

Annual Monitoring Report Summary
Downeast Lakes Land Trust,
Farm Cove Community Forest
2008

Prepared by Mark Berry, February 10, 2009

Table of Contents

I. INTRODUCTION	3
II. ANNUAL MONITORING UPDATE	3
Timber Harvest.....	3
Other Forest Products	4
Unanticipated Removal or Loss.....	4
Regeneration.....	4
Focus Species Habitat Management Activities.....	4
Deer Wintering Areas.....	5
Snowshoe Hare	6
Grouse and Woodcock	6
Black Bear	6
Riparian Zone Management.....	7
Beaver	7
Brook Trout / Atlantic Salmon.....	9
Exotic and Invasive Plants.....	10
Harvest Impacts.....	10
Road Monitoring.....	12
Pesticides and Biological Control Agents	12
Social and Economic Monitoring.....	13
Common Loon Monitoring.....	13
III. PERIODIC FOREST MONITORING DATA.....	14
Forest Inventory	14
Changes in Habitat Conditions.....	14
Deer Wintering Areas.....	15
American Marten	16
Grouse and Woodcock	17
Black-throated Blue Warbler/Mature Hardwood Forest.....	17
Hard Mast Management	17
Rare Species, Natural Communities, and other Special Habitats.....	18
Literature Cited.....	18

I. Introduction

Downeast Lakes Land Trust (DLLT) periodically monitors its forest to ensure that its management objectives for wildlife, recreation, timber production, and environmental protection are being met. Some items, such as the inventory of standing timber, are conducted periodically. Others, such as monitoring timber harvest operations, may be conducted on a weekly basis as operations are ongoing. This annual report summarizes the monitoring information for members of the land trust, members of the local community, and for others interested in the results of DLLT's management. This first annual structured report is being issued in connection with the DLLT FSC forest management certification which was received in October 2007. For more information on DLLT's forest management, please contact the land trust. The monitoring update includes annual summaries for the operating year December through November, beginning with the 2008 operating year in December, 2007 when the winter harvest began. (In some years, winter harvest may not begin until January; in these years the operating year will match the calendar year). Periodic monitoring data that are updated every 5-10 years are included in Section III.

This report covers the 27,080-acre Farm Cove Community Forest as acquired by Downeast Lakes Land Trust in 2005. In December, 2008, DLLT acquired the 6,628-acre Wabassus Lake Tract, located immediately to the south. This tract will be incorporated into the Community Forest with an Addendum to the Management Plan, and will be included in future annual monitoring reports.

II. Annual Monitoring Update

Timber Harvest

Timber Harvest Summary	2008		2009		2010	
	Product	Cords	Product	Cords	Product	Cords
Hemlock	Stud	1603.5				
Hemlock	Pulp	1947.2				
Spruce	Logs	338.2				
Softwood	Pulp	331.7				
Softwood	Stud	808.1				
Pine	Logs	8.2				
Hardwood	Pulp	1169.9				
Hardwood	Logs	6.1				
Hardwood	Veneer	1.8				
Hardwood	Firewood	210.7				
Subtotal (without biomass)*		6425.5				
Biomass	Chips	1903.2				
Total (with biomass)*:		8328.7				

* Biomass sales are typically incidental to planned harvest volumes and are composed of tops or limbs that are not considered within timber inventory. In 2008, 705 cords of hemlock pulp wood

Monitoring Summary Report

was marketed as biomass fuel due to market conditions; this volume is included in hemlock pulp in the table above, not in the biomass volume.

Other Forest Products

DLLT, as part of its community forest management, routinely issues permits to local users of forest products, subject to policies and procedures approved by the DLLT Board of Directors.

In 2008, DLLT issued permits for gravel, wood for local craftsmen, firewood, and “tips” for wreath-making.

Gravel: 4 permits issued, 185 cubic yards total:

3 to abutting camp owners

1 to the Grand Lake Snowmobile Club

Wood for local craftsmen: 2 permits issued, for harvest of 15 cedar and 1 white ash tree

Firewood: 26 permits issued for one cord each

Tipping: 9 permits issued

Unanticipated Removal or Loss

DLLT staff and forestry contractors monitor the forest for unanticipated loss due to insects, disease, wind, fire, excessive browsing by animals, and timber theft during routine management operations. DLLT also uses reports from members and others who use the forest to keep informed of changes in the forest.

2008: During the past year, no unanticipated losses were observed or reported.

