here. Spruce flats are typically even aged and mid-successional. The overstory is mostly red spruce, with scattered cedar and balsam fir. Small patches where northern white cedar is dominant occur adjacent to streams. Places where past harvesting was more extensive are now dominated by paper birch. Some mature trees in the stand are 120 years old, but the general stand age is much younger.

A small beaver influenced wetland occurs in the south of the eastern parcel. Here, Canada bluejoint (*Calamagrostis canadensis*), meadowsweet (*Spiraea latifolia*), speckled alder (*Alnus incana*) and sweetgale (*Myrica gale*) are dominant and form the key species of the Mixed Graminoid-Shrub Fen community. A narrow fringing area of black spruce occurs along the edge of this wetland.

The lots have shown considerable winter use by deer in recent years, despite having only marginal cover habitat. How much of this deer use has resulted from abutters' heavy harvests and/or feeding of deer in nearby Rockwood village is unknown. However, even marginal cover isn't abundant in this area, so timber management has to be done with current and future deer use in mind.

## **Recreation and Access**

Access to the south end of the east lot is available via a paved county road that parallels the Moose River and terminates at turnaround on the lot; access to the rest of the east lot and to the west lot is via winter logging roads. The east lot's frontage on the Moose River provides informal pedestrian water access for anglers and car-top boat launching, with limited parking at the turnaround. There are no recreational facilities on the lots.

## **Timber Resources**

Most of the two lots are regulated forest but a small fraction is noncommercial forested wetland. The land is level to gently sloping, with drainage ranging from some well drained hardwood land to very poorly drained along some small brooks. No harvesting on either lot had occurred since 1984 or earlier, until a harvest mainly on frozen ground was conducted in 2013 into 2014. This operation yielded about 3,000 cords, with 56 percent of that volume being hardwoods. Going into that harvest the stocking was 25-30 cords and about 40 percent hardwoods, those species being targeted in the operation so as to favor softwoods. Current stocking is some 18 cords per acre, headed by spruce with 38 percent of total volume, fir at 15 percent, red maple 9 percent, and white pine, yellow birch, sugar maple and cedar each with 6-7 percent. The lots should continue to be managed with both deer winter use and high value timber products in mind, favoring softwoods when feasible and conducting most harvests in winter.

### *Sandwich Academy Grant Lot*

The Sandwich Academy Grant lot is an original public reservation of about 490 acres. The lot straddles Route 6/15 (Jackman Road) about ten miles west of Rockwood and Moosehead Lake. Otter Pond lies just off the lot's northeast corner, and the stream running to it from Little Otter Pond crosses the northeast quarter of the lot. The long visual corridor along the highway is mainly of a wall of heavily stocked forest; views of the interior are very limited.

## **Natural Resources**

Though this parcel has been extensively harvested, there are still numerous area where intact, mature forest structure still exists. The relatively less intensive forestry practiced in this parcel compared to the region is evident from air photos. Much of the surrounding lands have been harvested heavily through patch cuts, clearcuts and other harvest layouts. No exceptional features were found in this parcel.

This unit is mainly Low Elevation Spruce-Fir Forest. Red spruce is dominant, with scattered white pine, and balsam fir is virtually absent. Tree regeneration is strong, and consists of spruce, balsam fir, white pine and heart-leaved paper birch (in gaps). A small patch of Beech Birch Maple Forest occurs north of the highway. Though there is considerable evidence of recent harvest, some late successional characteristics were left during harvesting. These include snag trees, coarse woody debris and scattered large diameter trees that were not harvested. Sugar maple is dominant, with lesser amounts of yellow birch. Red spruce, white ash, red maple and white pine are present. The variety of forest types and ages structure on the lot provides a wide diversity of wildlife habitat.

### **Recreation and Access**

Access to the lot is available via a logging road that arcs across the north half of the lot with two entrances off the 1.4 miles of state highway that crosses the parcel. There are no recreational facilities.

