

Garfield Plantation Lot

The 1,040 acre Garfield Plantation Lot was an original public lot dating back to 1841. It is located in Garfield Plantation about eight miles west of the town of Ashland. A moderately steep hill covers the southwest portion of the Lot.

Natural Resources

Bedrock of the Lot is composed of acidic sedimentary and metasedimentary rock, with surficial geology composed of glacial till. Soils include a large amount of Perham-Daigle-Chesuncook and are generally deep and well drained with reasonable fertility. Water in the Lot drains to the Machias River, Aroostook River, and finally the St. John River. The Lot contains no open water and only four acres of wetlands, all forested.

Timber Resources

The Bureau conducted extensive harvests on Garfield Plantation Lot between 1980-84 in response to spruce budworm damage. Approximately 90 percent of the Lot was treated, and as a result the current overstory is variable and the understory is single-aged. One area in the northwest part of the Lot was likely not harvested in the 1980s resulting in a higher density and was harvested in 1996. In the summer of 2008, 118 acres were cut, with about one third of the volume harvested being low quality beech for firewood.

Current composition on the Lot is approximately 50 percent mixedwood, 41 percent softwood and 9 percent hardwood. Spruce is the most abundant species, however, hemlock is quite prominent, with many large (20 to 30" diameter) and old (200-400 years) trees. Old hemlock is especially prevalent in the west part of the Lot. Sugar maple is well distributed throughout the Lot and often of good form. American beech dominates the hardwood stand on the top of the hill on southwest part of the Lot, but is of poor form and vigor. The overall nature of the Lot is a two storied stand, however, the overstory has several age classes, with mid-age spruce and fir, young to mature classes of hardwoods, and old hemlock.

Transportation and Administrative Considerations

Access to the Lot is by permission of abutting landowners on summer roads that parallel both the northern and eastern boundaries. Internal access established in the 1980s harvest will need rehabilitation for future harvest activity.

Resource Allocations

Timber dominant on entire Lot (with the exception of minor riparian buffers of 75' on most small brooks).

Garfield Plantation Lot Allocation (acres)

	Dominant Acres	Secondary Acres
Wildlife	31	
Timber Management	993	

***Dominant acreages are representations based on GIS metrics and do not sum to total unit acres due to measuring error and limits of GIS precision.*

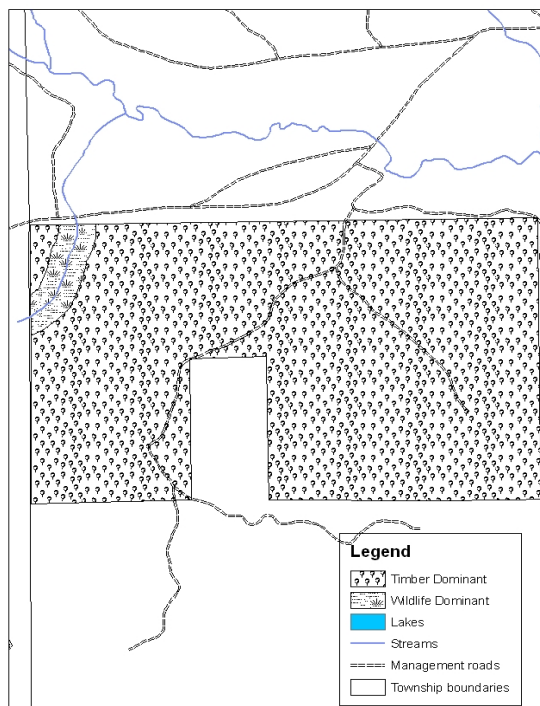
Garfield Plantation Lot Management Issues

Forest conditions where sparse in the overstory, have a single-age understory that is fairly well stocked. It will take time for the Bureau to achieve the desired multi-age conditions on this Lot.

Garfield Plantation Lot Management Recommendations

Focus forest management on producing multiple age classes over time. Grow quality spruce, fir, hemlock and hardwoods and retain some large old hemlock for wildlife. The age diversity in the overstory will help in improving overall diversity and achieving these goals. Perform timber stand improvements if commercially feasible, and retain some old hemlock as wildlife legacy trees. Specifically, a harvest is scheduled for 2009 and 2010, which will improve stand health, quality, growth, and structure.

Garfield Plantation Lot Dominant Resource Allocations



Hammond Lot

The 960 acre Hammond Lot was an original public lot reserved to the state and located in 1906. It is located approximately 10 miles northwest of Houlton. Terrain is hilly to gently rolling.

Natural Resources

Bedrock on the Lot is mostly composed of Silurian Smyrna Mills Formation, the Silurian Period dating back 408 to 438 million years ago. The surficial geologic layer on the Lot is glacial till. Soils of the Lot are Telos-Monarda-Monson association, and are moderately well drained. Webster Brook crosses the Lot from the northwest corner to the east. Water drains eventually to the St. John River. Sixty three percent of the Lot's acres are wetlands, including 35 acres of wading bird and waterfowl habitat. Spruce-northern hardwoods forest dominates the Lot, and a population of the state endangered northern gentian (*Gentianella amarella*) occurs here. The gentian is located on the main access road in the middle of the Lot, in between tire tracks. Normally the species occurs on river shores in northern Aroostook County, and this population is not considered a conservation concern according to the Maine Natural Areas Program.

Timber Resources

The Bureau conducted a harvest on over 900 acres on the Lot from 1984-86, targeting fir damaged by the spruce budworm as well as dying beech. Most stands had a significant overstory left after harvest. Currently, the forest is approximately 31 percent hardwood, 44 percent mixedwood, and 25 percent softwood. Timber volume on the Lot's regulated acres is composed of: 25 percent spruce, 24 percent sugar maple, 15 percent red maple, 11 percent hemlock, beech and cedar at about 6 percent each, and yellow birch and aspen at about 4 percent each. Horizontal diversity is good, with two or three height classes on most acres.

Transportation and Administrative Considerations

Access to the Lot is via the Twin Brook Road from the north or from the B Road from the south. Internal roads created during the 1980s harvest will need upgrading prior to any further harvests, including repair of beaver damage and bridge replacement.

Resource Allocations

Wildlife Dominant

A 330' riparian buffer along Webster Brook and a section of wading bird and waterfowl habitat on the eastern side of the Lot where Webster Brook crosses the border.

Timber Dominant

The remainder of the Lot.

Hammond Lot Allocation (acres)

	Dominant Acres	Secondary Acres
Wildlife	121	
Timber Management	859	

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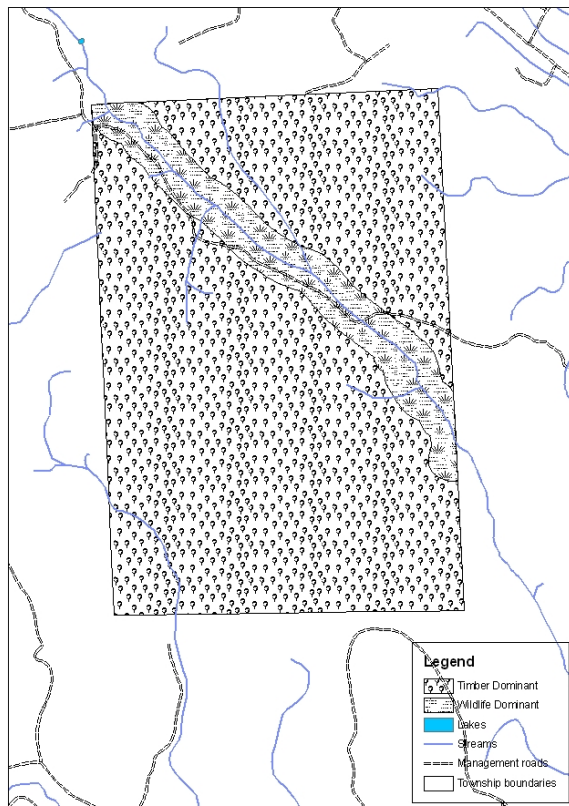
Hammond Lot Management Issues

Future timber management will only be feasible after sufficient time has elapsed since the heavy spruce budworm cuts of the 1980s.

Hammond Lot Management Recommendations

Manage for quality sawtimber as species mix and fertility allows for this. Issue firewood permits in accessible areas and target low quality and high risk trees.

Hammond Lot Dominant Resource Allocations



Moro Plantation East and West Lots

Moro Plantation East and West Lots are 160 and 133 acres respectively, and are located east of Route 11 on the south portion of Moro Plantation. Both were original public lots conveyed in 1834 to the state and the two lots are separated by only one half mile.

