

Nicatous Islands and Conservation Easement

In 2000 the Bureau acquired from Robbins Lumber Company fee ownership of 78 islands in Nicatous Lake, and a 22,120-acre conservation easement on working forestlands for the entirety of T40 MD and the southeast corner of T3 ND. The islands range from a collection of large rocks to several large islands. The easement includes all of the western and northern shoreline of Nicatous Lake and the frontage on West Lake, and effectively extinguishes the development rights on the parcel. The acquisition of a 200-acre fee parcel on the eastern shore of the lake connects this parcel to the Duck Lake Unit, providing more than 50,000 acres of contiguous, publicly-held conservation lands. Robbins Lumber retained the right to manage timber, while granting public recreation management responsibility to the Bureau. Bureau staff incorporated this responsibility into the Duck Lake Unit management regime at the time of acquisition. An additional island, Dayton Island, was acquired as a gift from The Nature Conservancy. There is a camplot lease agreement with the former owners on a portion of the island itself, with the remainder available for general public use.

Primary access to the easement property is along the Morrison Ridge Road between the Nicatous Stream Road and the 32-00-0 Road, providing easy access to drive-to campsites on Upper and Lower Oxhead Ponds (five sites) and Loon and Crystal Ponds (two sites). The launching of boats also takes place at these sites, although these sites were not designed and constructed for that purpose. There is some erosion and overuse of an ATV access campsite. General upkeep and maintenance of these sites has required significant effort by Bureau staff.

Six water access camp sites are available on Nicatous Lake on the easement lands, with one located on the Duck Lake Fee Connector parcel along the east shore, and seven others on West Lake. Two sites on Nicatous Lake have walk-to access and are listed as requiring fire permits.

A boat launch site on West Lake is located on the northwest shore near the Nicatous Stream Road. Public launching on Nicatous Lake has been an area of issue and focus since the Bureau acquired the easement. Although there is an area just off the Nicatous Stream Road that has been used for boat launching; the site provides very little space with no opportunity for expansion. Boat launching and parking for a fee typically takes place at nearby Hemlock Lodge.

The 78 state-owned islands acquired from Robbins Lumber and a portion of Dayton Island provides opportunities for primitive camping at some sites and day use at others. Fire permits have not been issued for these sites, though unauthorized fires are common. There are no signs, kiosks, or privies available for visitors to these islands. Signs designating certain islands as day use only may be posted in the future.

Bradley Unit

Character of the Landbase

The Bradley Unit was acquired from International Paper Company (IP) and the Webber Heirs in 1985 as part of a public lands settlement that involved other lands around the state. The property is comprised of four connecting lots (two from IP and two from the Webber Heirs) totaling 9,277 acres, and a separate 229-acre parcel known as the “Kittridge Farm” Lot. These parcels were considered “trade lots” at the time they were acquired in anticipation of future transactions that never took place. The low, rolling topography of this area is a significant factor that led toward the emergence several wetland complexes on the Unit. Though occasional small ridges provide some slope, this parcel probably has less relief than any large Bureau tract with the exception of the Great Heath, with only about 180 feet elevation difference between the highest and lowest points.

The Unit also abuts the Lower Penobscot Forest Project area, a complex 42,000-acre conservation initiative (see “The Planning Context” section for more detail) involving the acquisition of private lands north and east of the property. The wetland complexes within the Unit are integral to the larger system of wetlands, woodlands, and watershed areas identified for protection within the project area.

The Webber parcels were heavily harvested from the 1940s to the 1980s, with most of the remaining trees being less than 60 years old. Both the IP and Webber parcels were extensively harvested in the 1980s. The Bureau conducted small harvests of its own in 1994, 1997, 2000, 2004, and 2006, targeting mostly aspen. The Kittridge Lot was harvested in 2004.

The only known cellar hole on the Unit is located on the Kittredge Lot where the area surrounding it was likely cleared at one time. In the early 1900s, the Bell Telephone Company cleared corridors throughout eastern Maine, including some corridors within the lands of the Bradley Unit, with the intention of connecting to the first ever trans-Atlantic cable. Though the project was never finished, the presence of occasional posts and guy wires are indicative of these early efforts.

Natural Resources

Ecological Processes and Wetlands

The four large wetland complexes comprise the key ecological features on the Unit, and their protection is critical to both the Unit properties and to the region. There are 2,469 acres of wetlands, including 437 acres in open wetland and three large peatlands. These peatlands range from a mature and dry wooded bog to an open peatland dominated by shrubs to a very wet forested swamp. Peatlands found in No. 26 and No. 32 swamps were formed by mats of Sphagnum moss that accumulated in basins. The southwestern and southeastern corner of the Unit is bordered by Great Works Stream, which is part of an extensive wetland complex that is a haven for waterfowl.

Geology and Soils

Most of the Unit is underlain by calcareous sedimentary/metasedimentary bedrock. The southernmost portions of Bradley also include moderately calcareous and acidic sedimentary/metasedimentary bedrock. The semi-calcareous bedrock is a contributing factor to the higher percentage of cedar in the wetland complexes. The dominant surficial geology type is till deposited during the last glaciation. The large wetland complexes are characterized by swamp, marsh, and bog deposits, and the southernmost portion of the Unit consists of fine-grained glaciomarine deposits. An esker runs north-south by the western boundary of Bradley with a small portion located within the Unit. Both the Bradley Unit and Kittridge Lot are underlain by the Colonel-Dixfield-Brayton Soil Association, characterized by somewhat poorly drained, coarse loamy soil; although the upland portions are primarily of the Telos-Chesuncook type.

Hydrology and Water Quality

There are no ponds, lakes, or major streams within the Unit, except where the southwest corner borders the floodplain of Great Works Stream, and where it crosses the southwest and southeast corners of the Lot. The stream, which is dammed near the southern boundary of the Kittridge Lot, includes large wetlands and important wildlife habitat. The waters of the Unit drain to the Penobscot River via Great Works Stream and Sunkhaze Stream.

Natural Communities

The forestlands are characteristic and typical of the surrounding low and rolling terrain, and are comprised mostly of softwood (64%) and mixedwood (34%), with only a few hardwood stands (2%).

No. 26 Swamp is considered an exemplary, mature Raised Level Bog Ecosystem. The peatland component consists of the Spruce – Larch Wooded Bog and Sheep Laurel – Dwarf Shrub Bog community types. The typical Spruce – Larch Wooded Bog area contains 20% cover of stunted black spruce with a diameter range of two to three inches. Beneath this partial canopy, a dense shrubby layer dominated by black spruce and mountain holly is found. The herb layer is also dense and dominated by black spruce, mountain holly, leatherleaf, rhodora, and huckleberry, with lesser amounts of other common species. Where the peatland is generally wetter, the Sheep Laurel – Dwarf Shrub Bog natural community type is common. Sphagnum moss covers over 90% of the total area.

No. 32 Swamp located just east of No. 26 Swamp contains a peatland comprised of the Spruce - Larch Wooded Bog community type, and is notably drier than the community at No. 26 Swamp. A canopy of black spruce, including some over 20 feet tall, covers 10% of the area. One black spruce was found to be roughly 125 years old with a diameter of five inches. The tall shrub layer is dominated by black spruce, with the small shrub layer containing moderate amounts of black spruce, with mountain holly and rhodora more common. The herbaceous layer is extensive, covering 80% of the total area, and diverse. The lack of surface water and the presence of a small black spruce canopy suggest that the slightly drier conditions have allowed a broader range of species to flourish.