### **Timber Resources**

Other than 13 acres of open bog, the lot holds 454 acres of regulated forest, 17 percent hardwood types, 46 percent mixedwood, and 37 percent softwood. The Bureau has harvested on this lot three times, the first an early 1980s harvest on the westerly portion, covering about 75 acres and targeting fir. Harvest volumes are unknown but probably in the 1,000 cord range. Operations in 1992-93 covered about half the regulated acres, including some areas partially harvested a decade earlier, yielding 2,100 cords. The third entry came in 2007 and treated 311 acres, some for the first time since pre-1980 and some for the second time, and producing another 2,100 cords. In addition, 24 acres of sapling softwoods, established by a late 1950s harvest, were precommercially thinned in 1985. Sites range from low flats to fertile hardwood/mixedwood areas to thin-soil softwood acres.

The spruce and pine are good quality, the fir, sugar maple and yellow birch fair to good, and most other species fair to poor. Stocking in 2014 approaches 25 cords per acre, topped by spruce (37 percent) and red maple (27 percent). Next in prevalence is fir (9 percent), yellow birch (8 percent), white pine (6 percent), sugar maple (5 percent), and paper birch (4 percent). The diversity of wildlife habitat has been enhanced by the two most recent harvests. Future management should sustain this diversity while favoring spruce, pine, and on the better sites, yellow birch and sugar maple. Recent harvests have enabled maintenance/enhancement of habitat diversity while growing valuable timber products. Future management should work to continue this process while managing both the overstory and the abundant stocking of desirable regeneration. Harvesting near the highway corridor should maintain the appearance from the pavement of undisturbed forest, except at the management access points.

## Proposed Allocations for the Other Public Lots

### ***Lots East of Moosehead Lake***

#### **Shawtown Lot**

*Timber Management* is the dominant allocation for most of the Shawtown lot, excepting the 330 foot riparian buffer zone along the Second Roach Pond frontage, which is allocated to *Wildlife Management*. This lot was recently harvested (2011); no special features were found in the timber harvest prescription process, and vehicle access to the lot is limited to a logging road skirting the south boundary. Remote Recreation is a secondary use on the entire lot; Wildlife Management is a secondary use on the timber management acres.

#### **Frenchtown Lot**

*Developed Recreation Class I* is the dominant allocation for the campground lease portion of the lot. The six undeveloped shoreline camplots are allocated to *Wildlife Management* within a 330 foot riparian buffer zone, and to *Remote Recreation* beyond that zone. No commercial timber harvesting would occur on the shoreline parcels; however, emergency or salvage harvests may be appropriate in the event of severe tree mortality, blowdowns, and the like. Wildlife management is a secondary use on the Remote Recreation acres, with any wildlife management conducted sensitive to recreational and visual concerns.