Natural Resources

Bedrock originated in the Silurian Period 408-438 million years ago, and consists of sandstones and sedimentary rock composed of fine particles. The surficial geology of the Lot is glacial till, and soils are till-produced Telos-Monarda-Monson. The watershed drains south toward the Penobscot River. There are seven acres of forested wetland and no open wetland on the East Lot. The Mill Brook runs through the West Lot, and there are 13 acres of forested wetlands and one acre of open wetland.

Timber Resources

Moro Plantation East Lot

Most stands were harvested in 1975-76, targeting spruce budworm damaged fir and spruce. A more recent smaller harvest in 1999 covered about half the Lot acres and targeted high risk spruce and fir and low quality hardwoods. Currently, forest stand types are approximately 32 percent hardwood, 53 percent mixedwood, and 15 percent softwood. Volume is made up of: 35 percent red maple, 35 percent spruce, 16 percent yellow birch, and 7 percent sugar maple.

Moro Plantation West Lot

The Bureau conducted a small harvest in 1988-89 targeting fir, aspen and dying sugar maple, and generally thinning the Lot. Approximately half of the Lot was previously a working farm, and has considerable old field stands established in the 1960s and 70's. A six acre plantation of European larch, red pine and Norway spruce was established in 1954. Most of the Lot is well drained, with the exception of area near the North Branch of the Mill Brook. Timber volume on the Lot is composed of: approximately 66 percent a combination of aspen and sugar maple, 7 percent European larch, and six other species making up 3-5 percent each. Young aspen, alders, and a three acre apple tree stand make this Lot particularly attractive to many wildlife species.

Transportation and Administrative Considerations

Access to both lots is dependent on permission from abutting landowners. The Mill Road runs through the northwest corner of the West Lot.

Resource Allocations

Wildlife Dominant

A 330 foot riparian buffer along Mill Brook and the open wetlands on the West Lot will be wildlife dominant.

Timber Dominant

The remainder of the West Lot and the entire East Lot will be timber dominant.

Moro Plantation Lots Allocation (acres)

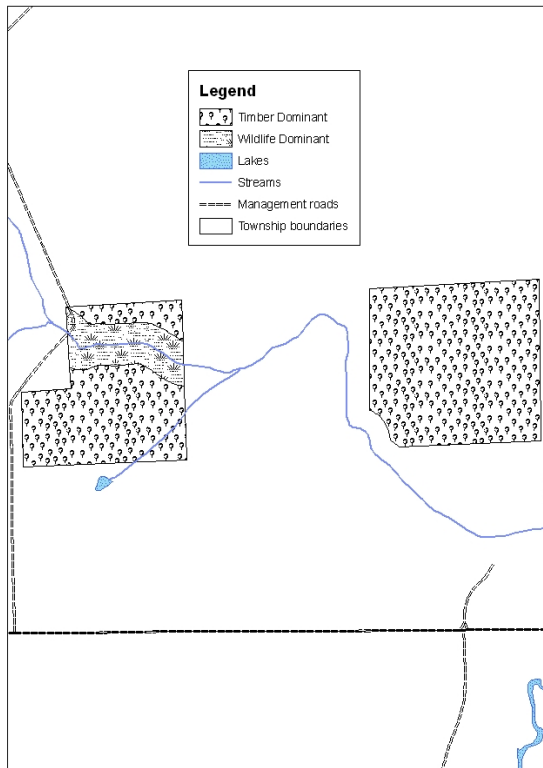
	Dominant Acres	Secondary Acres
Wildlife	31	
Timber Management	250	

***Dominant acreages are representations based on GIS metrics and do not sum to total unit acres due to measuring error and limits of GIS precision.*

Moro Plantation East and West Lots Management Recommendations

Apply standard Bureau silviculture to produce high quality timber products and maintain and enhance conditions for a wide range of wildlife species. Younger aspen rich stands may warrant patchcut management for ruffed grouse.

Moro Plantation East and West Lots Dominant Resource Allocations



Nashville Plantation North Lot

This 657 acre lot was an original public lot conveyed to the state and located in 1849. It is located northwest of the town of Ashland.

Natural Resources

Bedrock on the Lot is mostly mafic intermediate granite covered by glacial till. Loamy Perham-Daigle-Chesuncook soils result as these glacial remnants have broken down, and soils are mostly to moderately well-drained. All water in the Lot eventually flows into the Aroostook River and there are 23 acres of forested wetland. The northwest corner of the Lot has 54 acres of zoned deer wintering area, connected to a much larger system of deer wintering area.

Timber Resources

The southwest half of the Lot was harvested in 1990-92, removing 1,800 cords. In 2004-06, 3,350 cords were harvested in an area covering most of the remainder of the Lot, and re-entering some areas harvested in the 1990s. Both harvests were designed to maintain and promote deer wintering areas in the Lot. A new road went into the Lot from the southeast corner through the north-central section, involving a cut of 560 cords for the 17 acres of road right-of-way.

Currently, the Lot is composed of 31 percent hardwoods, 41 percent mixedwoods, and 28 percent softwoods. Species composition includes: 23 percent sugar maple, 23 percent hemlock, 10 percent cedar, 10 percent red maple, 10 percent yellow birch, 6 percent spruce, and 6 percent fir. Quality is very good, and sawlog volumes are high. Recent harvests have fully regenerated, with sugar maple seedlings carpeting many mixedwood and hardwood stands.

Wildlife Resources

Deer wintering areas are abundant on this Lot, both zoned and un-zoned. The zoned area occurs on the northwest portion of the Lot, and deer use is common in other portions, especially in mixedwood and softwood stands. Most of the mixedwood and softwood stands are being managed as un-zoned deer wintering area. Most of the hemlock has been retained for cover. Deer have been located along the new road in the middle of the Lot in recent winters.

Transportation and Administrative Considerations

A private road goes through a small portion of the southwest corner of the Lot. A new road, the Pinkham Mill Access Road, goes through the Lot from the southeast corner to the north central Lot border. The northwestern corner of the Lot is bisected by a rail line.

Resource Allocations

Wildlife Dominant

The zoned deer wintering area will be wildlife dominant.

Visual Consideration Area

The area along the Pinkham Mill Access Road will be managed as Visual Class I.

Timber Dominant

The remainder of the Lot will be timber dominant.

Nashville Plantation North Lot Management Recommendations

Manage timber using exemplary silviculture, maintain and enhance deer wintering areas, take advantage of the site quality, and focus on visual concerns. Due to the Lot's easy access and close proximity to Route 11, it can serve as a showcase for good forest management.

Nashville Plantation South Lot

This 319 acre Lot abuts the southern Nashville Plantation boundary and is a short distance west of the town of Ashland. It was an original public lot located on the ground in 1849.

Natural Resources

The entire Lot is underlain by Devonian Seboomook Formation bedrock dating back to 360 to 408 million years ago. Glacial till lies above the bedrock and formed the Perham-Daigle-Chesuncook soil in the region. Water on the Lot drains east to the Aroostook River.

Timber Resources

Most of the Lot was cut heavily in 1980 in response to the spruce budworm outbreak. A small harvest in 1998 targeted some dying spruce and low quality hardwoods. Currently, the Lot is 41 percent hardwood, 8 percent mixedwood, and 51 percent softwood. Current stocking is about 15 cords per acre. Volume is composed of 30 percent red maple, 18 percent spruce, 13 percent sugar maple, 12 percent beech, and 9 percent hemlock. Quality is average for the softwoods and below average for hardwoods. The Lot has regenerated well, and is two-storied, with the overstory containing multiple age classes. It is capable of producing quality timber over time.

Transportation and Administrative Considerations

An unimproved road enters the Lot from the southwest corner and ends in the center of the Lot.

Resource Allocations

Timber Dominant

The entire Lot will be timber dominant, except for minor riparian buffers.