Regeneration

DLLT staff, board members, and forestry contractors monitor forest harvest areas to determine if regeneration is occurring as anticipated and intended in forest harvest plans. Qualitative or quantitative inspections generally will occur within three years of harvests intended to encourage regeneration.

2008: The 2005 summer and winter harvest areas included areas intended to encourage regeneration. Qualitative inspections of the 2005 harvest areas in 2008 and prior years indicates regeneration has been occurring as intended. In the case of the Belden Brook area poplar cuts, the regeneration of early successional habitats has led to significant browse by deer and moose, as well as habitat use by woodcock, grouse, and other early-successional species such as the chestnut-sided warbler.

Focus Species Habitat Management Activities

Monitoring Summary Report

Management for specific “focus species” is used to benefit species of interest to the local community and to provide habitat for the full range of wildlife species found on the forest. The management plan sets out specific management activities for these species.

Deer Wintering Areas

DLLT has a major goal of restoring deer wintering areas. Management activities include both building the area of mature forest softwood cover through partial harvesting in historic deer wintering areas (primary and secondary cover), harvesting to create openings that will produce browse and regenerate the forest to ensure a steady supply of future winter cover, and seeding landings to create summer food for deer and other species.

Deer Wintering Area Management Activities					
Habitat and Activity	2008 (ac)	2009 (ac)	2010 (ac)	2011 (ac)	2012 (ac)
Partial harvests (selection, initial shelterwood, and intermediate harvests)	0				
Regeneration harvest openings (patch-cut, overstory removal, and clearcut)	0				
Herbaceous seeding ¹	0				
Management consistent with DWA 5-year operations plan	Yes				
Other Monitoring:					

The summer 2008 harvest plan, as approved, included adequate acreage to provide operational flexibility by selecting certain stands from the approved area for harvest. The approved area included three stands within the DLLT-designated Burroughs Brook Deer Wintering Area; however, these stands were not included in the actual harvest area.

In fall 2008, as part of the planning process for the 2009 winter harvest, DLLT’s forester proposed a potential harvest within a portion of the DLLT-designated Grand Lake Brook deer wintering area. After review of the FCCF Management Plan Focus Species Addendum and a field inspection by DLLT staff and consultant wildlife biologist, DLLT determined the proposed harvest should be re-located outside of the designated deer wintering area to a nearby area that will provide browse during regeneration. No harvests were conducted within deer wintering areas in 2008.

¹ DLLT also keeps track of species and location of species used in herbaceous seeding.

Snowshoe Hare

The best snowshoe hare habitat is created by even-aged regeneration harvests in softwood-cover. The “regeneration harvest openings” for deer wintering area management is also used to monitor the amount of snowshoe hare habitat created.

Grouse and Woodcock

Grouse and woodcock management is based on creating a number of patches of different age classes in aspen and birch stands. The following monitoring elements have been included to track progress toward objectives outlined in the management plan.

Grouse and Woodcock Management

Annual Monitoring Element	Goal	2008	2009	2010	2011	2012
Number of grouse/woodcock unit plans developed	Not yet specified	One*				
Cumulative number of units under active management	Not yet specified	One*				
Number of acres harvested (clearcut or overstory removal) in management unit blocks	Not yet specified	4				
Number of acres of herbaceous seeding	Not yet specified	To be seeded spring 2009				

* In the 2008 summer harvest, a set of seven patch cut harvest blocks in a poplar-birch fire origin stand on the south side of Burroughs Brook on the Farm Cove peninsula were created to provide early-successional habitat, including habitat for Grouse and Woodcock and browse for deer and moose. Average block size was 0.56 acres, with just under 4 acres harvested in total. A complete plan for this grouse/woodcock unit has not yet been developed, but the harvest plan calls for a 10-year re-entry to harvest new ½ acre patches adjacent to the patches harvested in 2008.

The balance of aspen-birch age classes on the entire forest is also monitored periodically as cover type maps are updated (see Section III).

Black Bear

Black bear habitat management is accomplished through our creation and maintenance of young-forest openings by implementing the grouse/woodcock and deer wintering area management plans and implementation of the hard mast guidelines during harvest operations. These activities are monitored, and we conduct no separate monitoring of black bear habitat conditions or management.

Riparian Zone Management

Harvest and other operations monitoring forms are used to gather information on harvest activities within riparian management areas. A summary of problems identified (e.g., unsatisfactory performance relative to management plan guidelines or site-specific plans) and steps taken to correct problems described below.