Island Swamp, in the northern part of the Unit, is a forested swamp. The area does not fit easily into a single natural community type. The area has a “hummocky” topography with large amounts of standing and fallen deadwood, along with large amounts of surface water in pools. The canopy has 50% closure and contains relatively equal amounts of black ash, northern white cedar, and red maple, with lesser amounts of balsam fir. An 11.5 inch cedar was found to be about 130 years old. The dense shrub layer is dominated by a mixture of regenerating trees (black ash, balsam fir, cedar, and red maple) and shrubs including speckled alder and winterberry. The herbaceous layer covers 80% of the total area and is dominated by royal fern



No. 32 Swamp

and sensitive fern, along with the speckled alder and winterberry growing on the hummocks. Portions of Island Swamp once contained commercially grown and harvested cedar.

Lower Penobscot Forest Project
(See “*Planning Context*” section for more detail)

The Unit abuts an important conservation acquisition project area known as the Lower Penobscot Forest Project, a partnership between the Nature Conservancy and the Forest Society of Maine that includes the conservation of 42,000 acres of private lands. The project area abuts the Unit along its northern

and eastern boundary. The wetland complexes within the Unit are integral to the larger system of wetlands, woodlands, watershed, and Atlantic salmon habitat areas slated for protection under this project, which will also include the use of federal Forest Legacy funds to acquire and preserve a working forest component. The acquisition involves a fee purchase in the nearby Town of Amherst.

Natural Resource Management Issues

- The Maine Natural Areas Program has identified the significance and importance of the wetland complexes within the Unit, and have stated that any management within the Unit be planned with care and consideration for these resources, including a forested buffer around the wetlands and no new roads in wetlands.

Fisheries and Wildlife Resources

Wildlife

Wildlife considerations and management on the Unit consist mostly of the important habitat provided by the extensive wetlands. Wildlife riparian zones along the upland portions of these

areas have been maintained since acquisition of the property. Riparian zones have also been established where the property abuts Great Works Stream. The Bradley Unit and Kittridge Lot together provide approximately 1,164 acres of inland wading bird and waterfowl habitat. Although there are no documented deer wintering areas on the Unit, timber harvesting to enhance softwood cover for deer has been routinely incorporated into forest management planning, including the retention of cedar where found. Cedar is an important species in the Unit due to its relatively high occurrence by eastern Maine standards. Red oak is scattered through the upland stands and supplies hard mast in the absence of American beech.

The Northern Leopard Frog, a species of Special Concern according to IF&W, was found on the western edge of No. 26 Swamp during the 2006 inventory. The frog looks very similar to the more common pickerel frog and prefers “semi-terrestrial” habitat, such as damp wooded areas and meadows. It seeks shallow pools for breeding and returns to its home breeding area in the spring using solar, celestial, and/or lunar cues (Hunter, 2006).

The creeper mussel, a species of special concern, is known to occur on abutting private lands downstream from the dam on Great Works Stream. Water level management at the dam can impact their habitat.

Likewise, the sedge wren, an endangered species, has been found in the wetlands upstream of the dam on abutting private lands. Where the dam functions in part to maintain water levels in these wetland areas, management of the dam for this purpose should help protect the habitat needs of the wren.

Fisheries

Great Works Stream is the only waterbody on the Unit where there are fishery concerns and resources. The stream provides important Atlantic salmon habitat and has historically supported a population of the protected species. Populations of brook trout are also known to occur in these waters. A low head concrete dam on Great Works Stream near the landing on the Kittridge Lot is owned and maintained by the Bureau and includes a steep pass fishway installed in the early 1990s. The primary function of the dam is to maintain sufficient water levels for boating use and boat access to several camps upstream, and to maintain stable water levels in the extensive wetlands. The fishway was first operated in the spring of 2008 to pass alewives for spawning. Prior to this, fish passage was blocked by beaver dams. There continues to be concerns, however, about the overall condition of the dam, particularly the condition of the wing walls on either side. Little Birch Stream which drains Island Swamp also has a trout fishery.

Fisheries and Wildlife Management Issues

- Although there are no mapped deer wintering areas on the Unit, there is a history of deer use. Soil conditions do favor efforts to enhance softwood for deer use.
- Management recommendations from IF&W for areas containing Northern Leopard Frogs have been implemented, which includes a 250-foot forest buffer along the affected wetlands.
- The primary function of the Bureau-owned dam on Great Works Stream is to provide for fish passage; however, the dam is also important in maintaining water levels in the upstream

wetland areas, and for boat access on the stream. Additional work is necessary to determine the overall condition of the dam, particularly the wing walls on either side.

- Habitat considerations for the creeper mussel and sedge wren will need to be included in future decisions regarding operation and maintenance of the dam on Great Works Stream.

Recreation Resources

Recreational use of the property has consisted mostly of hunting and motorized trail use for connections to other areas of the region. Local ATV and snowmobile clubs have been active in developing and incorporating trails into a larger regional and statewide system that has now become an important recreational and economic resource to the Eastern Interior Plan Area in general. ITS 84, a major snowmobile thoroughfare that connects the Orono-Old Town-Milford area to eastern and northern Maine destinations passes through the Unit. The ITS 107 connector trail connects Clifton, Holden and Eddington to ITS 84. More recently there has been an increase in cross-country skiers, walkers, joggers and dog-walkers due to recent development near the Unit.

The boat landing on the Kittridge Lot is a popular day use spot for local residents. The site is also used by lessees owning camps on nearby private lands, dependent on sufficient water levels being available in order to maintain boat access. There is also some limited use of the stream for general recreation.

Recreation Management Issues

- The general recreational use of the Unit has been limited, due in part to the lack of vehicle access and the limited number of recreational resources available on the Unit. The ability to explore and manage any additional recreational opportunity will depend on the ability to obtain deeded access to the property.
- Improvements are needed at the Great Works Stream boat landing area and the access road, although the extent of those improvements has yet to be determined.

Timber and Renewable Resources

The forestlands of the Bradley Unit were commercially managed for many years, with much of the acreage heavily harvested during the 20 year period prior to state acquisition. An area of approximately 1,200 acres in size was less heavily harvested, with a significant overstory retained consisting primarily of white pine. More than 20% of the Unit is unsuitable for sustained timber management due mainly to the abundance of wetlands. A significant portion of areas suitable for timber management are on soils with poor drainage, though the majority has drainage and fertility sufficient to grow good softwoods along with fair hardwoods.

The Bureau conducted pine shelter-wood harvests in 1993-94, 1999-2001, and 2008 and improvement harvests in 1994-95 and 2007-08. Selection harvests were conducted on the Kittridge Lot in 2005 and 2007.

Due to its extensive harvesting history, the Unit may have the lowest volume per regulated acre of any large Bureau tract, with only 14 to 15 cords per acre. There is an abundance of large sapling and small pole-timber trees established or released by those heavy cuts, giving this Unit a larger proportion of early-successional habitat than most Bureau lands.