Nashville Plantation South Lot Management Recommendations

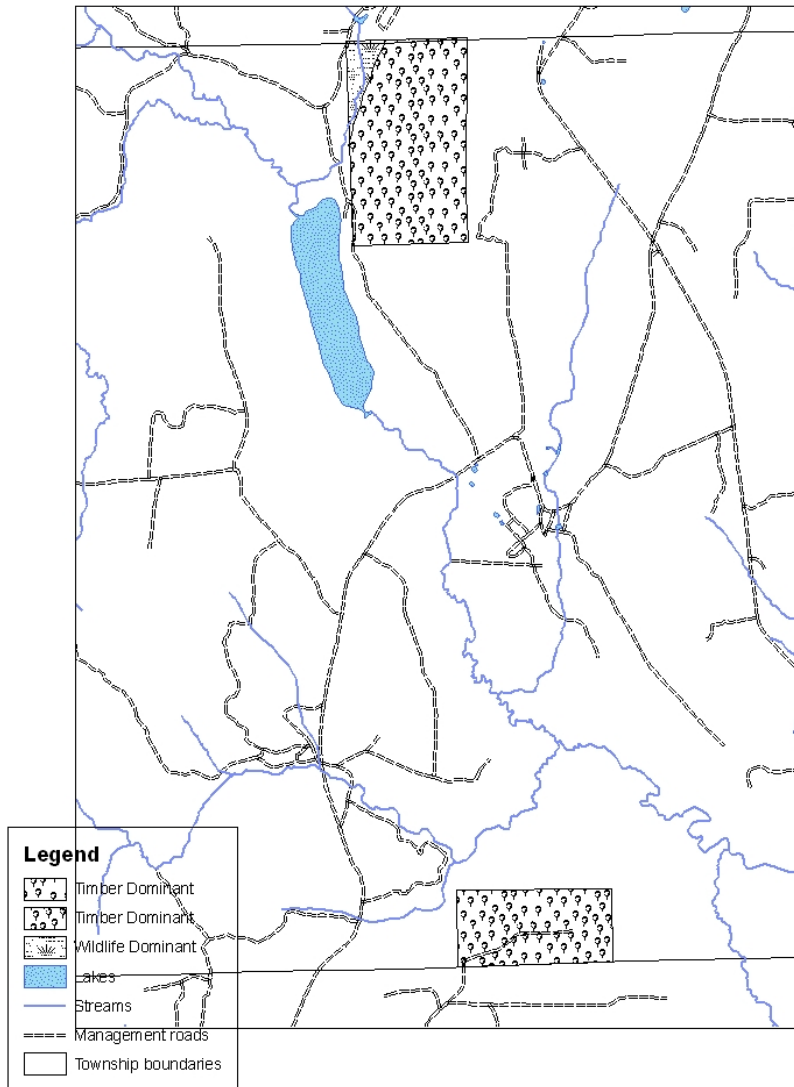
Conduct silviculture to produce fine spruce, fir and hardwood sawtimber. The 1996 prescription called for possible harvests in 2015 on much of the Lot.

Nashville Plantation North and South Lots Allocations (acres)

	Dominant Acres	Secondary Acres
Wildlife	51	
Timber Management	929	

***Dominant acreages are representations based on GIS metrics and do not sum to total unit acres due to measuring error and limits of GIS precision.*

Nashville Plantation North and South Lots Dominant Resource Allocations



Oxbow Plantation Lot

This 1,031 acre Lot is an original public lot located on the ground in 1841. It is adjacent to the western boundary of Oxbow Plantation and bordered on the north by the Aroostook River.

Natural Resources

Bedrock in the Lot is acidic sedimentary and metasedimentary rock, with till and till derived soils above. Water drains into the Aroostook River, and there are 27 acres of open wetland and seven acres of forested wetland on the Lot. Most of the open wetland is along Smith Brook, which runs through the center of the Lot from west to east. Much of these wetlands are a product of beaver activity. A mature, mixed conifer forest exists on a steep, north facing slope near the Aroostook River. A hemlock was found to be 180 years old. The maturity of the trees at this site may be due to the difficulty of harvesting on the steep slope.

Historic Resources

The MHPC has identified the south shore of the Aroostook River within this Lot as having a high probability of containing Native American sites. MHPC may perform an archeological survey in the future on this site.

Timber Resources

The Bureau harvested on this Lot from 1986-90 and removed a total of 4,900 cords, consisting mostly of mature fir and low quality hardwoods and hemlock. A small harvest in 1997 removed 500 cords of fir and hardwoods. The acreage of these combined harvests covered approximately 800 acres, and currently, these harvested stands have abundant regeneration. Forested acres on this Lot currently contain 79 percent mixedwood, 14 percent softwood, and 7 percent hardwood. Fertility is sufficient for quality hardwoods on all but the wettest and steepest sites, and most acres have several age classes. Mixedwood stands are composed of Northern Hardwoods (beech, birch and maple) as well as spruce, fir and hemlock. Softwood stands contain either spruce and fir or spruce and hemlock, while hardwood sites contain mostly beech, birch and maple. There are considerable large, old hemlocks and hardwoods on certain sites constituting late successional forest.

Transportation and Administrative Considerations

The Oxbow Road runs along the south shore of the Aroostook River, in the northern portion of the Lot. The road is on a narrow flat between the river and the steep slope to the south and provides summer access only. In addition, summer access to the south end of the Lot has been provided on recently built gravel roads on private land. There are four camplot leases on the Oxbow Plantation Lot, all along the Aroostook River.

Resource Allocations

Wildlife Dominant

A 330 foot buffer along the Aroostook River, the Smith Brook and the associated open wetlands will be wildlife dominant.

Visual Class I and II

A 100 foot strip along the Oxbow Road will be visual class I. Some of the steep slope south of the Oxbow Road will be visual class II.

Timber Dominant

The remainder of the Lot will be timber dominant.

Oxbow Plantation Lot Allocation (acres)

	Dominant Acres	Secondary Acres
Wildlife	123	
Timber Management	879	

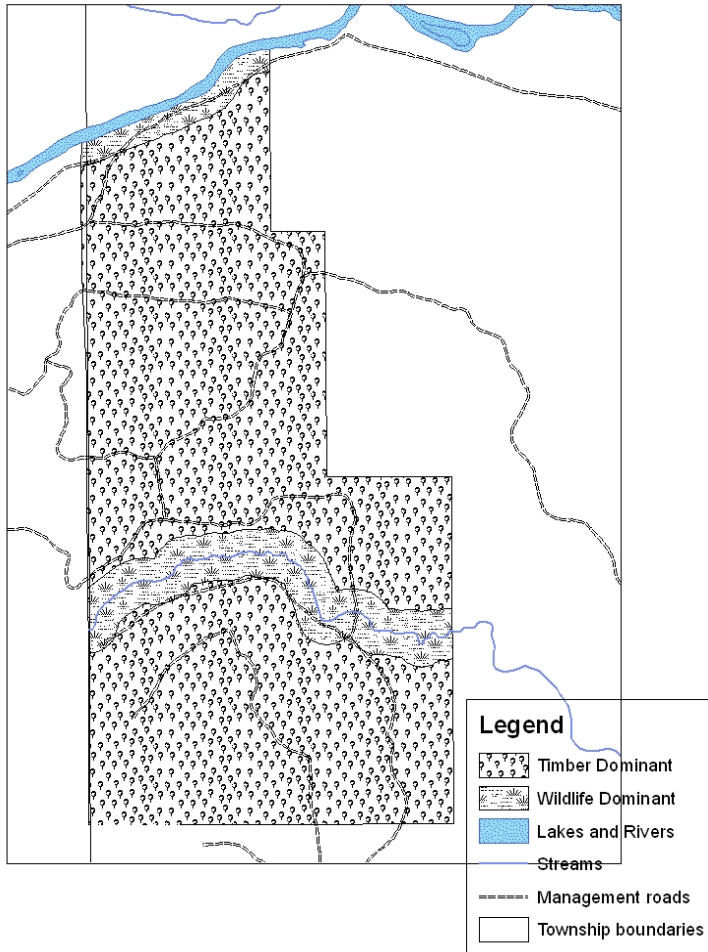
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Oxbow Plantation Lot Management Recommendations

Consult with MHPC or the Bureau Historic Sites Specialist before conducting any recreational or road improvements along the shore of the Aroostook River.

Manage the forest to retain and enhance the multi-age character of most stands. The horizontal and vertical diversity which makes habitat for a variety of species should be maintained. Encourage sugar maple and spruce, maintain hemlock, and retain vigorous beech. Improve deer habitat by favoring softwoods, especially along Smith Brook.

Oxbow Plantation Lot Dominant Resource Allocations



Sheridan Lot

This 1,053 acre Lot was an original public lot that has been under Bureau management since 1973. It is located in the town of Ashland, north of the Aroostook River, with Blake Brook running through it.

Natural Resources

Bedrock in the Lot is acidic sedimentary and metasedimentary rock, with deposits above either till or swamp deposits. Soils include Aurelie-Burnham-Daigle and Perham-Daigle-Chesuncook associations. The watershed flows into the Aroostook River, and Blake Brook runs through the Lot, with associated open wetlands and forest wetlands each consisting of 65 acres. Deer wintering areas and wading bird and waterfowl habitat are also associated with Blake Brook in the center portion of the Lot. Some of the open wetlands were historically associated with beaver activity and consist of a series of open sedge and grass dominated marshes with stands of alder below abandoned beaver dams. The most downstream marsh in the Lot is a cedar seepage forest with rich plant diversity.

Timber Resources

The Bureau conducted a harvest in 1986-87 yielding over 5,000 cords. This was largely in response to the spruce budworm outbreak, so primarily mature fir was taken, although a significant amount of aspen and high risk spruce were also targeted. A harvest in 1996 removed mostly hardwoods (aspen and other species) from mixedwood acres bypassed in the 1980s harvest. Much of the Lot is two aged or multi aged as a result of the 1980s harvest. The Lot is dominated by mixedwood type at 84 percent of the regulated acres, with 12 percent softwood and 4 percent hardwood. Aspen, fir and red maple are the most common species, with many others being represented. A minority of acres are well drained enough to produce quality hardwoods, with the majority capable of growing good quality softwoods.

