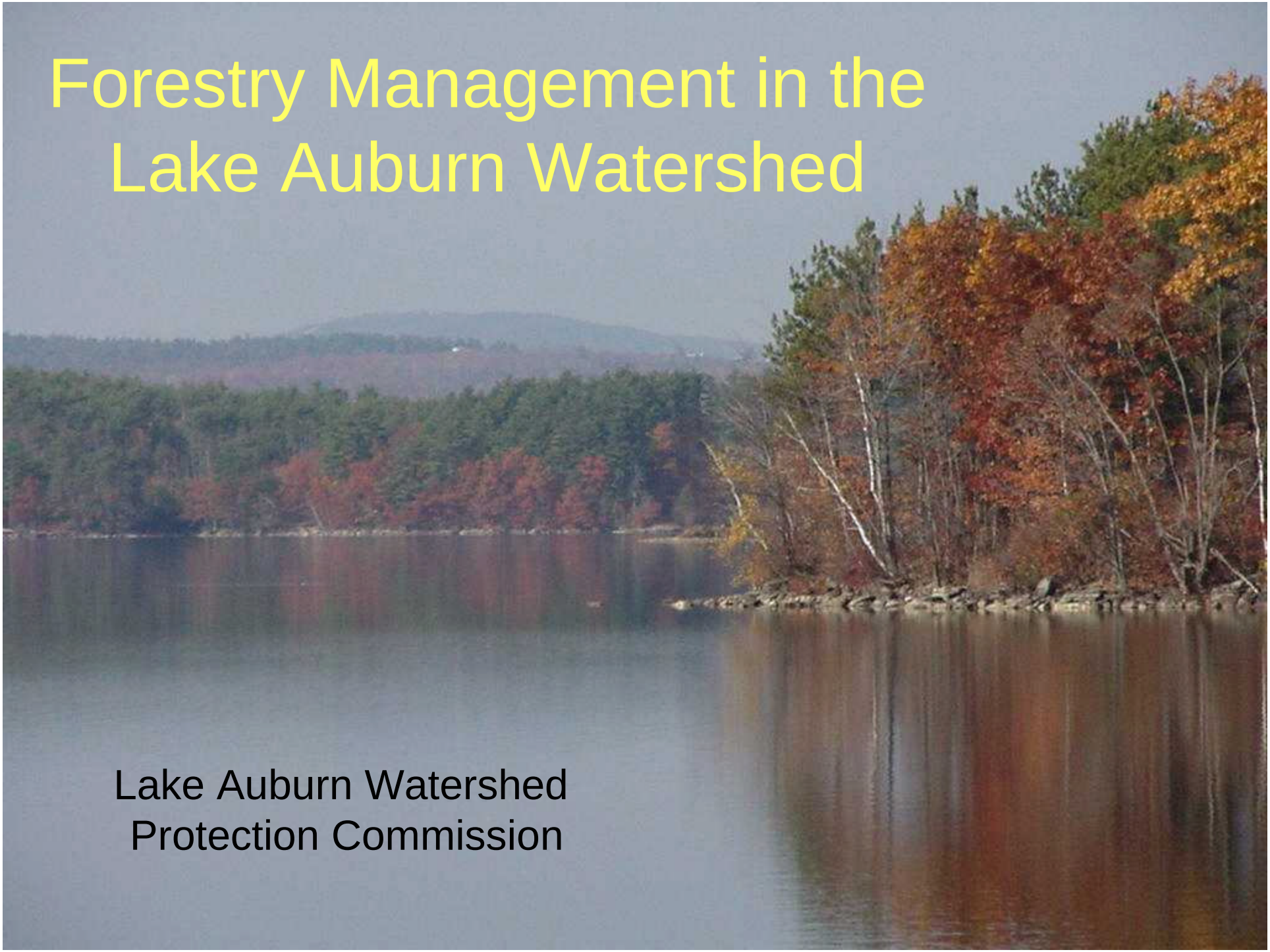

Forestry Management in the
Lake Auburn Watershed
Lake Auburn Watershed
Protection Commission