#### **Beaver Cove Lot**

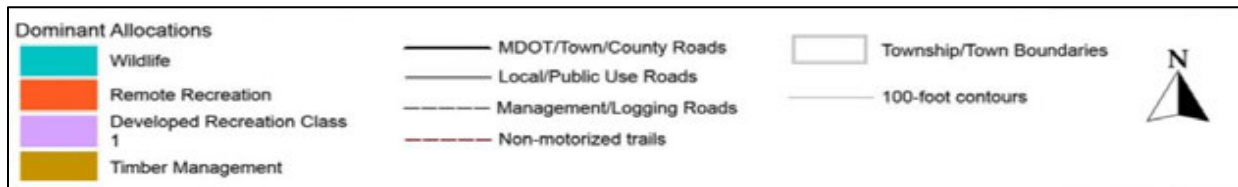
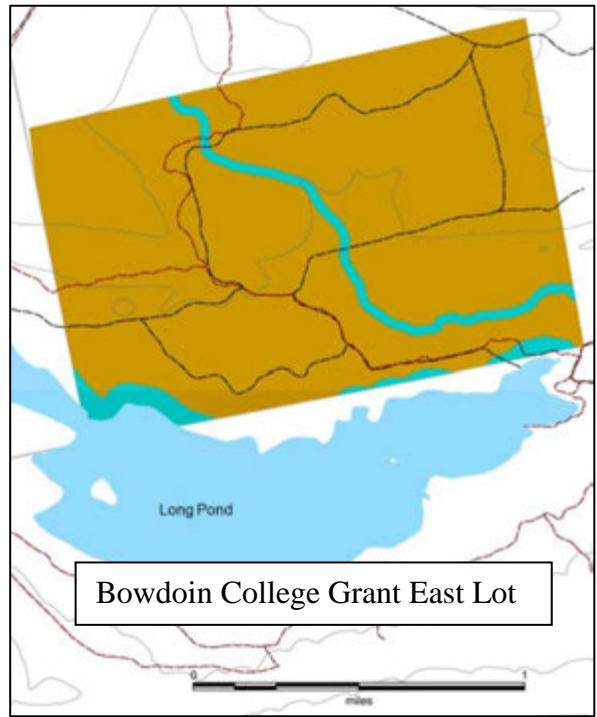
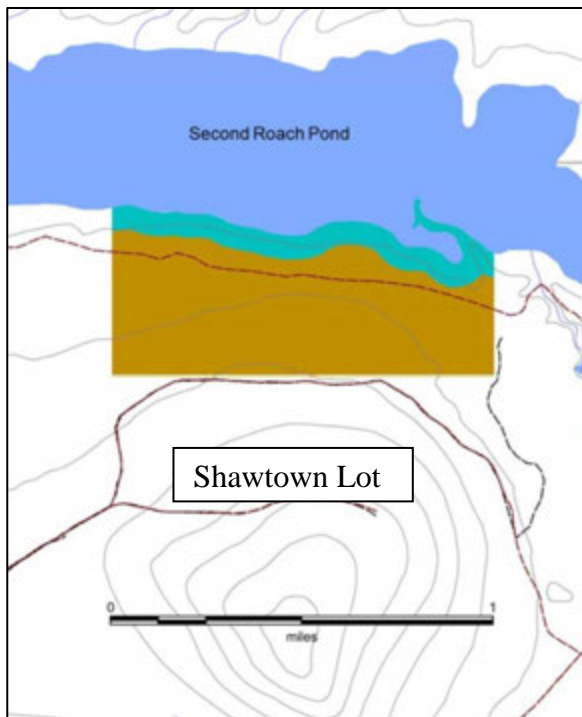
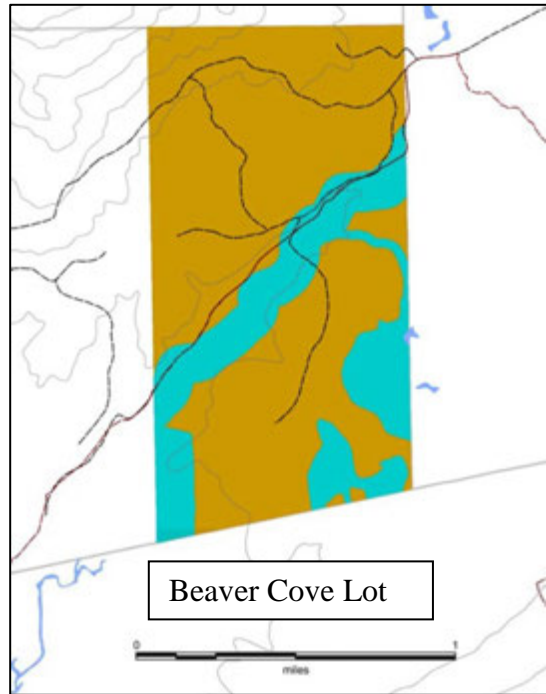
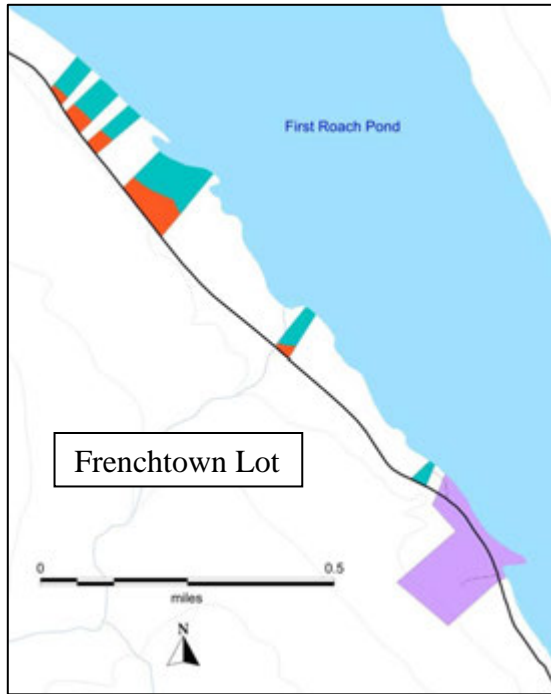
*Timber Management* is the dominant allocation for the majority of the lot, part of which was recently harvested (2012). A *Wildlife Management* allocation is applied to the West Branch Pleasant River major riparian corridor (330 feet each side of the stream), to the wetlands in the southeast quadrant of the lot, and to the zoned deer yard in the southwest quadrant. Remote Recreation and Wildlife are secondary uses on the acres allocated to Timber Management.