Resource Allocations

Wildlife Dominant

A 330 foot buffer along Blake Brook, as well as deer wintering area and wading bird and waterfowl habitat (which extend beyond the above mentioned riparian buffer) will be wildlife dominant. There is some deer wintering area on the south end of the Lot which will also be wildlife dominant. Deer activity in the south end has increased dramatically in the past few years, and much of this area will be treated as un-zoned deer wintering area.

Timber Dominant

The remainder of the Lot will be timber dominant.

Sheridan Lot Allocations (acres)

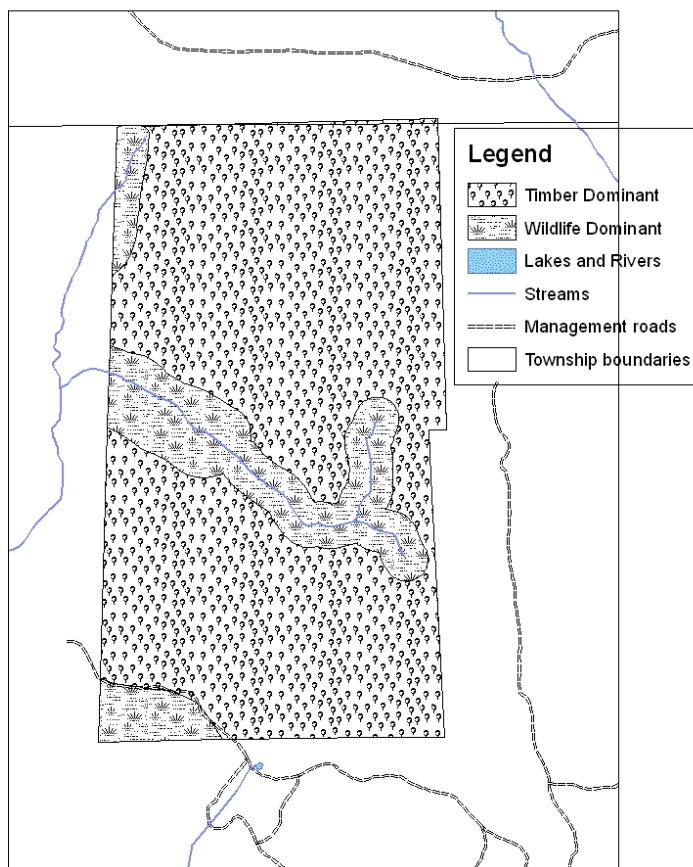
	Dominant Acres	Secondary Acres
Wildlife	186	
Timber Management	880	

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Sheridan Lot Management Recommendations

Manage the forest for quality softwood sawtimber and manage many areas as un-zoned deer wintering areas.

Sheridan Lot Dominant Resource Allocations



T 9 R 5 Wels Lot

This Lot was acquired by the state in 1923, and consists of 375 acres in the southwest corner of the township. It is west of Route 11 and is distant from population centers.

Natural Resources

Bedrock on the Lot is acidic sedimentary and metasedimentary rock, with till and swamp deposits above. Aurelie-Burnham-Daigle soils compose the top layer. This Lot has a high percentage of wetlands (53 percent). Thirty five acres are open wetlands, and 163 acres are forested wetlands. The watershed drains to the Aroostook River, and there are 61 acres of wading bird and waterfowl habitat. The majority of the forested wetland consists of northern white cedar swamp. There is a small amount of sheep laurel-dwarf shrub bog on the Lot which is part of a larger peatland system that extends west.

Timber Resources

In 1984, the Bureau conducted salvage and pre-salvage harvesting targeting mainly spruce budworm damaged fir and spruce and overmature aspen. This harvest regenerated all of the non-cedar softwood acres and left many with low stocking. A small harvest of 300 cords in 1998 removed high risk fir and some spruce and hardwood for pulp. A winter harvest in 2007 removed 1,100 cords, and will be completed when markets for low quality cedar improve. This harvest has been 41 percent spruce and fir, 27 percent tamarack, 19 percent cedar and the remainder hardwood pulp.

Currently, the Lot is 96 percent softwood and 4 percent mixedwood. Spruce is dominant at 57 percent of tract volume, with cedar at 19 percent, white pine at 11 percent, tamarack at 4 percent and fir at 4 percent. Soil fertility is limited on T 9 R 5 Lot.

Transportation and Administrative Considerations

Access is difficult to this Lot, available over a wet winter road on an abutter's property. This is also a snowmobile trail, so the Bureau must coordinate with the local snowmobile club when performing forestry operations on this Lot.

Resource Allocations

Wildlife Dominant

Wading bird and waterfowl habitat, wetlands and associated riparian buffers will be wildlife dominant.

Timber Dominant

The remainder of the Lot will be timber dominant.

T9 R5 Lot

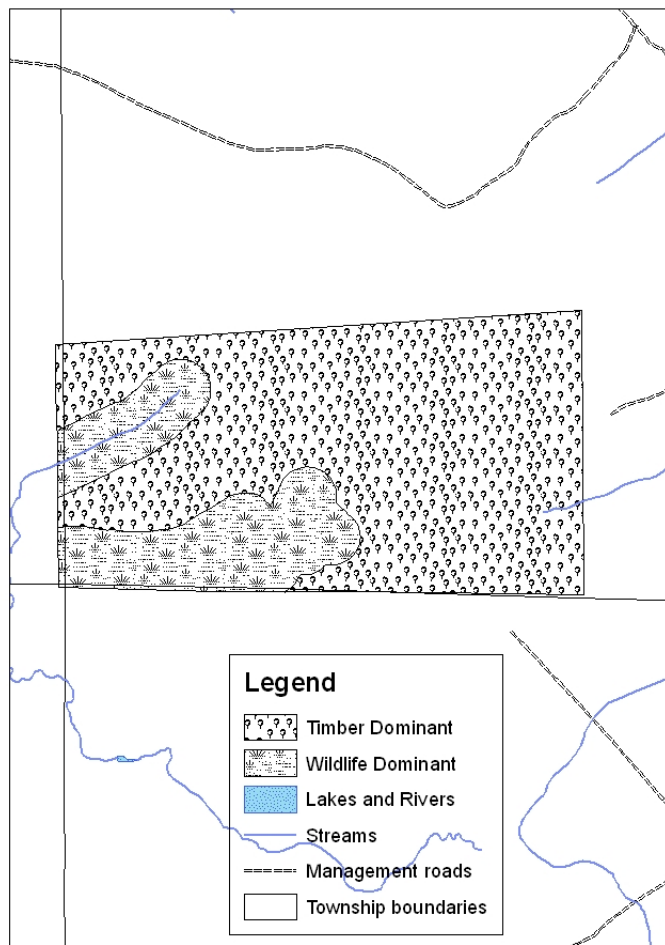
	Dominant Acres	Secondary Acres
Wildlife	89	
Timber Management	284	

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T 9 R 5 Wels Lot Management Recommendations

Manage forest resources to grow quality softwood on about half the acres. The remaining sites are poorly drained and will grow cedar, spruce and pine at slow rates.

T 9 R 5 Wels Lot Dominant Resource Allocations



T 12 R 8 Lot

This 1,000 acre Lot was an original public lot located in 1850. It is about 20 miles west of Ashland and lies immediately northeast of Bald Mountain. Five separate hilltops are on the Lot, and Moose Pond Stream begins in the western part of the Lot.

Natural Resources

Bedrock is composed of mafic intermediate granite, with glacial till and Telos-Monarda-Monson soil above. All water in the Lot eventually drains to the St. John River, some by way of the Aroostook River, and some by the Fish River. There are 28 acres of wading bird and waterfowl habitat on the western side of the Lot adjacent to Moose Pond Stream. There is a record from 1981 of an observation of the 21 individuals of the giant rattlesnake plantain (*Goodyera oblongifolia*) on the northwest portion of the Lot. MNAP recommends a general survey of the area if intensive harvesting is planned.

Timber Resources

Over 700 acres were treated in 1989-91, yielding 6,600 cords. About 70 percent of the harvest was softwoods, as markets for hardwoods were not good at the time. The harvest released and established seedlings and saplings, improving the regeneration on many acres. The Lot consists of 10 percent softwood, 55 percent mixedwood, and 35 percent hardwood. The Lot consists of: 33 percent spruce, 26 percent sugar maple, 12 percent beech, 10 percent red maple, 8 percent yellow birch, and 6 percent hemlock. The Lot has fine stocking of red spruce of sawtimber size. Hardwoods are of variable quality: the beech is poor, the red maple and yellow birch are fair to good, the sugar maple is good. The sugar maple contains a higher than average percentage of sawlogs.