Stand Type Characteristics (regulated acres only)

Softwood type covers about 4,300 acres of the Unit or approximately 62% of the forest, and consists of 34% white pine, 26% cedar, 17% spruce, 9% red maple, and 5% fir. About 25% of the softwood stands are pine-dominant. The pine and spruce are mostly of good quality, though some pine is heavily limbed or crooked and there are areas of limited drainage where the spruce is in decline. Cedar is of poor quality and red maple is also of poor quality due to poor growing ground. Fir is mostly young and doing well. Management has and should continue to work towards increasing the pine component, which is already the highest for any unit-wide broad forest type on Bureau lands, while maintaining spruce in at least its present abundance. Regeneration from the 1970s harvests will have a high fir component, which may provide a commercial harvest that leaves spruce and pine with increased growing space. Hardwoods retained for diversity should be those found on the better micro-sites when feasible. Little harvesting is anticipated in the near future where cedar is the dominant species.

Mixedwood is found on 36% of the forest, and consists mostly of spruce (22%), white pine (21%), and red maple (18%). Four other species (aspen, hemlock, paper birch, and fir) each make up approximately six to seven percent of the volume. The residual over-story from pre-Bureau harvests is mostly of poor quality with the notable exception of pine. Young trees are higher quality, especially the pine. Although a few areas are fertile enough to grow quality hardwoods, pine and spruce should be encouraged first, along with hemlock where the site will grow it well. Fir should continue to be managed as an intermediate species.

Hardwood type on this tract is limited to less than 200 acres of young stands. Most of this is aspen-type, which holds mid-aged aspen over a younger component dominated by fir, hemlock, red maple, and white pine. Non-aspen hardwood type is found on only a few acres.

Summary of Timber Management Issues

- Current timber inventory is well below average for Bureau lands, but there is an abundant stocking of younger trees of overall good quality.
- Access is difficult throughout much of the parcel, due to the extensive bogs and connecting wetlands, and the manner in which most roads were built by the previous landowner. The low inventory and limited value of many stands will make any significant upgrade of the access a challenge.
- Lack of formal access to the Unit presents challenges for forest management access in the future.

Transportation and Administrative Considerations

Access to and within the Unit

The Bureau has no deeded access to the Unit. All access points to the property (Baker Brook Road, Parent Road, Kingsbury Road, 22-00-0 Road) are behind three gates owned by abutting

landowners. Options for establishing public vehicle access have been explored, although this would require purchase of a right-of-way on private roads, and possibly reestablishing of an old crossing on Little Birch Stream. The existing road system on the Unit constructed by the previous landowners is partially in place, but portions of it are in considerable need of upgrading, particularly if portions of this system are to be used for public vehicular access.

Remaining Title Issues

The Bureau was of the understanding that Webber Heirs would convey their ownership north of Great Works Stream, however deed descriptions left off a portion of one “old” lot and range. The result was approximately 45 acres and ½ mile of stream frontage was not legally conveyed. There is a camplot lease on this portion for which the Bureau has been collecting the lease fee since acquisition of the Unit. Staff attempted to obtain corrective deeds in 1992 but the matter was not settled.

Camplot Leases

There are thirteen camplot leases on the Unit established by previous landowners, including one on the island in Island Swamp which dates back to the 1920s. Most leases have been used as hunting camps. Access to most of these leases is along four-wheel-drive roads, with many lessees now using ATVs. Recent changes in ATV laws now require written permission from the Bureau, although these permits have not yet been issued. The lessees are also concerned about the future of their lease sites due to the lack of deeded access to the Unit.

Three leases were recently approved for relocation, mostly in response to construction of the transmission line corridor which ran through or in close proximity to many of these leases. There is also a camplot lease on Great Works Stream located where clear title to this portion of the Unit was never obtained (see Title Issues above). The Bureau, however, has continued to collect the lease fee since acquisition of the Unit.

Bangor Hydro Transmission Corridor

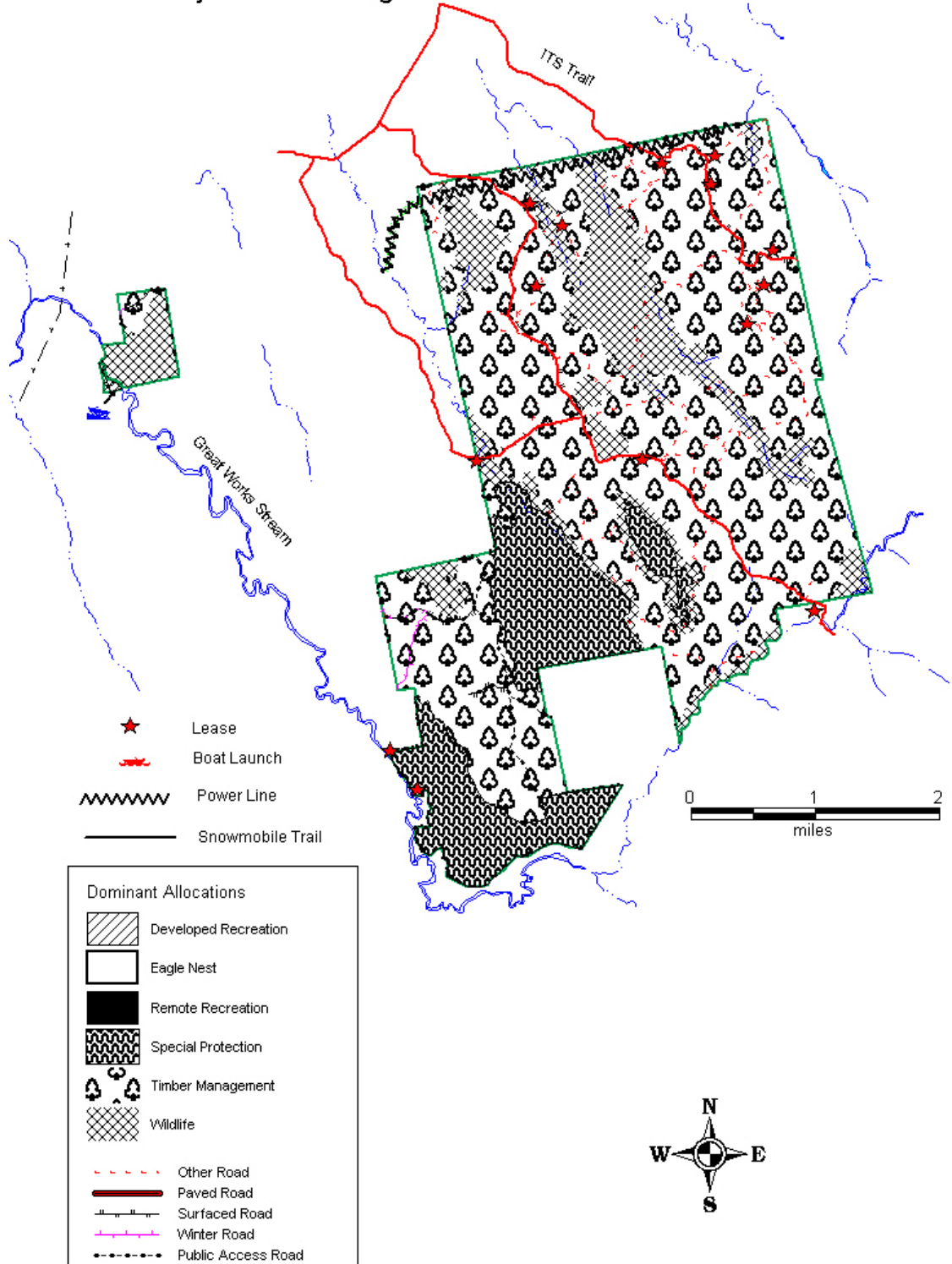
Bangor Hydro Electric Company has held a lease along a two and one-half mile corridor along the northern boundary of the Unit since 1990 in anticipation of needed expansions to its transmission line infrastructure in eastern Maine. In 2006 the lease was renegotiated to allow for the construction of a 170 foot right-of-way in the same location as part of its Northeast Reliability Interconnect project. Bangor Hydro has since built the transmission line, and is currently exercising its option to purchase the right-of-way. Certain administrative crossings have been held in reserve for the Bureau as part of the lease, which will continue if the corridor is sold.