#### **Bowdoin College Grant East Lot**

*Timber Management* is the dominant allocation for the majority of the lot. A riparian buffer within 330 feet of the Long Pond shoreline is allocated to *Wildlife Management*, as is a minor riparian buffer (75 feet each side) along the stream crossing the lot. Recreation and wildlife management are secondary uses on the acres allocated to Timber Management.

For all of these lots with the exception of the Frenchtown Lot, Timber Management is a secondary allocation for the riparian buffer and deer wintering areas subject to wildlife, recreation, and visual concerns. Map Figure 17 on the following page depicts the proposed Dominant Allocations for these lots.

**Other Public Lots East of Moosehead Lake – Dominant Use Allocations**



MAP FIGURE 17.



## ***Lots West of Moosehead Lake***

### **West Outlet Lot**

The majority of the original public reservation portion of the Lot is allocated to *Timber Management*. A 330 foot riparian buffer along the lake and stream shorelines is allocated to *Wildlife Management*, with recreation as a secondary use. Given the high visibility of the roadside and streamside acres, a Visual Consideration Class I secondary allocation will apply to much of the original public lot. The entire West Outlet stream shoreline portion of the Lot is allocated to *Wildlife Management*, with Remote Recreation as a secondary allocation, with the exception of the parking and boat launch area near the Rt. 6/15 bridge, which is allocated to *Developed Recreation Class I*.