Transportation and Administrative Considerations

Access to the Lot is mainly on winter roads. In the mid 1970s, a significant deposit of heavy metals, mainly copper, was discovered on Bald Mountain. Planning for an extensive open pit mine were underway when the price of copper crashed. Currently, the price of copper has risen, and interest in the mine has rekindled. Though the mine location would be southwest of the Lot, there has been interest in locating spoil/overburden on the Lot (there are mining rights which exist on the Lot).

Resource Allocations

Wildlife Dominant

Areas of riparian buffer and wading bird and waterfowl habitat surrounding Moose Pond Stream will be wildlife dominant.

Timber Dominant

All other areas will be timber dominant.

T12 R8 Lot Allocations (acres)

	Dominant Acres	Secondary Acres
Wildlife	42	
Timber Management	981	

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T 12 R 8 Wels Lot Management Issues

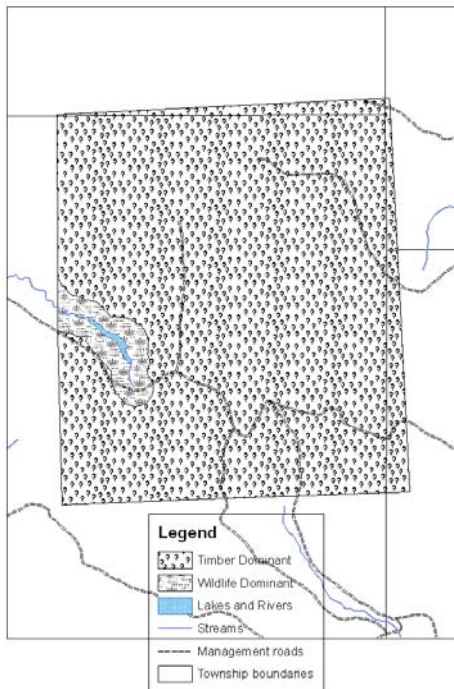
There are mining rights which may be exercised on the Lot for locating spoil from mining on Bald Mountain.

T 12 R 8 Wels Lot Management Recommendations

Manage forest resources to maintain or increase the high spruce component on softwood and mixedwood stands. Quality hardwoods, especially sugar maple, will also be encouraged on these sites. Hardwood stands will be encouraged to grow maple and birch sawlogs. Good beech will be maintained to produce mast for wildlife. Harvest to release young trees of desirable species.

Work to minimize the impact of mining spoil on the Lot, if rights are exercised.

T 12 R 8 Lot Dominant Resource Allocations



T 13 R 5 Lot

This 960 acre Lot was an original public lot located on the ground in 1849. It is on the west township line and is east of Portage Lake. The West Branch Beaver Brook runs through the Lot and Three Burnt Mountain sits in the west of the Lot.

Natural Resources

Bedrock consists of mostly acidic sedimentary and metasedimentary rock, with surficial geology of till and swamp deposits. Soils are mostly Perham-Daigle-Chesuncook association. Beaver Brook, part of which runs through the Lot, is considered a portfolio stream by The Nature Conservancy. It contains American eel and Atlantic salmon, and only 0.1 percent of its shores are developed. There are 78 acres of forested wetland on the Lot surrounding the brook, and a very small, less than an acre open wetland. The watershed flows to the Aroostook River. There are 76 acres of deer wintering area on the northern edge of the Lot, part of a larger DWA managed in coordination with IF&W.

Timber Resources

An extensive harvest in the 1970s in response to spruce budworm was performed by an abutting landowner who owned timber and grass rights on the Lot. This harvest established softwood regeneration over most acres and shifted many softwood acres to mixedwood or hardwood. Most acres remaining in softwood type were left with low overstory density. The Bureau harvested over 4,000 cords between 1988-95, covering over half the Lot's acres. Declining spruce and fir and low quality hardwoods were targeted, with hardwoods selling for pulp and firewood.

Soils through most of the Lot are moderately to well drained and fertile, supportive of quality timber of all species. Currently the Lot's regulated acres are 39 percent softwood, 20 percent mixedwood, and 41 percent hardwood. Species composition includes: 28 percent sugar maple, 16 percent spruce, 13 percent fir, 9 percent cedar and 9 percent hemlock.

There are 63 acres of the Lot formally zoned as deer wintering area, but this area is part of a historical DWA that is much larger. Budworm-caused mortality and the 1970s harvest diminished some of the good cover. However, prior to the spruce budworm epidemic, up to 60 percent of the Lot may have been good deer wintering cover, and those acres currently hold tall sapling regeneration with good softwood proportions.

Transportation and Administrative Considerations

The Lot is close to Route 11 and Beaver Brook Road, with access into the Lot by an improved management road.

Resource Allocations

Wildlife Dominant

Zoned deer wintering area and a 330 foot riparian buffer along the West Branch Beaver Brook will be wildlife dominant.

Timber Dominant

The remainder of the Lot will be timber dominant, with a focus on deer wintering cover in certain areas. Timber will be a secondary allocation in zoned deer wintering areas that are wildlife dominant.

T13 R5 Lot Allocations (acres)

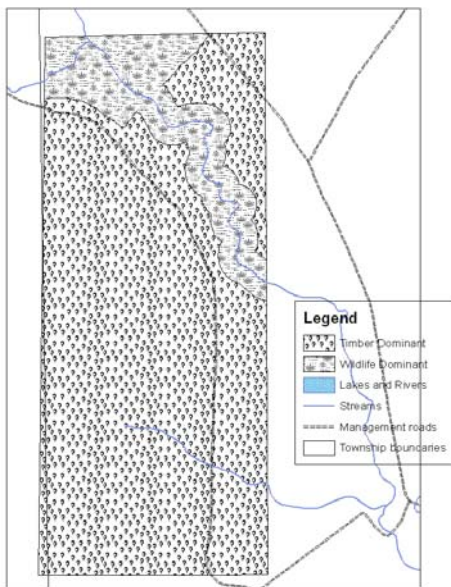
	Dominant Acres	Secondary Acres
Wildlife	155	
Timber Management	812	

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T 13 R 5 Wels Lot Management Recommendations

Manage the forest to encourage deer wintering areas extensively where they have historically existed by increasing softwood type. Manage for quality softwood sawtimber on all other areas, except fertile upland areas now dominated by sugar maple and beech will be retained as such.

T 13 R 5 Lot Dominant Resource Allocations



VI. Monitoring and Evaluation

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

Implementation of Plan Recommendations

The Bureau will develop, within two years of Plan adoption, an action plan for implementing and monitoring the management recommendations in this Plan. This will include an assignment of priorities and timeframes for accomplishment that will be utilized to determine work priorities and budgets on an annual basis. The Bureau will document annually its progress in implementing the recommendations, plans for the coming year, and adjustments to the priorities and timeframes as needed.

Recreation

Data on recreational use is helpful in allocating staff and monetary resources for management of the properties throughout the Plan area, and in determining the public's response to the opportunities being provided.

In addition to gathering data on use, the Bureau will monitor public 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 conducts a variety of species monitoring activities statewide. The following are monitoring activities that are ongoing or anticipated for the Aroostook Hills Region:

- (1) The Bureau will cooperate with IF&W in the monitoring of game species, including deer, moose, grouse, and black bear;
- (2) The Bureau will monitor loon nests on Scraggly Lake and look for impacts of recreation;
- (3) 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 provide 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. Changes in stand type resulting from the harvest are then recorded so that the Bureau's GIS system can be updated.

The Bureau is currently developing a post-harvest monitoring plan to assist forest managers in assessing harvest outcomes on all managed lands. The monitoring plan will also address water quality and Best Management Practices (BMPs) utilized during harvest activities.

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 planning and on-ground practices. An initial audit by both programs was completed in 2001, with certification awarded in 2002. A full re-audit of both programs was conducted in the fall of 2006 with certification granted in 2007. The Bureau is also subject to compliance audits during the 5-year certification period.