Figure 1-1
Site Locus Map

Lake Auburn Watershed
Central Maine

Data Source: Auburn Water and Sewerage District; Maine GIS

Comprehensive Environmental Incorporated

Auburn Water & Sewerage District

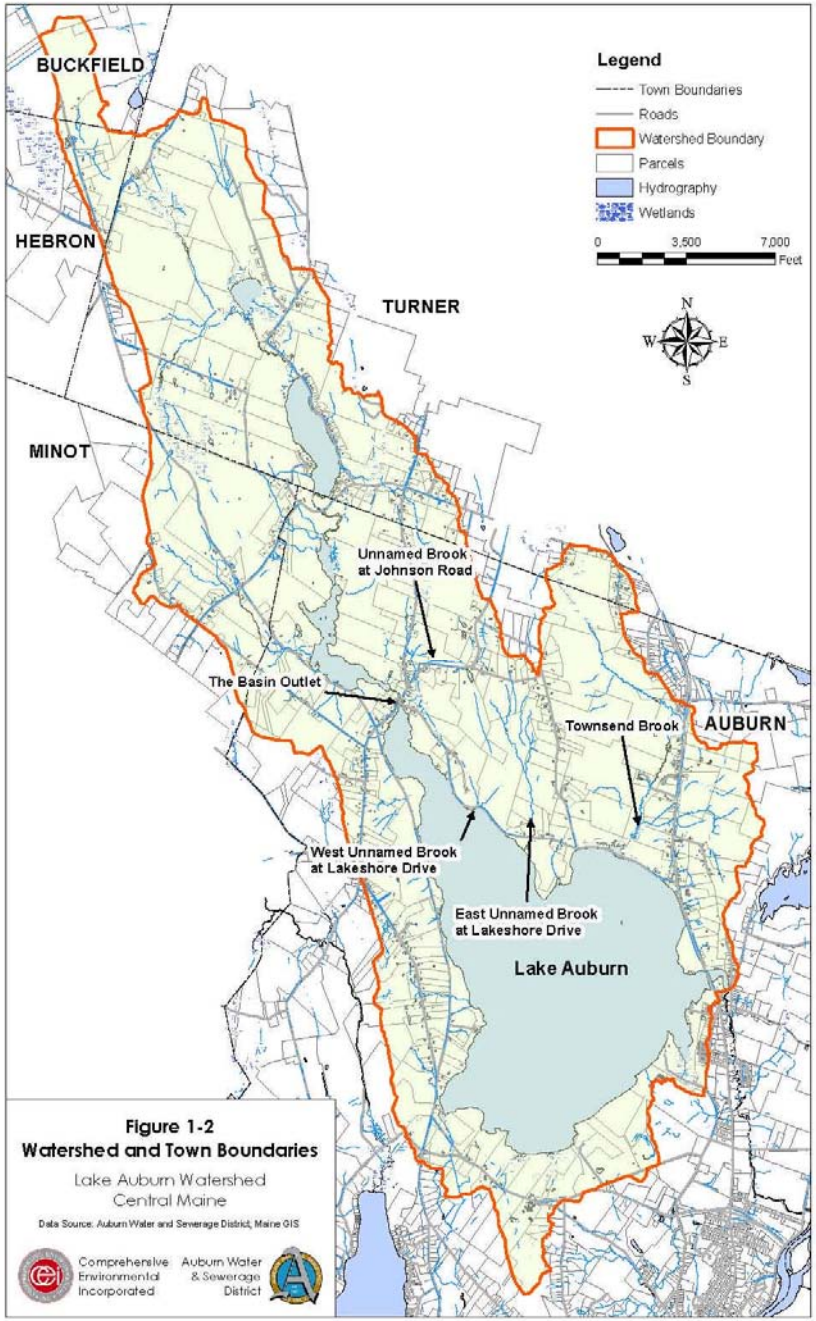


Figure 1-2
Watershed and Town Boundaries

Lake Auburn Watershed
Central Maine

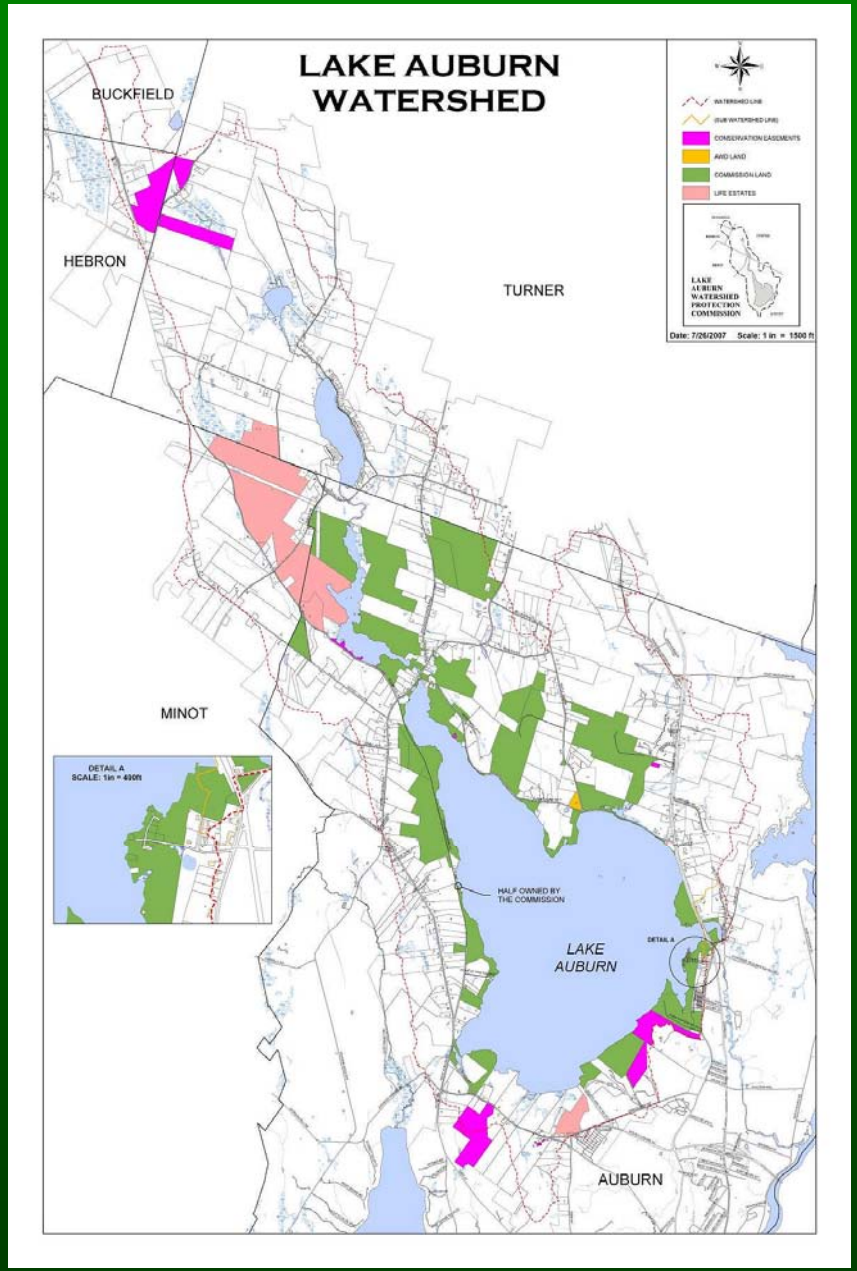
Data Source: Auburn Water and Sewerage District; Maine GIS

Comprehensive Environmental Incorporated

Auburn Water & Sewerage District

Lake Auburn Watershed Description

- 15.3 square mile watershed in 5 communities
- 3.6 sq. mi. lake surface area, all in Auburn
- Maximum Lake Depth = 120’
  Mean Depth = 40’
- Safe Yield estimate at 17 MGD
- Average Daily Use is 8 MGD
- Lake Retention Time = 3.8 years