Year	Unsatisfactory Implementation of RMZ Guidelines and Action Taken				
	Trout/Salmon	Beaver	Lake	Other Stream	Vernal Pool
2008	No problems observed	No problems observed	No problems observed	No problems observed	No problems observed
	Action:				
2009					
	Action:				
2010					
	Action:				
2011					
	Action:				
2012					
	Action:				

Beaver

Habitats modified by beaver activity have been shown to be beneficial to a wide range of wildlife, including waterfowl, wading birds, migratory songbirds, and moose. Other mammals are such as deer and bear are attracted to the early flush of nutritious vegetation in spring. Recent studies from the Moosehead lake region have found that rusty blackbirds (a declining species listed as Special Concern in Maine) were strongly associated with beaver-impounded wetlands, and olive-sided flycatcher (also Special Concern) was also found in these areas (Pelletier and Arsenault 2007). Maine has a long history of habitat management guidance that recognizes the benefits of maintaining beaver activity in the landscape, including Deifenbach et. al 2008, Foss 1999, and Bryan 2007. Only one stream in the DLLT FCCF, Burroughs Brook, has been designated as a priority beaver habitat in the Focus Species Addendum. Burroughs Brook is a slow moving stream with historic beaver use and forest cover that is less dense than that on streams with priority for brook trout and Atlantic salmon.

All streams: For each stream, DLLT used 2005 aerial photography to estimate the number of active colonies and likely historic colonies (as indicated by cover type) and length of stream affected by each. These data will be compared with future aerial photography. During the course of routine management and interviews with board members, DLLT gathers information on the number of new colonies and the number colonies abandoned each year.

Beaver Stream Reaches: Monitoring consists of tracking the number of harvests that create openings greater than 14,000 square feet that extend within 100 feet of designated beaver stream reaches (these are harvests specifically designed to enhance beaver food supplies), reporting of

Monitoring Summary Report

new beaver dams on trout streams, and on-site monitoring of conformance with riparian management guidelines described in the management plan.

Trout Streams: If reports indicate that beaver may be increasing on trout streams, DLLT will compare the current level of beaver activity with historical (2005) estimates to determine if beaver management activity may be warranted.

2005 Beaver Activity Baseline							
TWP	Stream (from E to W)	FSF Mgmt ¹	Total Length (mi) ²	Active Colonies ³		Historic & Potential Colonies ⁴	
				No.	Total Stream Length (mi)	No.	Total Stream Length (mi)
T6	Un-named – E boundary	O	0.54	0	0	0	0
T6	Un-named – S boundary	O	0.12	0	0	0	0
T6	Un-named – S boundary	O	0.23	0	0	0	0
T6	Scott Brook	T	1.73	1	0.08	2	0.42
T6	Grand Lake Brook	T	3.3	0	0	5	1.25
T6	Rolfe Brook	T	3.43	1	0.16	8	0.97
T6	Rolfe Brook - S tributary	T	0.50	0	0	2	0.35
T6	Rolfe Brook – S tributary branch	T	1.00	0	0	.1	0.38
T6	Rolfe Brook – N tributary	O	0.71	0	0	0	0
T6	Farm Cove tributary	O	0.46	0	0	0	0
T6	Burroughs Brook	B	1.80	1	0.62	1	0.16
T6	Narrows Tributary	O	0.68	0	0	0	0
T6	Julia Brook	T, O	1.24	0	0	4	0.52
T6	Subtotal		15.74	3	0.86	19	4.05
T5	Wabassus Lake Tributary	O	1.94	0	0	1	0.17
T5	Dark Cove tributary	O	0.46	0	0	0	0
T5	Hayes Brook	T, E	1.81	1	.16	3	0.69
T5	Machias River tributary	O, E	.99	0	0	0	0
T5	Sysladobsis Lake Tributary	T	1.04	1	0.09	2	0.09
T5	Fourth Machias Lake tributary	T,E,O	0.76	0	0	1	0.14
T5	Belden Brook	T, E	2.70	0	0	0	0
T5	Dead Stream	E	0.55	0	0	0	0
T5	Fourth Machias Lake W tributary	E	0.79	0	0	0	0
T5	Subtotal		11.04	2	0.25	7	1.09
T5+T6	TOTAL		26.78	5	1.11	26	4.59

1. FSF Management: B (Beaver); T (Trout/Salmon); E (Ecological Reserve); O (Other).
2. MEOGIS H24 GIS layer (except inaccurate section of Rolfe Brook S tributary branch)
3. Areas with signs of beaver activity separated by less than 0.1 mile were considered to be part of a single colony.
4. Includes deadwater sections that may have active beaver activity.