VII. Appendices

- A. Advisory Committee Members
- B. Summary of the Public Process and Response to Public Comments
- C. Glossary
- D. References
- E. MNAP Natural Resources Inventory (a separate report available from the Bureau upon request)
- F. Timber and Renewable Resource Documents (available from the Bureau on request):
 - *Compartment Examination Manual*
 - *Prescription Manual and prescriptions for the Eastern Interior Region lands*
 - *Timber Sale Manual*
 - *Forest Inventory data*
 - *Forest Certification Reports from Sustainable Forestry Initiative, Forest Stewardship Council (March 2002 and 2007).*
 - *Maine Bureau of Parks and Lands Forest Certification Manual*
 - *Soil surveys*
 - *Forest Laws of Maine*
 - *Best Management Practices Manual*

Appendix A. Advisory Committee Members

Charlie Beck, Sportsman's Alliance of Maine
Jensen Bissell, Baxter State Park Authority
Dan Bridgham, Maine Snowmobile Association
Don Cameron, Maine Natural Areas Program
Kenny Fergusson, Huber Resources Corp.
Bill Greaves, Maine Forest Service
Harry Hafford
Rocky Hill, Mapleton ATV club
Terry Hill, Bowlin-Matagamon Snowmobile Club
Matt Libby, Maine Professional Guides Association
Fred Moreau, Walker Siding at Squapan
Bob Sawyer, Dunn Timberlands
Scott Thompson, Aroostook State Park
Bob Vigue, Seven Island Land Co.

Appendix B. Summary of Public Process and Responses to Public Comments

Summary of Public Process

Public Scoping Session	June 4, 2008 in Ashland	16 members of the public attended
Advisory Committee Meeting	July 30, 2008 in Ashland	5 advisory committee members attended
Advisory Committee Meeting on First Draft	May 11, 2009 in Ashland	7 advisory committee members attended
Public Meeting on Final Draft	July 9, 2009 in Ashland	10 members of the public attended

Responses to Comments

Summary of Written Comments on the First Draft of the Aroostook Hills Region Management Plan April 28 – May 21, 2009 (Does not include typographical, grammatical, or formatting comments that have been corrected where possible.)	
Comment	Response
From: Rocky Hill Sr and Clayton Craig, Mapleton ATV Club, and Dan Bridgham, Maine Snowmobile Association (MSA)	
<ul style="list-style-type: none"> Squapan Unit--The ATV club would like to begin work right away to upgrade the snowmobile ridge trail for ATV use. They feel they have been denied use of this trail for too long, that erosion is not bad, and safety is not a serious concern. They have already built water bars and worked to stop unauthorized ATV use of this trail and feel the time is right to make the final upgrades and start using this trail. The MSA also supports upgrading this trail soon for ATV use and believes the trail does not have a significant impact on the surrounding ecosystem. 	<ul style="list-style-type: none"> ATV riding is an important component of the Squapan Unit, which contains a dense network of ATV trails connected with a regional ATV trail system. The ridge trail, however, has only been authorized for snowmobile use up to this point because its steepness led to safety and erosion concerns for ATV use. In addition, the MNAP identified an area surrounding this trail as an important Spruce-Fir-Northern Hardwoods Ecosystem and have recommended special management of this area. The Bureau's Integrated Resource Policy directs staff to: follow best management practices to protect soil when building trails, manage carefully natural communities identified as important by MNAP, and consider safety when evaluating lands for trail use. The IRP relies on staff expertise to evaluate whether an area or trail is suitable for ATV use due to environmental and safety standards. Bureau

	<p>staff has determined that in order for the Ridge Trail to accommodate ATV use safely and with minimal environmental impact to soils and surrounding natural communities, the trail must be significantly improved. As soon as possible, considering staff time and funding constraints, a detailed, engineered plan will be made and the trail will be upgraded and authorized for ATV use.</p>
<p>From: Rocky Hill Sr and Clayton Craig, Mapleton ATV Club</p>	
<ul style="list-style-type: none"> • Squapan Unit--The ATV club would like to use the “old camp yard” site along the ATV lower loop trail for picnicking and camping. They would obtain a fire permit, put in a fire place, and maintain the area for picnicking and camping. They would like to develop this site immediately. BPL staff told them this site is not appropriate for this use due to fire danger, but they do not agree with this assessment. 	<ul style="list-style-type: none"> • The Bureau agrees a day use area is an appropriate use of the “old camp yard”. Once this management plan has been adopted, the Bureau will be able to work with the Mapleton ATV club to obtain the necessary funding, permits and materials to develop this site. However, this recreational development will need to be balanced with many other demands on Bureau staff time and funds. As a result, the site may not be able to be developed as rapidly as the ATV club has requested. The Bureau also will consider camping at this site if it can be connected to a network of similar ATV camping opportunities along the regional trail system. The Bureau has committed in this plan to assessing the demand for this type of camping area and cooperating in a regional ATV camping system if one is initiated.
<p>From: Rocky Hill Sr and Clayton Craig, Mapleton ATV Club</p>	
<ul style="list-style-type: none"> • Squapan Unit--The ATV club would like a boat ramp to be built near Sylvester Point. This location is appropriate due to its deep water cove, views, and the possibility of upgrading an old winter road in order to extend the North Road to Sylvester Point. 	<ul style="list-style-type: none"> • If arrangements cannot be made to open the Walker Siding boat ramp to the public, the Bureau has committed to building a boat launching facility on the Squapan Unit when a suitable site can be located and funding can be obtained. The Bureau appreciates public input into the siting of a boat launching facility, but cannot commit to a specific location in this plan. A full evaluation of sites will need to be made. Criteria in choosing a site will include: cost-effectiveness, ability to accommodate an ADA accessible facility, ability to obtain legal public right-of-way, and ability to

	<p>accommodate a full-service motor boat facility without violating environmental standards.</p>
<p>From: Dan Bridgham, Maine Snowmobile Association</p>	
<ul style="list-style-type: none"> • Squapan Unit—Trails on the Unit should be developed for horseback riders, hikers and bird-watchers. A single multiple use trail system could be developed more on the Unit to include ATVs, horseback riders, hikers and birdwatchers. 	<ul style="list-style-type: none"> • Currently all public use roads, management roads, snowmobile trails and ATV trails are open to hikers. The Bureau has committed in this plan to determine if there is sufficient demand for a non-motorized trail that connected Haystack Mountain and Squapan Ridge. Anyone interested in this or other non-motorized trails in the Unit should contact the regional staff in Ashland and express support. As stated in the IRP, the Bureau will use the following criteria when evaluating lands for trail establishment: documented need and demand for use, safety, environmental and wildlife impacts, compatibility with other uses, local ordinances or deed restrictions, trail maintenance issues, and enforcement issues. • The IRP states that horseback riders are welcomed on those public access and management roads signed as shared use. Such signage exists in the Squapan Unit. Trails designated as ATV and/or snowmobile trails located off of the roads may not be suitable for horseback riding without significant upgrades. However, the Bureau is open to building relationships with user groups and establishing new trails and new uses on existing trails when the criteria mentioned above are met. Horseback riders interested in expanding opportunities are encouraged to contact the regional staff in Ashland to discuss possibilities.
<p>From: Dan Bridgham, Maine Snowmobile Association</p>	
<ul style="list-style-type: none"> • Squapan Unit—The existing fire tower is a hazard and should be upgraded so the public could safely climb about 20 feet and a view should be cleared. An ATV and snowmobile trail should be built to the last pitch, and a foot trail should be built from the last pitch to the tower. 	<ul style="list-style-type: none"> • This plan commits to determining demand for a non-motorized trail to the fire tower and obtaining information on the cost of improving the fire tower and building the trail. If funding can be obtained and demand can be demonstrated, these improvements will be made.
<p>From: Dan Bridgham, Maine Snowmobile Association</p>	

<ul style="list-style-type: none"> • Squapan Unit—The top of the ridge would be an excellent location for windmills. The plan should mention future intentions for wind power on the Unit. 	<ul style="list-style-type: none"> • The Squapan Ridge has been identified as containing an important Spruce-Fir-Northern Hardwoods Ecosystem and exemplary Hemlock Forest. It has been identified by MNAP as a potential addition to the state’s Ecological Reserve system. This plan allocates much of the ridgeline as “wildlife dominant” which provides for special management of its exemplary communities. The Bureau has further specified in this Plan that there will be no development or timber management in the area until decisions on ecological reserve additions have been completed at the completion of the Bureau’s current management plan cycle, expected sometime in 2013. The Squapan Ridge will not be considered for wind power development in this interim period. If the Squapan Ridge is not included in future ecological reserve additions, and demand for wind power on the ridge were to arise, the Bureau would consider the ecological values of the area, determined by MNAP and the Ecological Reserves Scientific Advisory Committee to be of statewide significance, in addition to other factors in making a decision.
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From: Dan Bridgham, Maine Snowmobile Association

<ul style="list-style-type: none"> • Squapan Unit—Obtaining deeded access to the Unit is important for getting funding for the boat access facility. There should be three access routes into the Unit—the two current public access roads and the ATV trail that enters the Unit from the east. 	<ul style="list-style-type: none"> • The Bureau agrees expanding legal right-of-way into the Unit is a priority; a management recommendation to do so included in this plan. The willingness of the landowners of the existing roads into the Unit will determine where such a right-of-way could be located.
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From: Dan Bridgham, Maine Snowmobile Association

<ul style="list-style-type: none"> • All of the allocations should contain acreage estimates. 	<ul style="list-style-type: none"> • Acreage estimates for allocations have been added to the plan.
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**Summary of Comments on the Final Draft
of the Aroostook Hills Management Plan
From Public Meeting on July 9, 2009**

(Does not include typographical, grammatical, or formatting comments that have been corrected where possible.)