History of Lake Auburn as Public Water Supply

- Only public water supply for the cities of Lewiston and Auburn.
  - Two separate PWS's – Auburn Water District and the Lewiston Water Division.
- Current population served – 50,000 +/- for both cities (80,000 +/- total population)
- Auburn began withdrawing drinking water in 1875
- Lewiston began withdrawing drinking water in 1899
- "No Bathing" ordinance adopted from the P & S Laws of 1880

System Partnering Opportunities

- SWTR prompted action
- 1993 - Lake Auburn Watershed Protection Commission (LAWPC) was formed
  - Systems successfully obtained a “Waiver from Filtration”
  - Combined Lewiston + Auburn resources
  - Brought all Land Ownership to one entity
  - Spurred additional system partnerships

Background of LAWPC

- Mutual agreement with Auburn Water District (AWD) and City of Lewiston Water Division (LWD)
- 9 member board
- Municipal delegates from each town in watershed
- AWD & LWD provide professional staff to the board
- Ownership/control ~1,858 acres in the 9,792 acre watershed

LAWPC Structure

- 9 Member Board
  - 3 Appointed by Trustees of Auburn Water District
  - 3 Appointed by Lewiston City Council
  - 1 Appointed by Town of Turner
  - 1 Appointed by Androscoggin Valley Council of Governments
  - 1 Appointed jointly by Towns of Minot, Hebron & Buckfield

LAWPC Mission

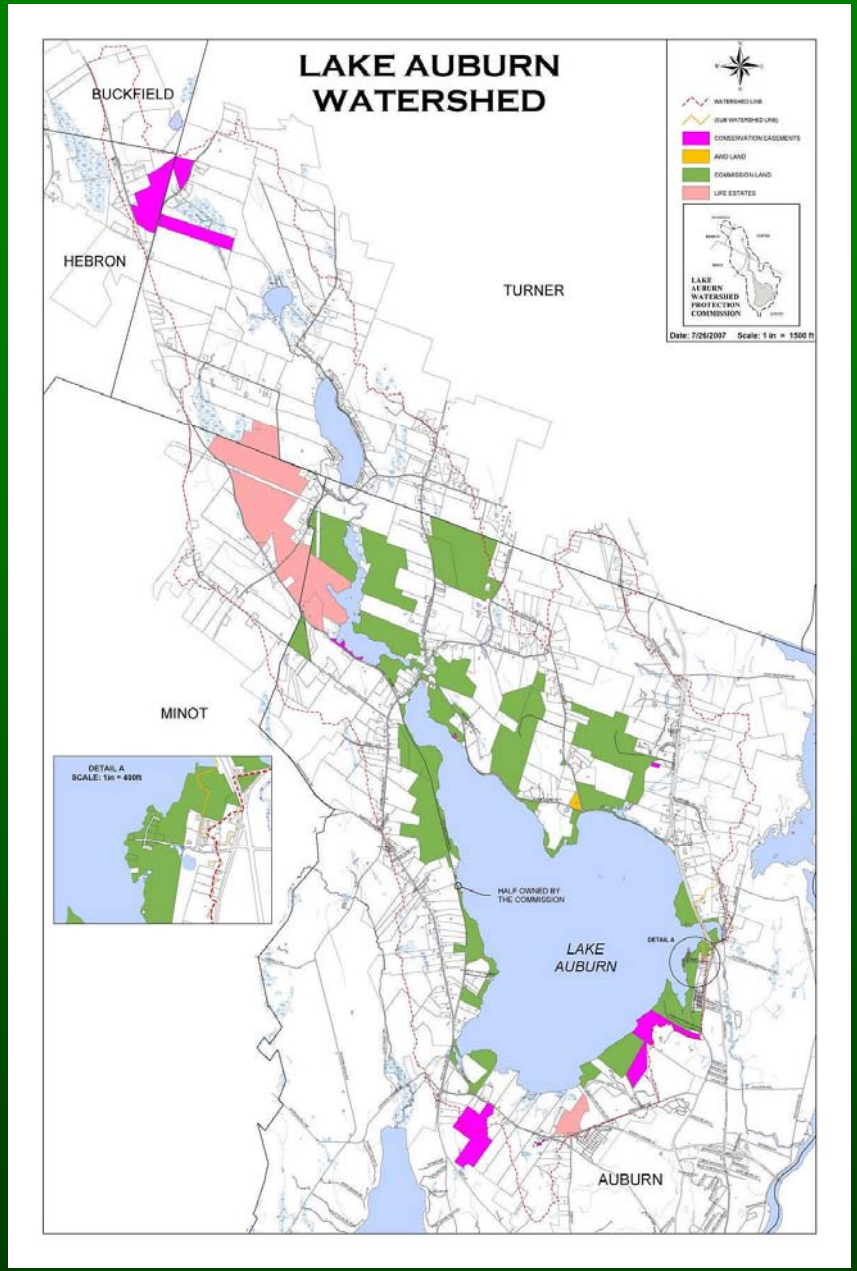
a. To maintain safe and healthful environmental conditions within the Lake Auburn Watershed
b. To prevent and control water pollution
c. To protect and maintain the present quality and volume of potable water supplied from the Lake Auburn Watershed
d. To review current and allowable land uses in the entire Watershed area and any existing regulations, ordinances, or policies with respect thereto
e. To review proposed rules, ordinances, regulations, and policies to be developed in the future
f. To adopt and implement Watershed protection, management, and restoration projects, plans, and programs
g. To act on behalf of the Auburn Water District and Lewiston Water Division in implementing ordinances, rules, regulations, programs and policies
h. To take and hold title to land within the Watershed solely for Watershed protection purposes
i. To receive and administer funds from many sources to carry out its purposes
j. To take, prosecute, and resolve legal actions to enforce the provisions of laws and regulations relating to watershed and drinking water protection