Monitoring Summary Report

Beaver and Trout Stream Monitoring						
YEAR	Stream	Beaver Reaches			All Streams	
		# harvests within 100 ft. of designated beaver reach	Total Area within 100ft. (ac)	Stream Shade, other BMPs, and LURC rules met?(Y/N)	# New Colonies	# Colonies Abandoned
2008	No applicable harvests	0	na	na	4	?
2009						
2010						
2011						
2012						

Note: add new rows for each year as needed

In 2008, DLLT directors reported new active beaver colonies on the following streams:

- Dead Stream near southern boundary T5ND
- Rolfe Brook at Rolfe Brook pond
- Rolfe Brook at Grand Lake Brook
- Wabassus Lake outlet near lake

An additional active colony was noted on the north shore of Fourth Machias Lake.

Brook Trout / Atlantic Salmon

In 2008, DLLT installed two new bottomless arch culverts to replace culverts that presented fish passage barriers and risks of catastrophic failure. The new structures were installed at Scott Brook on the Farm Cove Dam Road and at Rolfe Brook on the Fourth Lake Road. In each case, DLLT partnered with the Natural Resources Conservation Service and U.S. Fish and Wildlife Service. USFWS biologists conducted electrofishing at each restoration site, and relocated fish out of the project area. The streams were then temporarily diverted during installation. This relocation provided some data on fish species present at each location. This data is maintained by USFWS, and a copy is at the DLLT office. A brief summary is presented here.

Species:	Rolfe Brook 7/30/08	Scott Brook 7/30/08	Scott Brook 8/11/08
Brook trout	8	3	1
Blacknose dace	71	34	10
Creek chub	52	39	24
Crayfish	2	0	0
Northern redbelly dace	0	1	0
Ninespine stickleback	1	0	0
Pearl dace	0	4	0
White sucker	0	0	0

Exotic and Invasive Plants

DLLT monitors the use of exotic (non-native) species to ensure that they do not become invasive. Currently DLLT’s use of exotic species is limited to planting non-invasive grasses and legumes for wildlife habitat improvement. In addition, DLLT checks for the presence of known invasive plants that may be present in the area.

Exotic and Invasive Plants					
	2008	2009	2010	2011	2012
Wildlife Plantings					
Number of sites planted	5 areas; 2008 winter harvest landings and all excavated ditches				
Species	Conservation mix (contains non-native grasses & legumes)				
Estimated total area planted	3 acres				
Seed mix does not contain species on Maine’s list of invasive plants (Y/N)	Y				
Location identified in GIS (Y/N)	Y (general location of harvest areas and roads)				
Number of sample sites checked for undesirable spread	Five (earlier plantings)				
Undesirable spread noted?	No				
Invasive Plants					
All harvest sites checked?	Yes, during routine operations and tour				
Species found? ¹	No				

¹ Describe severity or impacts of any invasive species or exotic species and develop an action plan if management is feasible and warranted.

Harvest Impacts

Harvest sites and road improvement projects are monitored by DLLT’s forest management contractor, Executive Director, and Board of Directors to ensure compliance with applicable laws and Best Management Practices designed to protect soil and water quality. Harvest operations are also monitored to ensure that operations comply with silvicultural prescriptions,

Monitoring Summary Report

damage to standing timber and regeneration is minimized, sensitive sites are protected, and site-specific wildlife practices and objectives are being met.

Compliance with Harvest Guidelines					
Monitoring element/guideline	2008	2009	2010	2011	2012
Hard Mast referenced in harvest plans for applicable stands	S				
Satisfactory execution of hard mast guidelines during harvest	S				
Wildlife trees and downed logs	S				
Retention patches	na				
Wildlife Trees retention Patch: quantitative sample of selected harvest blocks (number of blocks, performance)	na				
Riparian and Lakeshores: applicable guidelines referenced in management plans	S				
Riparian and Lakeshores: applicable guidelines and BMPS implemented	S				
BMPs beyond riparian and lakeshore zones	S				
# vernal pools known prior to harvest plan:	0				
# new vernal pools identified	0				
Vernal pools identified in harvest plans and guidelines implemented during harvest	na				