Comment	Response
From: Charlie Beck, Sportsman's Alliance of Maine	
<ul style="list-style-type: none"> The Bureau should make clearer its policies on hunting on the Squapan Unit and throughout the system. In particular, there needs to be more awareness of where hunting is not allowed, through information in the plan, on kiosks, and/or through public service announcements. 	<ul style="list-style-type: none"> Hunting is permitted widely throughout lands in the plan region. Bureau rules state that firearms are not to be discharged within 300 feet of a campsite, marked hiking trail, boat launch or picnic site. On the Squapan Unit, areas off limits to hunting include the five water access campsites on Squapan Lake. The Bureau makes efforts to inform the public of hunting policies through brochures and maps that are also posted on kiosks in most of the major units. The Bureau can temporarily close areas with active logging operations to hunting, and places signage around the operation to inform the public. The IRP gives the option of closing to hunting certain areas allocated to other recreation uses when hunting impacts the safety of other users. When this occurs, notification is placed on kiosks in the affected unit.
From: Aaron Buzza, Squapan Outing Club	
<ul style="list-style-type: none"> Squapan Unit--The Squapan Outing Club is opposed to the Bureau building a public boat ramp on the north end of the lake across from their camps. Underage parties and lack of policing would be problems. There would be a great increase in use of the Unit, and many members of the public would enter the Squapan Outing Club area and leave trash and cause other problems. 	<ul style="list-style-type: none"> The Bureau would like to work with the Squapan Outing Club to consider re-opening their boat ramp to the public. If this is not possible, the Bureau has committed to building a public ramp on the Unit if funding can be obtained and an appropriate site can be identified. A full evaluation of sites on the Unit will need to be made. Criteria in choosing a site will include: cost-effectiveness, ability to accommodate an ADA accessible facility, ability to obtain legal public right-of-way, and ability to accommodate a full-service motor boat facility without violating environmental standards.
From: David Basley, IF&W	

<ul style="list-style-type: none"> • Scraggly Lake Unit—The Unit should be opened to un-groomed snowmobiling even in winters when the club trail is not groomed due to heavy deer use. 	<ul style="list-style-type: none"> • This is the status quo in the Scraggly Lake Unit, and it is the Bureau’s intention to continue allowing this use.
<p>From: Arlen Lovewell, IF&W</p>	
<ul style="list-style-type: none"> • IF&W would like to coordinate with Bureau foresters on increasing deer habitat in the Squapan Unit, and the following lots: Nashville North, Sheridan, Oxbow, and T13 R5. Increasing the hemlock component is particularly important in Nashville North and Oxbow. 	<ul style="list-style-type: none"> • The Bureau manages deer habitat on formally zoned deer wintering areas as well as in many other areas throughout its public reserved lands. Bureau foresters regularly communicate with IF&W regional staff and IF&W has a full-time Wildlife Biologist assigned to the Bureau to assist in wildlife management. IF&W staff are always encouraged to contact Bureau staff with information relating to deer habitat and thanks IF&W for bringing to the foreground these opportunities to improve deer habitat in the Aroostook Hills region.

Appendix C. Glossary

“Age Class”: the biological age of a stand of timber; in single-aged stands, age classes are generally separated by 10-year intervals.

“ATV Trails”: designated trails of varying length with a variety of trail surfaces and grades, designed primarily for the use of all-terrain vehicles.

“All-Terrain Vehicles”: motor driven, off-road recreational vehicles capable of cross-country travel on land, snow, ice, marsh, swampland, or other natural terrain. For the purposes of this document an all-terrain vehicle includes a multi-track, multi-wheel or low pressure tire vehicle; a motorcycle or related 2-wheel vehicle; and 3- or 4-wheel or belt-driven vehicles. It does not include an automobile or motor truck; a snowmobile; an airmobile; a construction or logging vehicle used in performance of its common functions; a farm vehicle used for farming purposes; or a vehicle used exclusively for emergency, military, law enforcement, or fire control purposes (Title 12, Chapter 715, Section 7851.2).

“Bicycling/ Recreation Biking Trails”: designated trails of short to moderate length located on hard-packed or paved trail surfaces with slight to moderate grades, designed primarily for the use of groups or individuals seeking a more leisurely experience.

“Boat Access - Improved”: vehicle-accessible hard-surfaced launch sites with gravel or hard-surface parking areas. May also contain one or more picnic tables, an outhouse, and floats or docks.

“Boat Access - Unimproved”: vehicle-accessible launch sites with dirt or gravel ramps to the water and parking areas, and where no other facilities are normally provided.

“Boat Ramp – Primitive Trailer Accessible”: ramp that is suitable for small, trailered boats. The ramp may not meet national standards for one or more criteria. Owners of large boats should use discretion when deciding to use these facilities.

“Boat Ramp – Trailer Accessible”: ramp that is suitable for use by most recreational boats, and which meets national standards for slope, surfacing and water depth.

“Campgrounds”: areas designed for transient occupancy by camping in tents, camp trailers, travel trailers, motor homes, or similar facilities or vehicles designed for temporary shelter. Developed campgrounds usually provide toilet buildings, drinking water, picnic tables, and fireplaces, and may provide disposal areas for RVs, showers, boat access to water, walking trails, and swimming opportunities.

“Carry-In Boat Access”: dirt or gravel launch sites accessible by foot over a short to moderate length trail, that generally accommodates the use of only small watercraft. Includes a trailhead with parking and a designated trail to the access site.

“Clear-cut”: an single-age harvesting method in which all trees or all merchantable trees are removed from a site in a single operation.

“Commercial Forest Land”: the portion of the landbase that is both available and capable of producing at least 20 cubic feet of wood or fiber per acre per year.

“Commercial Harvest”: any harvest from which forest products are sold. By contrast, in a pre-commercial harvest, no products are sold, and it is designed principally to improve stand quality and conditions.

“Community”: an assemblage of interacting plants and animals and their common environment, recurring across the landscape, in which the effects of recent human intervention are minimal (“Natural Landscapes Of Maine: A Classification Of Ecosystems and Natural Communities” Maine Natural Heritage Program. April, 1991).

“Cross-Country Ski Trails”: designated winter-use trails primarily available for the activity of cross-country skiing. Trails may be short to long for day or overnight use.

“Ecosystem Type”: a group of communities and their environment, occurring together over a particular portion of the landscape, and held together by some common physical or biotic feature.

(“Natural Landscapes Of Maine: A Classification Of Ecosystems and Natural Communities.” Maine Natural Heritage Program, April, 1991).

“Folist Site”: areas where thick mats of organic matter overlay bedrock, commonly found at high elevations.

“Forest Certification”: A process in which a third party “independent” entity audits the policies and practices of a forest management organization against a set of standards or principles related to sustainable management. It may be limited to either land/forest management or product chain-of-custody, or may include both.

“Forest Condition (or condition of the forest)”: the state of the forest, including the age, size, height, species, and spatial arrangement of plants, and the functioning as an ecosystem of the combined plant and animal life of the forest.

“Forest Stewardship Council (FSC) Certification”: A third-party sustainable forestry certification program that was developed by the Forest Stewardship Council, an independent, non-profit, non-governmental organization founded in 1993. The FSC is comprised of representatives from environmental and conservation groups, the timber industry, the forestry profession, indigenous peoples’ organizations, community forestry groups, and forest product certification organizations from 25 countries. For information about FSC standards see http://www.fscus.org/standards_criteria/ and www.fsc.org.

“Forest Type”: a descriptive title for an area of forest growth based on similarities of species and size characteristics.

“Group Camping Areas”: vehicle or foot-accessible areas designated for overnight camping by large groups. These may include one or more outhouses, several fire rings or fire grills, a minimum of one water source, and several picnic tables.

“Horseback Ride/Pack Stock Trails”: generally moderate to long-distance trails designated for use by horses, other ride, or pack stock.

“Invasive Species”: generally nonnative species which invade native ecosystems and successfully compete with and displace native species due to the absence of natural controls. Examples are purple loosestrife and the zebra mussel.

“Late successional”: The condition in the natural progression of forest ecosystems where long-lived tree species dominate, large stems or trunks are common, and the rate of ecosystem change becomes much more gradual. Late successional forest are also mature forests that, because of their age and stand characteristics, harbor certain habitat not found elsewhere in the landscape.

“Log Landings”: areas, generally close to haul roads, where forest products may be hauled to and stored prior to being trucked to markets.