Transportation and Administrative Management Issues

- There is no deeded access to the Unit. Vehicle access to the Unit requires crossing of private lands and are behind locked gates.
- The management road system within the Unit is currently in development, and considerable reconstruction is necessary along certain portions if it is also to be used for vehicular access in the future. Some roads will need to be removed from wetland areas and some new roads will need to be built.
- Camplot lessees require four-wheel-drive access or access by ATVs.

- There is concern among camplot lessees regarding the lack of deeded access to the Unit and future ability to access their camps.
- Relocation of several lease sites still needs to be completed.
- The Bureau continues to collect an annual lease fee from a lessee within an area of the Unit north of Great Works Stream where clear title was not obtained.
- With the Bangor Hydro transmission corridor now completed, there is an effort underway for Bangor Hydro to acquire this corridor in fee, the option of which was stipulated in the initial lease agreement for the corridor. The Bureau will need to secure the right to cross the powerline with new roads in any place legally allowable.

Bradley Unit and Kittredge Lot - Dominant Resource Allocations and Infrastructure



Bradley Unit Resource Allocations and Management Recommendations

The following resource allocation categories are listed in the order they appear in the allocation summary on page 10 of the Integrated Resource Policy.

Special Protection as a Dominant Use The special protection allocation as a dominant use will apply to the following areas:

- The 593-acre Great Works Stream reserve established in 1993.
- The acreage associated with Number 26 Swamp (677 acres) and Number 32 Swamp (103 acres).

Special Protection Management Recommendations

- The Bureau will apply the standard 330 foot major riparian zone buffer around these special protection areas (at the suggestion of MNAP).

Wildlife Management as a Dominant Use The wildlife management allocation as a dominant use will apply to the following areas:

- A 330 foot Riparian zone on Baker Brook, Great Works Stream, Number 16 Swamp, and Little Birch Stream.
- Island Swamp.
- All open wetlands.

Wildlife Management Recommendations

- Manage the timber in a way to retain all red oak as a hard mast food source.
- There will be very light cutting in cedar dominant areas.
- Retain shelter values of softwood stands that may support wintering deer.
- Apply IF&W management guidelines for areas containing Northern Leopard Frogs.

Recreation and Visual Management Areas Recreation management and visual allocations will apply to the following areas:

- The short section of the Dam Road on the Kittredge Farm Lot will be allocated as a public access road, and class I visual. All other roads will be designated management roads.

Recreation and Visual Management Recommendations

- Coordinate activities and development at the boat launch with IF&W and the Town of Bradley.
- Coordinate with local ATV and snowmobile clubs to provide interconnecting trails in appropriate places as needed.

Timber Management as a Dominant Use The timber dominant allocation (except where otherwise noted) will apply to the following areas:

- All areas not allocated as special protection areas or wildlife dominant areas will be timber dominant.
- Wildlife dominant areas will have timber as a secondary use.

Timber Management Recommendations

- Continue to manage for pine where feasible. Pre-commercial treatment may be necessary to keep some regeneration from being dominated by fir and hardwoods.
- Regenerate/salvage high risk black spruce stands in upland areas.
- Reduce fir component in young stands as they become operable.
- Work with abutting landowners (current and future) toward securing access for timber management.

Transportation and Administrative Management Recommendations

- Continue to work with the abutting landowners towards obtaining access rights for administrative, camplot lease, and general public use purposes.
- Work with Webber Heirs to resolve title issues on land and camplot lease north of Great Works Stream.
- As Bangor Hydro works toward purchase of their powerline corridor, look to secure the right to cross with new roads in any place legally permissible.

Bradley Unit and Kittridge Lot Dominant Allocations Acreages

Dominant Allocation	Acres
Special Protection	1,429
Wildlife	1,809
Developed Recreation Class I	2.5
Timber Management	6,248

Machias River Unit

Character of the Landbase

The Machias River, one of Maine's wildest and most cherished waterways, flows for 76 miles from Fifth Machias Lake to tidewater at the coastal town of Machias. The Bureau oversees stewardship and recreational use of the nearly unbroken woods along its shores, thanks to a remarkable effort that has protected more than 60,000 acres in the Machias River watershed—the country's largest, self-sustaining wild Atlantic salmon run. This landscape-scale conservation project, which has spanned more than 10 years and is still underway, is preserving 252 miles of river and shore frontage from development and subdivision, while ensuring that the region's working forests can keep contributing to the local economy. Recreational access to these lands is guaranteed through time, maintaining canoeing and sporting traditions that have endured for centuries. The Machias River project has received federal recognition and widespread support from Maine's congressional delegation.

The Machias River ranks with the St. John, the Allagash, and the Penobscot as one of Maine's most scenic and outstanding paddling rivers. Over the course of 76 miles, canoeists enjoy an array of water courses – from lakes and swamps to rapids and waterfalls. The river is well known as a sport fishery for both cold and warm water species, while providing important spring spawning and nursery habitat for the Atlantic salmon. As a result of declining statewide salmon populations over the past 15 years and the designation of the Gulf of Maine Distinct Population Segment (DPS) of the Atlantic salmon as endangered, the Machias became the focus of a significant conservation project. After years of planning and negotiations involving numerous conservation partners, landowners, and funding sources, a three-phase acquisition project was initiated to include the entire river corridor and its associated lakes and tributaries. As a result, the Bureau acquired a total of 13,791 acres along or near the Machias River and tributaries north of Route 9, including frontage on the Machias Lakes, Fifth Lake Stream, Gassabias Stream, and Nicatous Lake. A portion of this was added to the Duck Lake Unit. The newly acquired Machias River Unit includes the area from Third Machias Lake to Route 9.

The Machias River conservation project was implemented in three phases (with Phase III still in progress). Phase I of the project included a fee purchase of 6,129 acres, which became part of the new Machias River Unit, along with the conveyance of 18,443 acres of conservation easements along the river north and south of Route 9 to the state Bureau of Sea Run Fisheries and Habitat (formally the Atlantic Salmon Commission). The Bureau of Parks and Lands was given responsibility for managing river recreation within the easement area. A Memorandum of Understanding (MOU) between the Bureau of Sea Run Fisheries and Habitat (BSRFH) and the Bureau of Parks and Lands was established for all of the above lands, requiring the Bureau to consult with the BSRFH prior to conducting management activities relating to recreation facilities improvements, timber harvesting, and road improvements. The MOU also requires consultation with The Nature Conservancy, and provides a source for funding various management activities through an endowment (see Appendix E for MOU).