S – Satisfactory

U - Unsatisfactory, problem ongoing (describe below)

U/S – Unsatisfactory, problem corrected (describe below)

Except where noted above, all harvests are monitored for all elements

Unsatisfactory Harvest Conditions: Identification and Resolution

During 2008, harvest conditions were generally highly satisfactory in terms of both silvicultural and ecological objectives. During the 2008 winter harvest, a small forested wetland was partially harvested and crossed by equipment; layout had occurred after an early deep snow. No BMP or legal violation occurred, but this situation indicated a potential for a future error. Future winter harvests will be laid out and flagged prior to heavy snow fall to ensure areas of potential ecological concern are adequately addressed in advance. The 2008 summer harvest coincided with periods of unusually heavy rainfall. The harvest was in an extremely rocky area, and minimal ground disturbance or erosion occurred. At one site where it was necessary to use a pre-existing skid trail for a short distance, minor rutting occurred, but no surface water flow resulted. In one stand of the 2008 summer harvest, a moderate degree of residual damage to the bark of trailside trees occurred along the main skid trails, this damage was prevented in other stands through attention to maintaining smaller bunch sizes for skidding.

Notes on 2008 Harvest practices:

In 2008, DLLT began implementation of a new strategy for brush created during harvest operations. Typical past practice has been to spread brush on skidder trails. This has potential to delay regeneration in trails, and may impact movement of wildlife, particularly white-tailed deer fawns. After determining there would be no additional cost to the harvest contractor, DLLT instructed the contractor to begin placing small piles of brush along the edges of trails, in situations where brush is not needed on trails for erosion control, rather than spreading the brush uniformly. The method is expected to increase regeneration in trails, and may provide habitat value for small wildlife such as rodents and some birds. This may in turn benefit predators such as American Marten.

Road Monitoring

Road Monitoring Summary	
YEAR	Roads Inspected, Problems Identified and Corrected
2008	4 th Lake Rd: Entire road monitored; previously approved maintenance project completed, including installation of 10 culverts, and ditching and re-shaping on portions of 7 miles of the road, and routine grading occurred. Brushing of the road way was completed in 2007. Installation of a new bottomless arch culvert at Rolfe Brook to to improve aquatic habitat and fish passage completed. Additional ditching, culvert, and graveling work is planned for 2009 and beyond.
	Farm Cove Dam Rd.: entire road monitored, brushing completed; installation of new bottomless arch culvert at Scott Brook to improve aquatic habitat and fish passage and two new nearby cross-drain culverts completed
	Farm Cove Mountain Rd: road north to Burroughs Brook monitored; ditching and surface maintenance completed as needed to support harvest activities.
	Dobsis Dam Rd: entire road monitored; surface condition poor and limited surface erosion occurring; no substantial watershed impacts but maintenance improvements recommended for recreational use as funds available. Roadside brushing was completed in 2007.
2009	
2010	
2011	
2012	

Pesticides and Biological Control Agents

DLLT does not currently use pesticides or biological control agents. If in the future a need to use the agents arises, DLLT will prepare evaluate the risks, prepare appropriate application plans, and monitor use in accordance with the Farm Cove Community Forest Management Plan, the conservation easement, and Maine law and Forest Stewardship Council certification standards.

Social and Economic Monitoring

Social and Economic Monitoring					
Element	2008	2009	2010	2011	2012
Total volume of wood harvested (cords)	6425.5				
Number of permanent DLLT employees	3				
Number of temporary DLLT employees	0				
Number of contractor and subcontractor employees	Appr. 10*				

* contractors and subcontractor employees include forester, President, and other employees of Orion Timberlands; foreman, operators, truckers, and other employees of the harvest contractor Davis Forestry Products; only harvest-related contractor employees are included here.

DLLT's board members and staff, and public meetings attended or hosted by DLLT are the major means by which DLLT monitors the public reaction to management.

2007-8: In the past year, DLLT has heard a number of strongly positive comments from year-round and seasonal residents and visitors, as well as other conservation organizations, elected officials, and administrators. The most frequent positive comments relate to DLLT's permanent conservation of lands, including preventing lakeshore development and guaranteeing public recreational access. We also have received positive comments related to our wildlife habitat protections.