### **Rockwood Strip Lots**

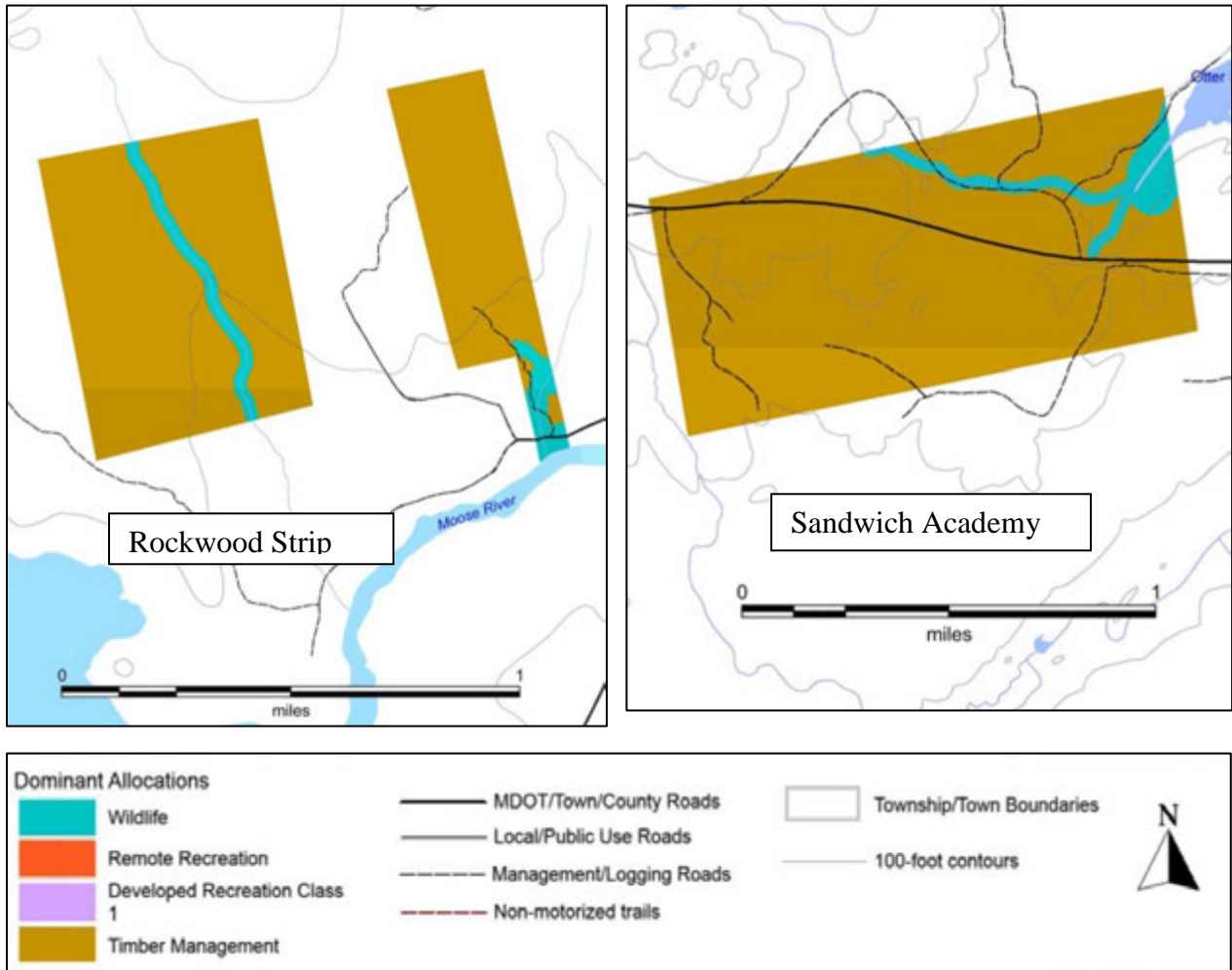
*Timber Management* is the dominant allocation for most of the two lots, excepting the minor riparian zone crossing the west lot and a small area of wetlands and the adjacent Moose River shore zone on the east lot, which are allocated to *Wildlife Management*. This lot was recently harvested (2013-14); no special features were found in the timber harvest prescription process. Remote Recreation and Wildlife Management are secondary uses in the areas allocated to Timber Management.

### **Sandwich Academy Grant Lot**

The majority of the lot is allocated to *Timber Management*. An area of inland wading bird and waterfowl habitat along the inlet to Otter Pond and minor riparian buffers along the streams flowing to the pond are allocated to *Wildlife Management*, with recreation as a secondary use. Given the high visibility of the roadside portions of the parcel, a Visual Consideration Class I secondary allocation will apply to much of the lot. Remote Recreation and Wildlife Management are secondary uses in the area allocated to Timber Management.