LAWPC Mission

…simply put, it is the responsibility of the LAWPC to protect the water quality of Lake Auburn

Lake Auburn Watershed Land Ownership

- 1,858 acres Ownership (green) or with Life Estates (pink)
- 184 acres in Conservation Easement (purple)
- Shoreline Lake Frontage = 80%
- 10 Private Properties with lake frontage remain



Changes in Commission Land Holdings since 1993

	1993 acres	2010 acres	% Change
Ownerships	746	1,858	149%
Easements	0	184	
Total	**746**	**2,042**	**174%**

History of Forest Management

- 1930's AWD began forest management
  - Goal was to forest open lands
- Early 1960's AWD enlisted Maine Forest Service
- Early 1980's AWD contracted with licensed forester for forest management
- 1988 created Forest Management Plan according to State of Maine guidelines
- 2002 updated Forest Management Plan

Logging

<3 acres

No harvest plan required

>10,000 sq ft

Phosphorus control plan required

<10,000 sq ft

If a part of construction, must be included in Phosphorus Control Plan. Code Enforcement must OK

>3 acres

Harvest plan required

Plan must be prepared by a licensed forester (not a logger)

Submit plan to city, state, & AWD for approval

Methods for Enforcement

- Local Ordinances
- LAWPC By-Laws
- Private and Special Laws
- State/Federal Laws

Management Objectives

- Watershed protection
  - Maintain or improve water quality
- Wildlife habitat preservation
- Promote passive recreation
- Income

LAWPC's Woodlot Management Plan

- Prepared by Jones Associates Inc. June 2002
- Contract with Southern Maine Forestry to Implement Forest Management

Components of the Plan

- Site description
  - Compartment id's
  - Geographic position
  - Acreage
  - Topographic features
- Stand description
  - Soil type
  - Species composition
  - Tree height
  - Site utilization
- Prescription
  - Recommended activity for each compartment