Comments specifically related to our activities of 2008 include observations from numerous local residents and visitors that road conditions on the community forest, especially on the 4th lake road, were much better than in prior years or before DLLT ownership, due to DLLT's accomplishments in removing roadside brush and re-constructing drainage ditches and culverts. Installation of new bottomless arch culverts to improve fish habitats on Scott Brook and Rolfe Brook led to many positive comments. We also heard from two recreational users with concerns related to our road maintenance activities. One was concerned by our removal of roadside brush on the Farm Cove Dam Rd, and the other was concerned that the Dobsis Dam Rd was not receiving adequate maintenance. In both cases, DLLT responded by corresponding with the individual and explaining our road maintenance program. In the case of Farm Cove Mt Rd, some specific areas of resource concern were identified and protected during the brush removal operation.

Common Loon Monitoring

In addition to monitoring activities directly related to management of the Farm Cove Community Forest described in this report, DLLT monitored common loon productivity on 45 lakes throughout the region in 2008 in cooperation with the U.S. Fish and Wildlife Service and Biodiversity Research Institute. As of the date of this report, the annual loon monitoring report is in preparation.

III. Periodic Forest Monitoring Data

Because the following data are gathered periodically (for example, every 5-10 years), this section of the report will be only updated as new data become available.

Forest Inventory

Standing Timber

Forest inventory is the basis of good forest management. The following is a summary of the data that have been collected on the forest.

Farm Cove Community Forest: Broad Forest Type & Volume Summary (2002)							
Broad Type	Acres	SW Vol / Acre	SW Cds	HW Vol / Acre	HW Cds	Total Vol / Acre	Total Cords
Cedar	260	6	1568	2.4	631	8.5	2199
Hardwood	3311	3.7	12212	5.7	18899	9.4	31112
Mixedwood	10907	13.1	143036	3.3	35892	16.4	178928
Softwood	10550	18	190345	2.2	23537	20.3	213882
Total	25028	13.8	347161	3.2	78960	17	426121

The last forest-wide inventory took place in 2000. Because new, high quality cover type maps were developed from 2005 aerial photography, DLLT may consider extending the period to undertake the next forest-wide inventory to 2015.

Forest inventory elements planned for the next forest-wide inventory			
Element	Frequency	Strongly Recommended	Desirable
Forest Inventory	Every 10 years. Last full inventory 2000. New air photos and type maps 2005.	<ol style="list-style-type: none"> 1. Tree species, size, grade and density 2. Focus Species Development Stage 3. Snags 4. Other wildlife trees 5. Invasive species 6. Aerial photography and cover type maps 	<ol style="list-style-type: none"> 1. Species distribution by canopy layer (overstory, understory, ground cover) and percent cover of each layer. 2. Shrubs, wildflowers and other herbs, ferns and bryophytes. 3. Large downed woody material