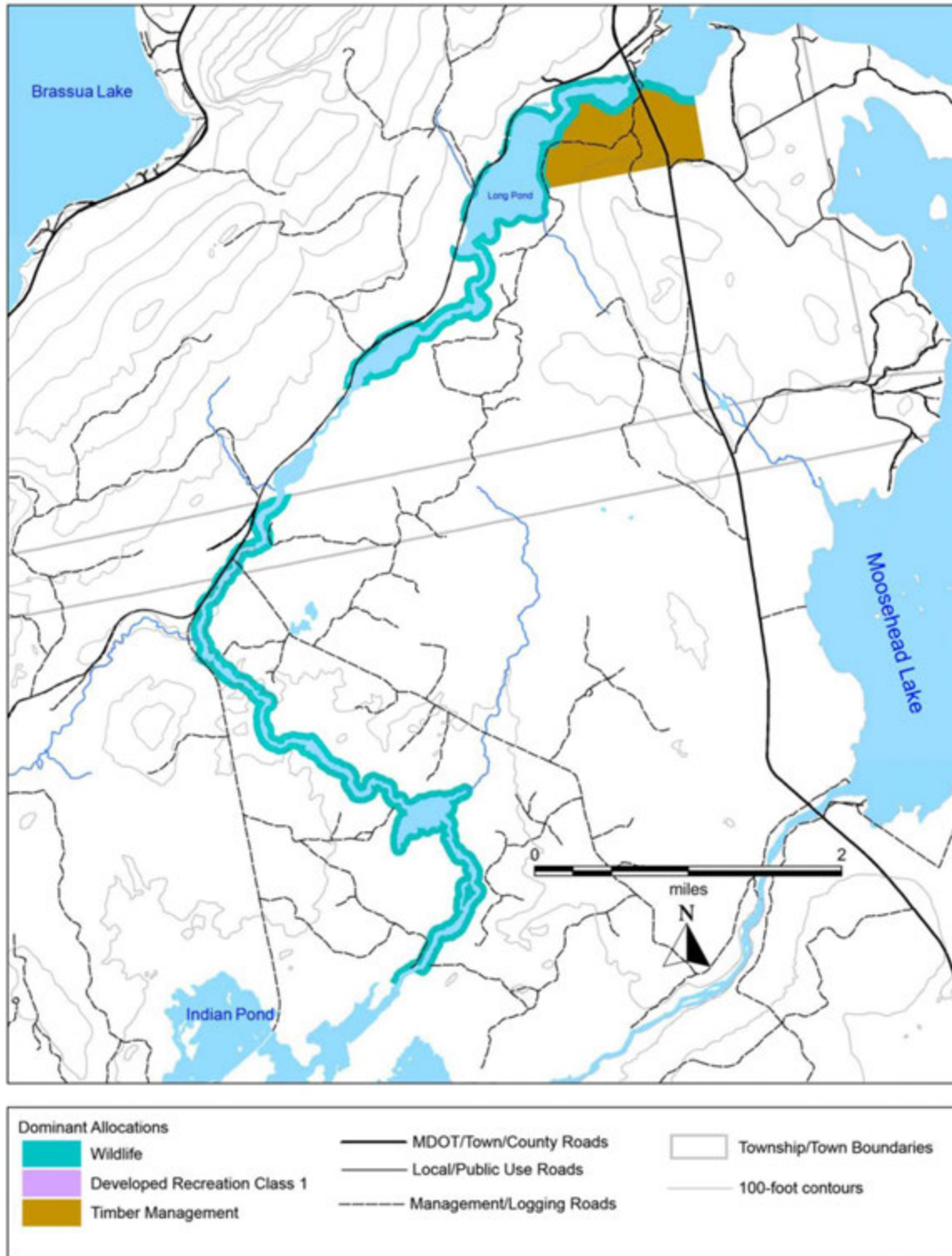
For all of these lots, Timber Management is a secondary allocation for the riparian buffer and deer wintering areas subject to wildlife, recreation, and visual concerns. Map Figures 18 and 19 on the following pages depicts the proposed Dominant Allocations for these lots.

**Smaller Public Lots West of Moosehead Lake – Dominant Use Allocations**



MAP FIGURE 18.

## West Outlet Lot - Dominant Use Allocations



MAP FIGURE 19.