Phase II of the project included 7,785 acres along or near Third, Fourth, and Fifth Machias Lakes, Fifth Lake Stream, Gassabias Stream, and Nicatous Lake, with all but the lands on Third Lake (2,522 acres) to be managed as part of the Duck Lake Unit. The lands surrounding Third Machias Lake were added to the new Machias River Unit.

Phase III of the project is focused on the acquisition of lands between Fifth Machias Lake and Wabassus Lake providing connectivity between portions of Phase I and II lands and other conservation lands owned by DLLT. (The Farm Cove Community Forest, land bordering the northern portion of Fourth Lake and Fourth Lake Stream are owned by DLLT and subject to a BPL project agreement). As of 2008, Phase III has been designated as the highest priority project in the United States for funding by the federal Forest Legacy program, building on successes of Phase I and II.

The Machias River project provides the Bureau with great opportunity to collaborate with BSRFH, DLLT and others in recreation management, wildlife management, and conservation of an endangered species. The subject of this section—Machias River Unit—consists of the land along Third Machias Lake all the way south along the Machias River to Route 9.

Natural Resources

Natural and Geological Resources (MNAP, 2007)

First, Second, and Third Machias Lakes, along with Salmon Pond, have been selected by TNC as portfolio lakes, meaning they are high value waters that best represent the ecosystems, natural communities, and species characteristic of the region. Criteria used in evaluating lakes and ponds include water quality, dam impacts, presence of rare or noteworthy species, rarity, and remoteness.

First Machias Lake (122 acres) has a maximum depth of 30 feet. Third Machias Lake (2,558 acres) has a maximum depth of 28 feet and a direct drainage area of 14.2 square miles. Both lakes are considered eutrophic, meaning they are warm waterbodies with high nutrient values.

Geology and Soils

The Machias River parcel is underlain by acidic granite bedrock, with some portions near Third Machias Lake underlain by moderately calcareous sedimentary/metasedimentary rock. The river parcel is underlain primarily by ice-contact glaciofluvial deposits and till, with lesser amounts of esker and glaciomarine deposits. In general, river corridor is dominated by excessively drained, gravelly – sandy loam Colton-Adams-Vassalboro soils, while the area surrounding Third Machias Lake includes somewhat excessively drained, very stony – fine sandy loam Colonel-Dixfield-Lyman soils.

Wetlands

The River lands include 1,447 acres of open wetlands and 472 acres of forested wetlands.

Ecology and Natural Communities

The stretch of river between the outlet on Third Machias Lake and the Stud Mill Road just north of the inlet to First Machias Lake in T43 MD BPP and T37 MD BPP was surveyed by MNAP. A large portion of this segment consists of areas of slow moving water with small adjacent wetlands.

A small Sweetgale-Mixed Shrub Fen is found in the slow moving segment of river south of Third Machias Lake. Down river to another section of slow moving water, the river banks transition into a Mixed Graminoid Shrub Marsh. The segment of river between the area of slow moving water and Second Machias Lake has numerous segments of ripples and a section of Class I white water.

The eastern shoreline of Second Machias Lake has a very sandy and gravelly bottom. Pipewort, soft stem bulrush, twig-rush and pickerel weed make up the partially submerged aquatic beds along the edge of the lake.

The river segment below Second Machias Lake down to the Stud Mill Road is ecologically similar to the previous. Water bulrush, water lily, and floating pondweed are the dominant aquatic plants. A small inlet on the west side of the river leads into a beaver-controlled Sedge Leatherleaf Fen Lawn. This area is buoyant with sphagnum. Just south of this small pocket wetland is a raised Sheep Laurel Dwarf Shrub Bog. Rhodora is most abundant with moderate amounts of leatherleaf and sheep laurel. Red maple and mature white pine are scattered throughout this small bog. Continuing south towards the Stud Mill Road a small inlet enters on the west side of the stream. The edges of the stream are dominated by graminoids.

Three species of rare animals have been documented along the Machias River. The rare brook floater, a freshwater mussel, has been documented from five locations in the river (all were observed in 1994). The pygmy snaketail is a rare dragonfly that was documented from one section of river in 1996. Wood turtle is a species of concern in Maine. It was documented near the river in 1994.

Natural Resource Management Issues

- Road maintenance and repairs within the corridor are very sensitive due to the endangered Atlantic salmon habitat. The U.S. Fish and Wildlife Service, the BSRFH, the Washington County Soil and Water Conservation District and Project SHARE all want bank to bank free passage at water crossings that support or could support salmon. This requires the use of larger, more expensive culverts or crossing devices. To date, several of these replacements have been facilitated by funding available for such uses. The Bureau is a signed cooperator with Project SHARE, who holds a federal license to install such crossings.

Historic and Cultural Resources

The Machias River Corridor is rich in Native American and early Euro-American logging sites as the river was a major “highway” for both. There are numerous known aboriginal sites along the corridor from First to Fifth Machias and surely many undocumented. The numerous old

dams along the waterway have largely been breached with water levels now closer to natural levels.

The river's name derives from a Passamaquoddy Indian word meaning "bad little falls," which refers to a steep stretch of falls that now lies in downtown Machias—marking the river's transition to tidewater. The Machias River was a major travel route for the Passamaquoddy Indian tribe ("People of the Dawn"), who spent winters hunting and trapping animals such as mink, fisher, otter and beaver in the north woods, and migrated each spring to the coast to gather plants and shellfish. Along the shores of Machias Bay, petroglyphs that date back 3,000 years depicting animals and tribespeople testify to the significance of this long-standing tradition.

Following the arrival of European settlers in the late 1700s, the Machias River was a vehicle for transporting timber from the North Woods to coastal saw mills powered by the river's force. At the height of the lumbering boom, the Town of Machias had 20 sawmills processing lumber and exporting wood products.

While timber is still a valuable resource harvested through much of the river's watershed, the log drives along the Machias River ended by 1970 as timber operations became more mechanized and trucks were used to haul out logs. The last logging dams were removed from the Machias in 1974, restoring the river to its free-flowing condition and improving navigability for recreational users.

Historic and Cultural Resource Management Issues

- Facility improvements are sensitive due to the possible presence of Native American and Euro-American artifacts along the corridor.

Fisheries and Wildlife Resources

Fisheries

Acquisition of the Machias River Unit and the BSRF easement align with a system of seven rivers in Maine being protected as part of the Atlantic Salmon Recovery Plan. Riparian buffers are an important aspect of Atlantic salmon protection, as they protect critical habitat by regulating temperature through shading, regulating streamflow, protecting water quality and providing organic input. Habitat degradation can lead to decreased production of salmon smolts if certain water quality, quantity and land use parameters are not met (Kleinschmidt Associates, 1999). The riparian buffers now provided along the Machias River will be managed in concert with the BSRF to effectively protect water quality, temperature, flow and other important parameters for Atlantic salmon recovery.