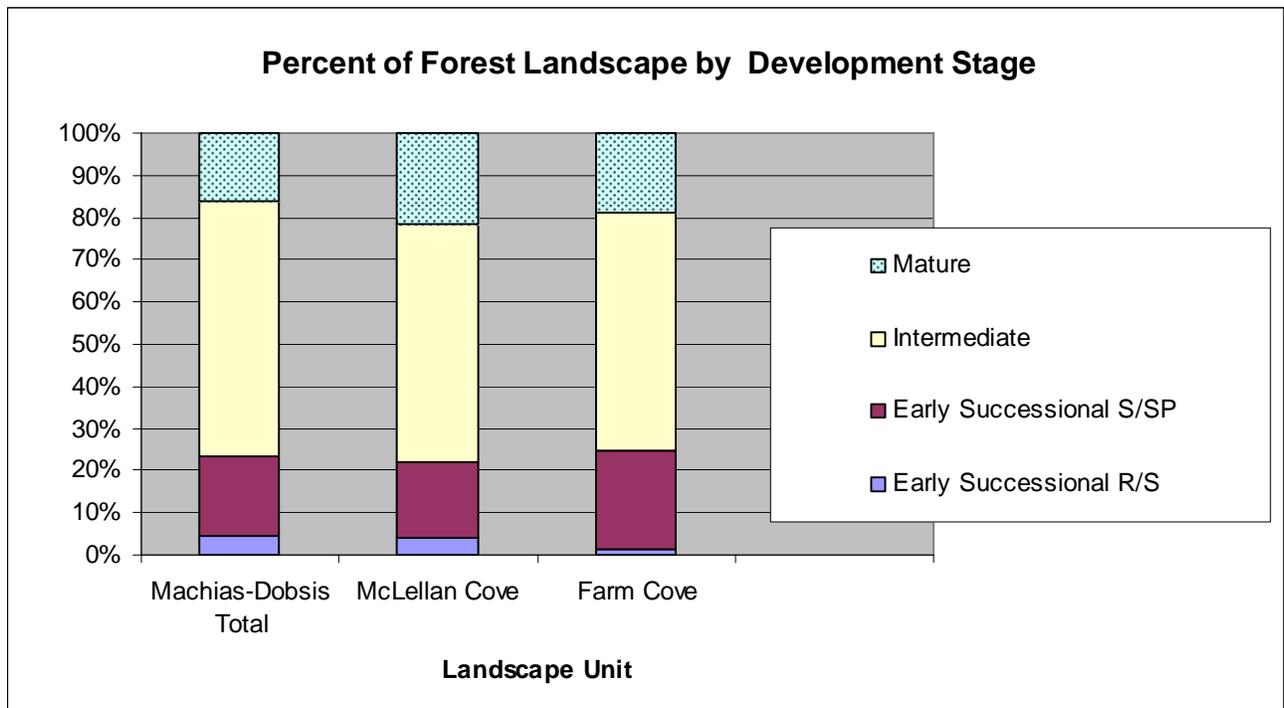
Changes in Habitat Conditions

Monitoring Summary Report

The Farm Cove Community Forest is managed for a range of forest types and ages to provide diverse and abundant habitat for wildlife species of interest to the local community. Aerial photographs and cover type maps are used to assess forest habitat conditions for most species. To help manage the forest, the management plan has divided the forest into the following management units.

Machias-Dobsis:	West of the thoroughfare between Wabassus and Pocumcus Lakes. This unit includes the Ecological Reserve, Late Successional Management Area (LSMA), and the remaining general forest management area (Dark Cove subunit).
McLellan Cove:	North of West Grand Lake
Farm Cove:	South of West Grand Lake and east of the Wabassus-Pocumcus thoroughfare. Includes 30 acres on Kitchen Cove Point

The graph below represents forest habitat conditions as of 2005 summarized from the cover type data. The next update of the cover type maps and data is expected in or before 2015, when the property is re-inventoried.



Deer Wintering Areas

Long-term monitoring of deer wintering areas is based on the percent of mapped primary and secondary cover in mapped DWA. DLLT has identified five DWA management areas totaling 7,420 acres. The objective is to have at least 25% of each DWA in primary cover and at least

Monitoring Summary Report

50% in primary and secondary cover combined. Due to heavy harvesting under previous ownership, none of the areas meet the DWA cover criteria.

Deer Wintering Areas Cover 2005						
DWA	Total Potential Cover*	Current Primary Cover		Current Secondary Cover	Current Primary + Secondary	Management Objectives Met?
	ac	ac	%	ac	%	Y/N
Belden Brook	1216	81	7%	438	43%	N
Burroughs Brook	549	52	9%	264	58%	N
Hayes Brook	1857	47	3%	82	7%	N
GL Brook	1855	80	4%	385	25%	N
Whitney Cove	270	0	0%	136	51%	N
Total	5746	259	5%	1305	27%	N

*Total cover includes all primary, secondary, and non-cover areas.

Change in DWA cover will be monitored when the cover type maps are updated (ca 2015). Section II includes a summary of annual management activities in DWA.

American Marten

The management plan for American marten (“pine marten”) is based on maintaining large patches (over 1,200 acres) of mature forest. Monitoring is based on periodic inventories and cover type maps (i.e., every 10 years) to quantify habitat conditions.

2005 Marten Habitat Conditions							
Management Unit	Mapped Current and Future Marten Habitat ¹	Current Primary Habitat		Current Secondary Habitat		Total Current Habitat (2005) ²	
		ac	% ²	ac	%	ac	%
Belden Brook	1691	628	37%	477	28%	1105	65%
Hayes Brook	1590	161	10%	24	1%	185	12%
Whitney Cove	458	198	43%	0	0%	198	43%
Burroughs Brook	1046	506	48%	0	0%	506	48%
Grand Lake Brook	2276	559	25%	0	0%	559	25%
Totals	7060	2052	29%	500	7%	2552	36%

¹ Managed forest only exclusive of potential habitat in the ecological reserve.
² “%” refers to the percent of the designated marten management units that meets habitat definitions. The long term goal is at least 37.5% of the area in marten management to meet primary habitat guidelines and at least 75% of the management units to meet primary plus secondary habitat guidelines.