*Summary of Proposed Allocations – Other Public Lots*

Allocation	Number of Acres			%
	Dominant	Secondary	Total	
Special Protection	0	Not applicable	<b>0</b>	<b>0%</b>
Wildlife Management	940	Not applicable	<b>940</b>	<b>25.6</b>
Remote Recreation	5	940	<b>945</b>	<b>25.8</b>
Visual Consideration – Class I	0	Variable	Not available	--
Visual Consideration – Class II	0	Variable	Not available	--
Developed Recreation – Class I	15	Not applicable	<b>15</b>	<b>&lt;1%</b>
Timber Management	2,705	335	<b>3,040</b>	<b>82.9</b>
<i>Totals</i>	<i>3,665</i>	<i>1,275</i>	<i><b>4,940</b></i>	
Note: Acreages are representations based on GIS metrics rounded to the nearest 5 acres, and do not sum to the total Unit acreage due to measuring error and limits of GIS precision (above acres are overall low by approx. 1-2%).				

*Management Recommendations for the Other Public Lots*

*Lots East of Moosehead Lake*

**Shawtown Lot**

- Timber management will be focused on growing and regenerating the high quality, mainly hardwood timber on the lot and maintaining diverse wildlife habitat, with special sensitivity during harvesting to the visual resource in the vicinity of the AMC trail corridor and the pond shore. (The steepness of much of the pond shoreline will preclude harvesting in much of the riparian buffer, where timber management is a secondary activity.)
- The Bureau will consult with AMC regarding timber harvesting and other management activities in the vicinity of the AMC-maintained trail on the lot with the goal of minimizing adverse impacts to the trails or trail uses to the extent possible without placing excessive constraints on access to timber.

**Frenchtown Lot**

- The primary use of these lands left over from land sales and trades will be the commercial campground lease on the easternmost parcel, which will continue to provide waterside camping opportunities and informal boat launching to this popular pond.
- The Bureau may consider development of a trailhead on one of the undeveloped shoreline parcels to serve potential new non-motorized trails on Weyerhaeuser conservation easement lands between First Roach Pond and the Number Four Mountain trail.

**Beaver Cove Lot**

- Timber management will focus on increasing spruce, pine and good quality hardwoods along with development of high value winter cover in the deer wintering area and other softwood acres.
- The Bureau will consult with AMC regarding timber harvesting and other management activities in the vicinity of the AMC-maintained trail on the lot with the goal of

minimizing adverse impacts to the trail or trail uses to the extent possible without placing excessive constraints on access to timber.

### **Bowdoin College Grant East Lot**

- Timber management will be focused on continued improvement of the forest on the lot, generally favoring spruce and the better quality hardwoods. This lot will be prioritized for harvest in the near term given the 30+ years that have elapsed since the last harvest and the need to act soon to make the most of stand improvement opportunities.
- The Bureau will consult with AMC regarding timber harvesting and other management activities in the vicinity of the AMC-maintained trails on the lot with the goal of minimizing adverse impacts to the trails or trail uses to the extent possible without placing excessive constraints on access to timber.

### ***Lots West of Moosehead Lake***

#### **West Outlet Lot**

- The focus of management for most of the West Outlet will be the recreation and wildlife values associated with the lakeshore and streamshore parcels. Timber management focused on improving softwood while retaining any good quality hardwoods on better drained areas will continue on the original public reservation acres, with special sensitivity to the visuals resource in the vicinity of the highway, the lake shore and the outlet stream.
- The snowmobile and ATV trails crossing the lot will continue as important segments in the regional motorized trail networks, connecting Greenville with Rockwood and points beyond.
- Explore the potential for development of a short, easy pedestrian trail with parking along Route 6/15 and an attractive vista point on the Moosehead shoreline. Coordinate any trail development with Moosehead Lake Scenic Byway as a potential byway enhancement.
- Work in partnership with Brookfield and Weyerhaeuser to provide signage and other information about canoe/kayak opportunities on the West Outlet.

#### **Rockwood Strip Lots**

- Timber management on these lots will continue to focus on developing high value timber products, favoring softwoods when feasible and seeking to maintain or improve winter deer cover.
- Informal pedestrian recreational access to the Moose River will continue to be provided on the streamside portion of the east lot, with limited parking at the small turnaround alongside the county road.