“Management Roads”: roads designed for timber management and/or administrative use that may be used by the public as long as they remain in service. Management roads may be closed in areas containing special resources, where there are issues of public safety or environmental protection.

“Mature Tree”: a tree which has reached the age at which its height growth has significantly slowed or ceased, though its diameter growth may still be substantial. When its annual growth no longer exceeds its internal decay and/or crown loss (net growth is negative), the tree is over-mature.

“Motorized”: a mode of travel across the landbase which utilizes internal combustion or electric powered conveyances; which in itself constitutes a recreational activity, or facilitates participation in a recreational activity.

“Mountain Bike Trails”: designated trails generally located on rough trail surfaces with moderate to steep grades, designed primarily for the use of mountain bicycles with all-terrain tires by individuals seeking a challenging experience.

“Multi-aged Management”: management which is designed to retain two or more age classes and canopy layers at all times. Its harvest methods imitate natural disturbance regimes which cause partial stand replacement (shelterwood with reserves) or small gap disturbances (selection).

“Natural Resource Values”: described in Maine’s Natural Resource Protection Act to include coastal sand dunes, coastal wetlands, significant wildlife habitat, fragile mountain areas, freshwater wetlands, great ponds and rivers, streams, and brooks. For the purposes of this plan they also include unique or unusual plant communities.

“Non-motorized”: a mode of travel across the landbase which does not utilize internal combustion, or electric powered conveyances; which in itself constitutes a recreational activity, or facilitates participation in a recreational activity.

“Non-native (Exotic)”: a species that enters or is deliberately introduced into an ecosystem beyond its historic range, except through natural expansion, including organisms transferred from other countries into the state, unnaturally occurring hybrids, cultivars, genetically altered or engineered species or strains, or species or subspecies with nonnative genetic lineage.

“Old Growth Stand”: a stand in which the majority of the main crown canopy consists of long-lived or late successional species usually 150 to 200 years old or older, often with characteristics such as large snags, large downed woody material, and multiple age classes, and in which evidence of human-caused disturbance is absent or old and faint.

“Old Growth Tree”: for the purposes of this document, a tree which is in the latter stages of maturity or is over-mature.

“Pesticide”: a chemical agent or substance employed to kill or suppress pests (such as insects, weeds, fungi, rodents, nematodes, or other organism) or intended for use as a plant regulator, defoliant, or desiccant. (from LURC Regulations, Ch. 10)

“Primitive Campsites”: campsites that are rustic in nature, have one outhouse, and may include tent pads, Adirondack-type shelters, and rustic picnic tables. Campsites may be accessed by vehicle, foot, or water.

“Public Road or Roadway”: any roadway which is owned, leased, or otherwise operated by a government body or public entity. (from LURC Regulations, Ch. 10)

“Public Use Roads”: all-weather gravel or paved roads designed for two-way travel to facilitate both public and administrative access to recreation facilities. Includes parking facilities provided for the public. Management will include roadside aesthetic values normally associated with travel influenced zones.

“Recreation Values”: the values associated with participation in outdoor recreation activities.

“Regeneration”: both the process of establishing new growth and the new growth itself, occurring naturally through seeding or sprouting, and artificially by planting seeds or seedlings.

“Regulated Acres”: On Bureau lands, regulated acreage is the portion of the commercial forest landbase on which the sustainable harvest will be calculated at or near maximum sustainable levels.

“Remote Ponds”: As defined by the Maine Land Use Regulation Commission: ponds having no existing road access by two-wheel drive motor vehicles during summer months within ½ mile of the normal high water mark of the body of water with no more than one noncommercial remote camp and its accessory structures within ½ mile of the normal high water mark of the body of water, that support cold water game fisheries.

“Riparian”: an area of land or water that includes stream channels, lakes, floodplains and wetlands, and their adjacent upland ecosystems.

“Salvage”: a harvest operation designed to remove dead and dying timber in order to remove whatever value the stand may have before it becomes unmerchantable.

“Selection”: related to multi-aged management, the cutting of individual or small groups of trees; generally limited in area to patches of one acre or less.

“Service Roads”: summer or winter roads located to provide access to Bureau-owned lodging, maintenance structures, and utilities. Some service roads will be gated or plugged to prevent public access for safety, security, and other management objectives.

“Silviculture”: the branch of forestry which deals with the application of forest management principles to achieve specific objectives with respect to the production of forest products and services.

“Single-aged Management”: management which is designed to manage single age, single canopy layer stands. Its harvest methods imitate natural disturbance regimes which result in full stand replacement. A simple two-step (seed cut/removal cut) shelterwood is an example of a single-aged system.

“Snowmobile Trails”: designated winter-use trails of varying length located on a groomed trail surfaces with flat to moderate grades, designed primarily for the use of snowmobiles.

“Stand”: a group of trees, the characteristics of which are sufficiently alike to allow uniform classification.

“Succession/ successional”: progressive changes in species composition and forest community structure caused by natural processes over time.

“Sustainable Forestry/ Harvest”: that level of timber harvesting, expressed as treated acres and/or volume removals, which can be conducted on a perpetual basis while providing for non-forest values. Ideally this harvest level would be “even-flow,” that is, the same quantity each year. In practice, the current condition of the different properties

under Bureau timber management, and the ever-changing situation in markets, will dictate a somewhat cyclical harvest which will approach even-flow only over time periods of a decade or more.

“Sustainable Forestry Initiative (SFI)”: A third party sustainable forestry certification program that was developed in 1994 by the American Forest and Paper Association, which defines its program as “a comprehensive system of principles, objectives and performance measures that integrates the perpetual growing and harvesting of trees with the protection of wildlife, plants, soil and water quality.” To review SFI standards see http://www.afandpa.org/Content/NavigationMenu/Environment_and_Recycling/SFI/The_SFI_Standard/The_SFI_Standard.htm

Appendix D. References

Cordell, H. Ken. 2008. "The Latest on Trends in Nature Based Outdoor Recreation." *Forest History Today*: Spring 2008.

Evers, David. 2007. Pre-filed testimony on behalf of Maine Audubon and Natural Resources Council of Maine commenting on the application of Zoning Petition ZP 707 submitted to the Land Use Regulation Commission. Downloaded from: http://www.maine.gov/doc/lurc/review/PlumCreek/ReceivedFromParties/2007-08-31%20Filings_PrefiledDirectTestimony/NRCM-MA/2007-08-31_NRCM-MA_Testimony.pdf on 01/15/2009.

Federal Energy Regulatory Commission (FERC). 1991. "Order Issuing New License." License issued to Maine Public Service Company for Project No. 2368 (Squapan Dam).

International Appalachian Trail. 2009. "Route/Trail Guides" page. Online resource accessed 02/03/2009 from: http://www.internationalat.org/Pages/SIAIAT_Pages/route

Judd, Richard, Edwin Churchill, and Joel Eastman. 1995. "Maine: The Pine Tree State from Prehistory to the Present." The University of Maine Press, Orono, ME.

Maine Birding Trail. 2009. "Maine Birding Trail." Online resource accessed 02/03/2009 from: <http://www.mainebirdingtrail.com/index.htm>

Maine Department of Inland Fisheries and Wildlife (IF&W). 2005. Maine's Comprehensive Wildlife Conservation Strategy." Downloaded from http://maine.gov/ifw/wildlife/groups_programs/comprehensive_strategy/ on 01/14/2009.

Maine Natural Areas Program (MNAP). 2008. "Natural Resources Inventory of the Aroostook Hills Region." Prepared for the Bureau of Parks and Lands by Don Cameron of MNAP.

Maine Public Service Company (MPSCo). 1997. "1997 Common Loon Population Assessment." Report to Federal Energy Regulatory Commission to fulfill license requirement.

Maine Winter Sports Center (MWSC). 2009. Online resource accessed on 02/03/2009 from: <http://www.maineWSC.org/index.html>

Mcgrath, Anna Fields. 1989. "The County: Land of Promise." For Friends of Aroostook County Historical Center. The Donning Company, Norfolk, Virginia.

McMahon, Janet. 1998. "An Inventory of Potential Ecological Reserves on Maine's Public Lands and Private Conservation Lands." Report prepared for the Maine Forest Biodiversity Project, Rockland, ME.

Planning Decisions. 2003. "Aroostook County Economic Cluster Report Part I: Analysis." For Northern Maine Development Commission, Caribou, ME. Online resource accessed on 01/14/2008 from: <http://www.nmdc.org/WebReports/AroostookIndustryclusters-Analysis-8-03.pdf>.

PEARL database. 2008. <http://pearl.spatial.maine.edu/>.

U.S. Fish and Wildlife Service (USFWS). 2008. "2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation." Online resource accessed on 01/20/2009 from: http://library.fws.gov/nat_survey2006.pdf