Other fish species in this system are important to guides and fishermen. The fishery in First Machias Lake includes American eel, alewife, banded killifish, brook trout, chain pickerel, white sucker, common shiner, creek chub, lake chub, pumpkinseed, smallmouth bass, white perch, and yellow perch. The fishery at Third Machias Lake include alewife, American eel, brown bullhead, white sucker, chain pickerel, banded killifish, pumpkinseed, smallmouth bass, white perch, rainbow smelt, brook trout, fallfish, and yellow perch.

Wildlife

Three species of rare animals have been documented along the Machias River. These include the brook floater, a freshwater mussel found in five locations, the pygmy snaketail, a rare species of dragonfly found in one location, and the wood turtle, a species of concern in Maine.

Wading bird and waterfowl habitat on the river lands total 1,663 acres. There is a 113-acre portion of a zoned deer wintering area along Thompson Brook where it enters the river just south of Third Lake.

Fisheries and Wildlife Management Issues

- The entire corridor is considered Atlantic salmon habitat. The Bureau of Sea Run Fisheries and Habitat holds an easement and timber rights on a 250 foot strip along each side of the river, for habitat protection and enhancement purposes. They have communicated the possibility of working with the Bureau to implement fisheries enhancement projects that may include timber cutting. The Bureau will need to consider Atlantic salmon needs and consult with BSRF before performing any timber management, road construction, or recreational construction.
- Management activities near areas containing the rare brook floater, pygmy snaketail dragonfly, and the wood turtle should be planned in consultation with IF&W species management guidelines.
- Loon nest protection needs to be a priority on this Unit.
- Although deer use is low on the Unit, some management for deer wintering areas is desirable. There is interest in coordinating DWA management with adjacent landowners.

Recreation and Visual Resources

At the core of any recreational management considerations will be the need to coordinate facilities and use with important salmon habitat needs. Any management will also need to be in consideration of the high quality experience provided by the river itself, host to many guided and un-guided canoe trips. On the Machias River Unit, there are 25 campsites in seven locations, including five sites on Third Machias Lake. Many of these sites and use areas are vehicle accessible, with the 52-00-0 Road from Route 9 to the Studmill Road providing the main access to the corridor. Most of the campsites and facilities with the heaviest use are located along this stretch, including the campgrounds on Route 9 and the confluence of the West Branch.



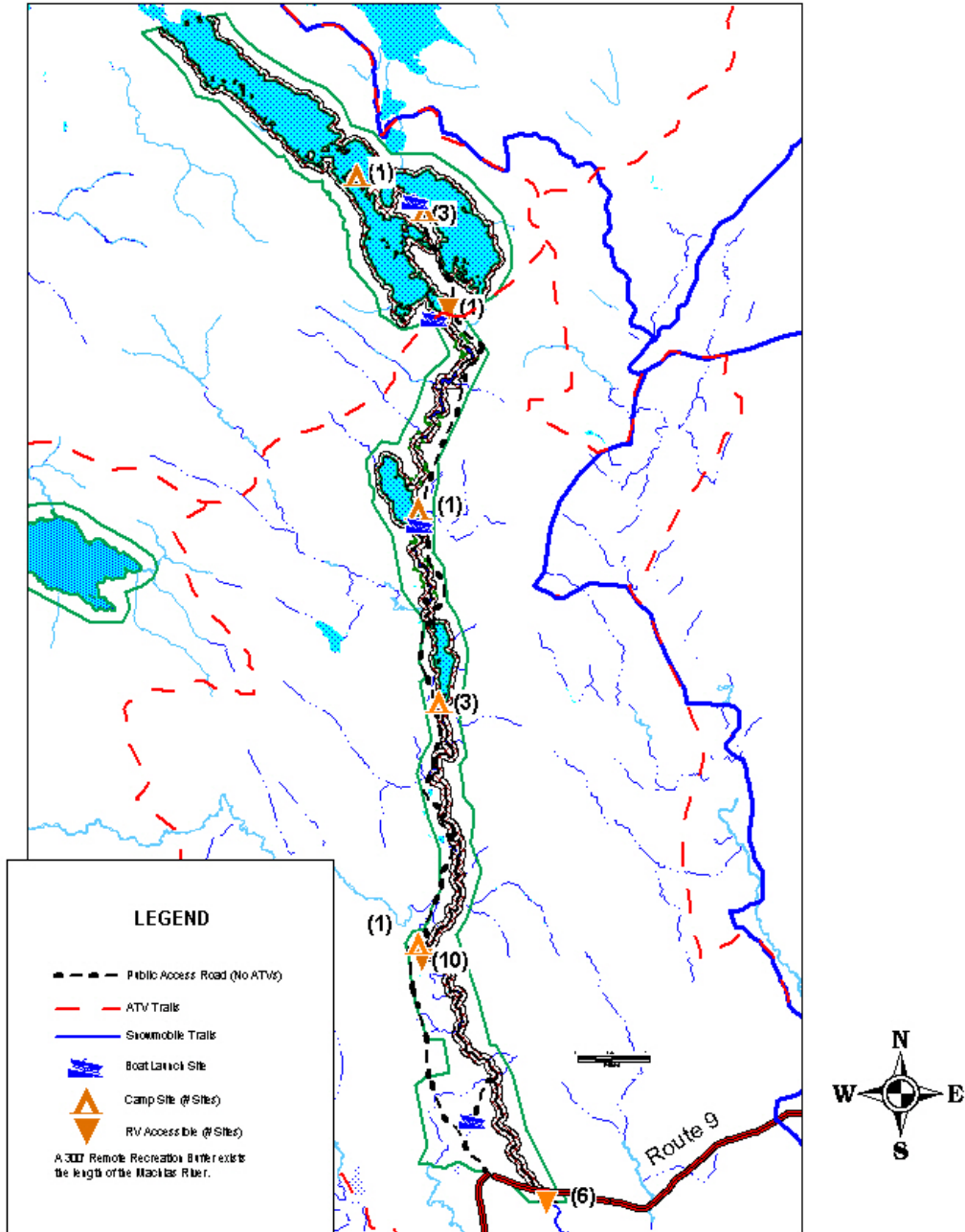
Boating on the Machias River

There are six boat launching areas along the river course: two on the river located at the so-called “Wonderland” campsite and the Route 9 campground, two on Third Machias Lake, one on Second Machias Lake, and one on Salmon Pond. These sites are all considered primitive (unimproved) and are better suited for hand carry launching. The heavier used site on Third Machias Lake is not in a good location, and could possibly be relocated to the “middle ground” area of the state’s ownership. Salmon Pond holds potential for developing an ADA compliant launching and fishing area.

Although known for its boating and fishing resources, the area from Route 9 to the Studmill Road along the east side of the river has potential for a non-motorized trail that could include hiking, mountain biking and/or horse-back riding, although this section lacks viewpoints. Allowance for existing motorized access/crossings would need to be considered.

Due to the heavy truck and car traffic along the 52-00-0 Road, its use by ATVs has not been permitted for safety reasons. Some ATV riders have expressed interest in connecting trails from campsite areas to the current ATV system west of the river. The 50-00-0 road from the West Branch Campsite/Log Landing would provide a connection to the regional system if permissions by the abutting landowner could be obtained.

Machias River- Recreation Allocations, Facilities and Roads



Note: Public Access roads, Shared Use roads, boat launches and campsites are allocated as Developed Recreation Class I Dominant.