#### **Sandwich Academy Grant Lot**

- Timber management favoring spruce and pine and, on the better sites, yellow birch and sugar maple will continue with the additional goal of sustaining the lot's diverse wildlife habitat, with special sensitivity to the visuals resource in the vicinity of the highway.

## V. Monitoring and Evaluation

Monitoring and evaluation are needed to track progress in achieving the management visions, goals and objectives for the Units, and effectiveness of particular approaches to resource management. Monitoring and evaluation will be conducted on wildlife, ecological, timber, and recreational management efforts in the Moosehead Region.

### Implementation of Plan Recommendations

The Bureau's Western Region is responsible for implementing, accomplishing, and tracking the management recommendations put forth in the Plan. This generally includes determination of work priorities and budgets on an annual basis. The Bureau will document, on an annual basis, its progress in implementing the recommendations, its plans for the coming year, and adjustments to the timing of specific actions or projects as needed.

### Recreation

Data on recreational use is helpful in allocating staff and monetary resources for management of the Public Reserved Lands, and generally determining the public's response to the opportunities being provided. It also provides a measure of the effectiveness of any efforts to publicize these opportunities. Use data for the Moosehead Region, except for use of the Appalachian Trail and some scattered monitoring of hiking trail use (e.g., trail register at Big Moose Mountain), does not exist. Fees are not charged for the use of these lands, so this avenue for use data, available to the Bureau's Parks system, does not exist for the Moosehead properties. The Bureau will consider how additional use data could be gathered, perhaps by periodic user surveys or counts.

In addition to gathering data on use as opportunities arise, the Bureau will generally monitor use to determine:

- (1) whether improvements to existing facilities or additional facilities might be needed and compatible with general objectives;
- (2) whether additional measures are needed to ensure that recreational users have a high quality experience (which could be affected by the numbers of users, and interactions among users with conflicting interests);
- (3) whether use is adversely affecting sensitive natural resources or the ecology of the area;
- (4) whether measures are needed to address unforeseen safety issues;
- (5) whether changing recreational uses and demands present the need or opportunity for adjustments to existing facilities and management; and
- (6) whether any changes are needed in the management of recreation in relation to other management objectives, including protection or enhancement of wildlife habitat and forest management.

### Wildlife

The Bureau, through its Wildlife Biologist and Technician, routinely conduct a variety of species monitoring activities statewide. The following are monitoring activities that are ongoing or anticipated for the Moosehead Region:

- (1) The Bureau will cooperate with the Maine Department of Inland Fisheries and Wildlife in the monitoring of game species, including deer, moose, grouse, and black bear;

- (2) The Bureau will identify and map significant wildlife habitat such as vernal pools and den trees in the process of developing its detailed forest management prescriptions. The boundaries of any sensitive natural communities will also be delineated on the ground at this time. Any significant natural areas or wildlife habitat will then be subject to appropriate protections.

### **Timber Management**

Local work plans, called prescriptions, are prepared by professional foresters in accordance with Bureau policies specified in its *Integrated Resource Policy*, with input from other staff. These documents are then peer-reviewed prior to approval. Preparation and layout of all timber sales involve field staff looking at every acre to be treated. Trees to be harvested are generally hand marked on a majority of these acres. Regional field staff provides regular on-site supervision of harvest activities, with senior staff visiting these sites on a less frequent basis. After the harvest is completed, roads, trails, and water crossings are discontinued as appropriate, although some management roads may remain open to vehicle travel. Forest managers assess harvest outcomes on all managed lands, including water quality protection and Best Management Practices (BMP's) utilized during harvest activities. Changes in stand type resulting from the harvest are then recorded so that the Bureau's GIS system can be updated.

Third party monitoring is done mainly through the forest certification programs of the Forest Stewardship Council (FSC) and the Sustainable Forestry Initiative (SFI). Each program conducts rigorous investigations of both our planning and on-ground practices. The Bureau's forest management program successfully underwent full recertification audits in December of 2011 and December of 2016, and will host annual surveillance audits until the next full audit in 2021.