Monitoring Summary Report

Projections indicate that an average of 32% of the marten management units will meet primary habitat objectives in 20 years and 68% will meet secondary habitat objectives. The next monitoring is scheduled ca 2015 when the cover type maps will be updated.

Grouse and Woodcock

Long term potential high-value grouse and woodcock habitat is indicated by the total area and balance of development stages in the aspen-birch forest type. This is only a portion of the total area of habitat, because grouse will also be found in young and intermediate-aged northern hardwood and hardwood-dominated mixed forests.

2015 Grouse and Woodcock Habitat Conditions						
Management Unit	Focus Species Development Stage (ac)				Aspen-Birch Total	All Types Total
	Early Successional R/S	Early Successional S/SP	Intermediate	Mature		
Dark Cove (exclusive of the Ecological Reserve and LSMA)	28	444	76	14	562	4,546
Whitney Cove		46	187	60	293	2,703
Farm Cove		206	422		629	11,992
Aspen-Birch Total	28	697	685	74	1,484	19,240
Total Forest Acres						25,369

Additional aspen and birch stands are found in the Late Successional Management Area (LSMA) and Ecological Reserve. Because these areas will not be managed for grouse and woodcock, which require young, regenerating forests, the aspen-birch acres in these units will not be used to measure change in habitat due to management. See Section II for annual monitoring of habitat management activities.

Black-throated Blue Warbler/Mature Hardwood Forest

Black-throated blue warbler is the focal species for older intermediate and mature northern hardwood forest. Currently about 60% of this forest type in the DLLT FCCF as a whole is in the early successional stage and 6% is in the mature stage. The objective is to increase mature northern hardwoods to 15% of the total northern hardwood area by 2015 and 30% by 2025. The next monitoring will occur when the cover type maps are updated.

Hard Mast Management

Long-term plans for hard mast include experimental planting of American chestnut and red oak by 2012. These plots and chestnuts planted prior to 2007 will be monitored.

Monitoring Summary Report

Year	Number of plots	Year Planted	Type of Planting	Year Monitored	Results
Planted Prior to 2008	8	2006	Seedlings	2008	Qualitative inspection only; surviving seedlings appear healthy and have received only moderate browse pressure; survival appears better away from raspberry vines in old wood yards
2008					
2009					
2010					
2011					
2012					

Rare Species, Natural Communities, and other Special Habitats

During 2002-2003 DLLT contracted with Dr. Norm Famous and Janet McMahon to inventory the anticipated DLLT acquisition lands for the presence of rare, threatened, or endangered wildlife and plant species. The final report and recommendations were completed in August of 2007. Additional information, including a list of rare species that could potentially be observed on the Community Forest, was requested and received from the Maine Natural Areas Program, and is summarized in the Farm Cove Community Forest Management Plan. DLLT’s approach is to protect species by protecting their habitat, including areas designated as special management areas, late-successional forest, and ecological reserve. Monitoring for general conditions or unintended adverse impacts occurs primarily during forest harvest operations planning and implementation when harvests occur near or in special management areas.

Literature Cited

Bryan, R.R. 2007. Focus Species Forestry: A Guide to Integrating Timber and Biodiversity Management in Maine. Maine Audubon, Falmouth.

Deifenback, D.R, S.J. Lovett, and R.B. Owen, Jr. Beaver and wetlands. 1988. P. 38-41 in Elliott, C.A., ed., A Forester’s guide to Managing Wildlife Habits in Maine. University of Maine Cooperative Extension Service and Maine Chapter of the Wildlife Society.

Foss, C.R. 1999. Beaver influenced wetlands. P. 61-64 in Elliot, C.A., ed. Biodiversity in the Forests of Maine: Guidelines for Land Management. UMCE Bulletin 7147. University of Maine Coop Extension, Orono.

Pelletier, S.P. and M.P. Arsenault. 2007. Pre-filed direct testimony on Behalf of Plum creek Timber Company in support of the Moosehead Region Concept Plan. ftp://ftp.state.me.us/outgoing/PlumCreek/ReceivedFromPlumCreek/2007-08-31%20PCFilings/08-31-2007%20PrefiledDirectTestimony/Volume04/2007-08-31_PLUMCREEK_WoodlotTestimony.pdf