Recreation and Visual Resources Management Issues

- The campsite facilities along the corridor have seen increased pressure and use as the result of the closing and privatization of several nearby camping areas. This is expected to put an additional burden on staffing and financial resources necessary to manage the recreation sites along the river.
- There is an opportunity to provide ADA accessible fishing access to Salmon Pond. A single car parking spot with a foot path to a removable dock could provide access to this 10-acre pond stocked with brook trout by IF&W.
- The current boat launching site on Third Machias Lake is not in a good location. The so-called “middle ground” between the southern arms of the lake may provide a more suitable location, if known important archeological sites can be avoided. Due to the lake’s Management Class 2 status, the Bureau would have to submit evidence to the Land Use Regulation Commission showing the proposed boat launch location is more suitable than the existing location.
- Traditional use and maintenance of the lake access campsites on Third and Fourth Machias Lakes by guides from the Grand Lake Stream area could conflict with general public use. There is an opportunity to cooperate with the guides to coordinate and improve these opportunities.
- The number and location of campsites along the entire Machias River canoe trip should be evaluated relative to public use needs. Any changes made would need to consider salmon and trout habitat, important archeological sites and the quality of the recreational experience.
- There may be future interest in re-locating snowmobile trails into the Unit.
- The area from Route 9 to the Studmill Road on the east side of the river has potential for a non-motorized trail to include hiking, mountain biking and/or horse-back riding. Allowance for existing motorized access/crossings would need to be considered.
- The narrow corridor nature of the Unit presents challenges for maintenance of both new and existing recreational sites, allowing for few relocation options or areas for additional facilities. In addition, prevention of erosion and other Atlantic salmon considerations must be incorporated in all recreational infrastructure planning.
- The main access road (52-00-0 Road) from Route 9 to the Studmill Road is not part of the current ATV trail system, yet campsites used by riders are located along this stretch. Due to the heavy truck and car traffic along this road, its use by ATVs is not appropriate; however, providing connecting trails from campsite areas west to the current ATV system is still desirable. Options need to be discussed with the surrounding landowner of use of one of their spur roads for this purpose.

Timber and Renewable Resources

The Bureau presently has no usable inventory or timber typing for these lands. The forest is mainly softwood type, with a large proportion of white pine in some places. There are some acres of mixedwood and little hardwood. There are several hundred acres of red and white pine plantations, established 25-40 years ago, on the west side of the river between the West Branch and Rt 9. Natural origin stands hold considerable pine, nearly all white, along with spruce and hemlock, with lesser amounts of red maple, white birch, aspen, and fir. Most have moderate to high stocking.

All timber management must be done with sensitivity to Atlantic salmon habitat, thus best management practices for water quality must be carefully followed. Management of the plantations should usually work to produce high value timber products while encouraging natural regeneration, especially pine, that will allow these acres to revert to a more natural forest over time. Other stands far enough from the river to allow timber harvesting should be managed for late-successional species where feasible, favoring pine, hemlock and spruce. Management of lands outside the 250 foot corridor will be done to maintain/enhance wildlife habitat while producing high value timber products, and retaining a pleasing visual character along roads open to public use.

Timber Management Issues

- The southwestern portion of the Unit from the West Branch to the Airline has some limited opportunities for forest management. The fee ownership is considerably wider and distant from the river in this area. Lands close to the river tend to be lowland softwood and any management should be oriented to wildlife.
- Some stands along the western margins of the Unit were heavily harvested. This area also contains a significant area of pine plantations which would benefit from timber management to restore the natural character and enhance wildlife habitat. These acres could enter into the regulated land base.
- The BSRFH owns the timber within 250 feet of the river and any timber management in this area can only be done at their request, with the goal of enhancing salmon habitat.

Transportation and Administrative Considerations

Public Use and Management Roads, Gates and Road Control

Public access to and within the Unit is accomplished in a variety of ways:

The Unit's primary access point is from Maine Route 9 in T 30 MD BPP via the 52-00-0 Road going to the north along the west side of the Machias River. This public use road connects with the Studmill Road (1-00-0 Road) in T 37 MD BPP. The Studmill Road from the 52-00-0 Road across the Machias River to the 43-00-0 Road is also a public use road where state owned, but then privately owned on either side. The 43-00-0 Road continues northward along the east side of the Machias River and is a public use road to the point where it leaves Bureau ownership near the outlet of Third Machias Lake. A short portion of the 42-00-0 Road from the 43-00-0 Road to the outlet of Third Machias Lake is owned by the Bureau and is a public use road providing access to boat launches and campsites on Third Lake. Both ends of the state owned road are privately owned. The rest of the roads on the Unit are management roads. All roads on this Unit are also used by the previous owner for timber management, including harvesting. They still have the right and regularly use the roads for transporting forest products. Therefore, extreme caution is urged when using these roads.

Road maintenance and repairs within the corridor are very sensitive due to the endangered Atlantic salmon habitat. The Bureau is a cooperator with Project SHARE, which handles many of the road stream crossings on behalf of owners along the Machias River. Among other things, Project SHARE has inventoried stream crossings along the watershed and identified ones

considered high risk of introducing sediment into the water and/or those that don't allow aquatic passage. These require replacement with larger, more expensive culverts or crossing devices. Several of these replacements have already been completed. Cooperation with Project SHARE will continue with the goal of minimizing adverse effects of the road system on salmon habitat. This effort will include public education as well. All roads within the Unit should be evaluated as to their benefits to Bureau's management objectives versus their potential threat to habitat degradation. Unnecessary or particularly poorly designed roads may be discontinued or relocated.

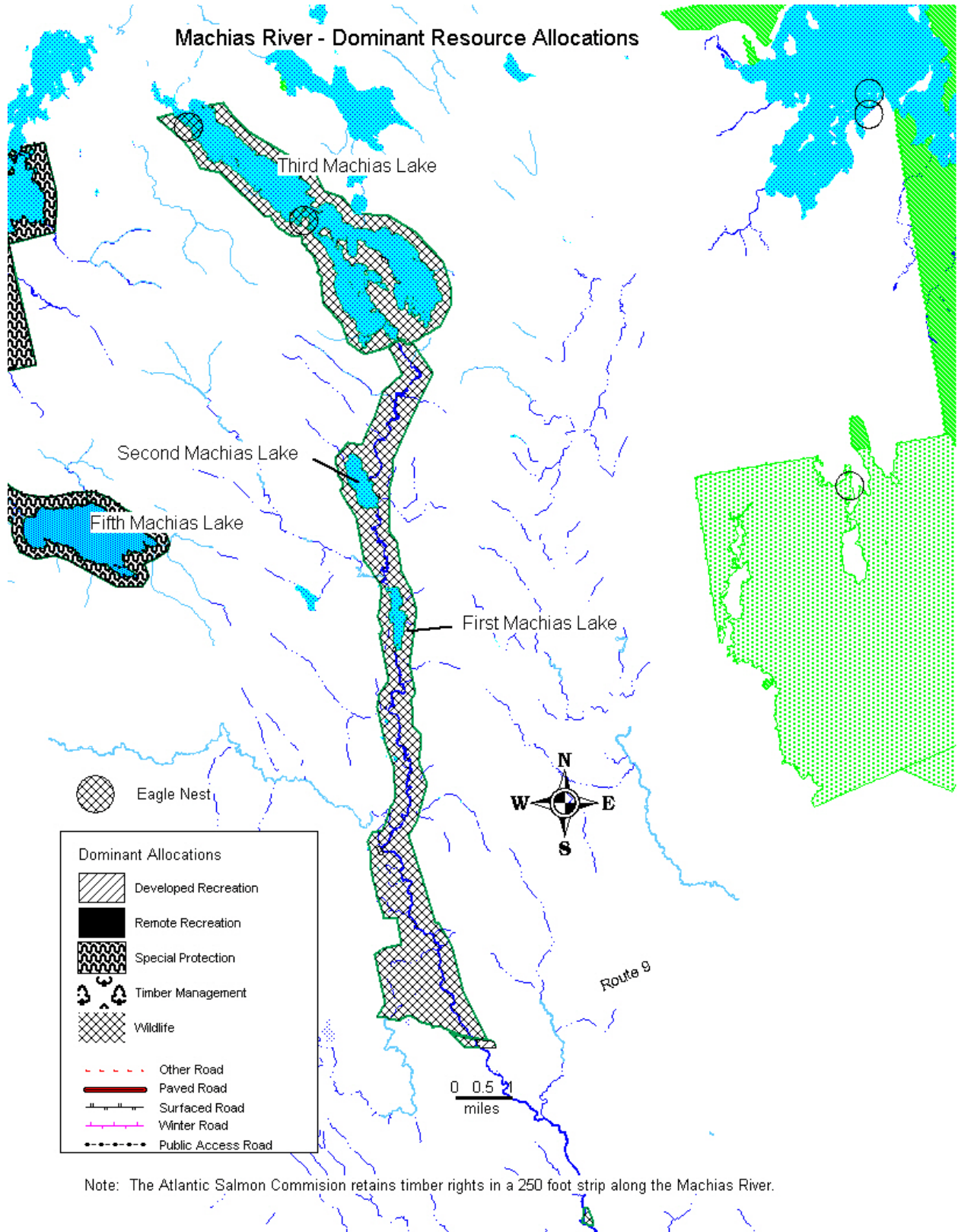
American Forest Management (AFM) manages large areas of forestland abutting this Unit. They were the former owners of the Bureau land, and several of their roads tie into the Unit road system, especially the 52-00-0 Road. They have expressed interest in installing gates to limit traffic from March 15-May 15 each year to protect their roads. Discussions will need to be held regarding the effects and desirability of seasonal blocking. Certainly the Bureau has a responsibility to protect Salmon habitat under the Federal Endangered Species Act, and seasonal gating of the 52-00-0 Road may reduce erosion into the river and degradation of salmon habitat.

AFM has indicated their plans to cut off through vehicular traffic on their 42-00-0 and 51-00-0 roads. Such an action would put increased traffic on the 43-00-0 Road, which is in poor repair and very susceptible to beaver flooding. The Bureau will have to consider major road improvements on that road to handle the extra traffic safely. The Bureau will need to continue to communicate with AFM regarding road issues.

Camplot Leases

There are 27 private residential camplot leases located along or near the waterbodies throughout the Unit, all established by previous landowners. Fourteen leases are located along the river itself, with eleven on Third Machias Lake, five on Second Machias Lake, two on First Machias Lake, three on the Crooked River, and three on Salmon Pond. Administratively, these leases will continue on a five-year renewable basis as directed by statute, provided the terms and conditions of the lease agreements are met. By policy, no new camp lot leases will be developed.

Machias River - Dominant Resource Allocations



Machias River Unit Resource Allocations and Management Recommendations

The following resource allocation categories are listed in the order they appear in the allocation summary on page 10 of the Integrated Resource Policy:

Special Protection as a Dominant Use The special protection allocation as a dominant use will be applied to:

- Important archeological sites as they become known.

Special Protection Management Recommendations

- Archeological sites will be left undisturbed according to guidance given in the IRP.

Wildlife Management as a Dominant Use The wildlife management allocation as a dominant use will apply to the following areas:

- The entire Unit (except developed recreation areas) will be managed as a wildlife dominant area.
- The wildlife dominant area includes the Thompson Brook Deeryard, two bald eagle nests, the rare brook floater, pygmy snaketail dragonfly, and the wood turtle.

Wildlife Management Recommendations

- All wildlife management will be in cooperation with the BSRFH in order to address Atlantic salmon habitat needs.
- Monitoring and protection of loons is a priority.
- Management near known locations of bald eagle nests, the rare brook floater, pygmy snaketail dragonfly, and the wood turtle will be planned in consultation with IF&W species management guidelines.
- Protect some areas for winter deer use, in cooperation with other landowners when feasible.

Recreation and Visual Management Areas Recreation management and visual allocations will apply as a secondary use to the following areas:

- Drive-to camp sites and boat launches and public use road will be allocated as developed recreation class I.
- Remote recreation will be allocated as a secondary use through the Unit from the high water mark to 300 feet on both sides of the river.
- Visual class I management standards (foreground views) will be applied along the entire Unit.

Recreation and Visual Management Recommendations

- Manage the recreation along the river and lakes consistent with the general remote character and quality of the river itself.
- Work closely with Project SHARE and BSRFH in planning and implementing any facility improvements in the Unit.

- Improvements to boat launching sites will be further evaluated, particularly sites on Third Machias Lake, Salmon Pond, and the “wonderland” campsite.
- Work with area guides and other recreational interests towards a coordinated effort in providing information, general management needs, and facility improvements along the water course.
- Consider developing a non-motorized trail along the east side of the river, if there is sufficient interest and support for trail development, maintenance and stewardship.
- Work with area ATV interests and surrounding landowner toward establishing a trail connection from the river lands to the nearby regional ATV system.
- Consider any future proposals from the snowmobile community to re-locate snowmobile trails into the Unit. In evaluating potential trails, consider the resource allocations on the Unit, the IRP, and other management objectives on the Unit.

Timber Management Areas Timber management will be a *secondary* use:

- Timber management will be a secondary use on the entire Unit. The Bureau of Sea Run Fisheries and Habitat owns an easement on a 250 foot buffer along the river, and any timber management in this area will be at their request.

Timber Management Recommendations

- Manage the pine plantations with the goals of restoring the stands to a more natural condition and enhancing wildlife habitat.
- Work with MNAP and BSRFH before implementing any timber management.
- In general, manage for late-successional species.

Transportation and Administrative Recommendations

- Continue to work with Project SHARE on improvements to stream crossings.
- Evaluate all roads in the Unit comparing their benefits to Bureau management with their potential threat to salmon habitat. Discontinue or relocate unnecessary or particularly poorly designed roads.
- Continue to discuss the possibility of seasonal closure of 52-00-0 Road and other issues involving interactions between private and public roads with AFM. If seasonal closure of 52-00-0 Road is implemented, monitor the road to re-open as soon as feasible and encourage guides and the public to call the Bureau’s Old Town office to find out the status of the gates.
- Upgrade 43-00-0 Road to handle increased traffic due to surrounding landowner’s road closures.
- Maintain the Third Machias bridge for its current use for public access and timber transport.

Machias River Unit Dominant Allocation Acreages

Dominant Allocation	Acres
Wildlife	8,759
Developed Recreation Class I	41