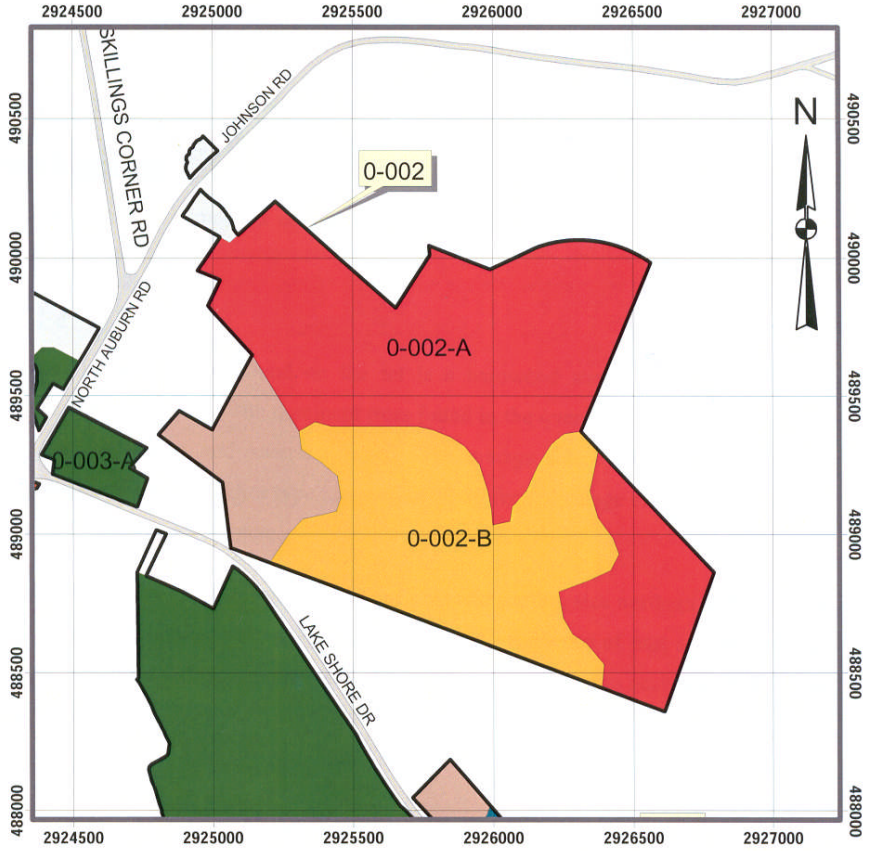
Implementation

- Committing to the plan
- Prioritizing prescriptions
- Revenues vs. expenditures
- Work with licensed forester
- Track progress
- Revisit plan

Future Vision

- Sustainable forest
- Meeting management objectives
  - Watershed protection
  - Wildlife habitat preservation
  - Promote passive recreation
  - Income

LAWPC Properties
Compartment 0-002
48 Acres



Compartment
Lake Auburn Watershed Boundary

Forest Stand Types
- H2A
- H3A
- H3B
- M2A
- M2B
- M3A
- M3B
- S2A
- S2B
- S3A
- S3A
- S3B
- SCRUB SHRUB
- NT

1:6000

FOREST TYPES

SPECIES COMPOSITION
M 50-75% Softwood/Hardwood Stems
S 75% + Softwood Stems
H 75% + Hardwood Stems
NT No trees

TOTAL TREE HEIGHT
0 - 20 feet
2 21 - 60 feet
3 61 + feet

SITE UTILIZATION
A Full
B Medium
C Sparse

Site Description

This compartment is accessed off the north side of Lake Shore Drive.

Stand Description

The parcel is composed of hardwood and mixed wood stand type as well as a scrub/shrub wetland.

0-002-A

The first cover type found on the lot is a hardwood stand. This stand type is approximately 27 acres. The dominant trees found in the overstory are northern red oak, white ash, red maple, and American beech. The average dbh for this stand is 9 inches. Tree heights within this cover type range from 70-80 feet. Average basal area within this stand is 79 square feet per acre.

The understory and midstory consists of pole and sapling size northern red oak, gray birch, American beech, red maple, and sugar maple. Evidence of past selective timber harvest was found throughout the stand. This harvest is believed to occurred 15-20 years ago.

Stand 0-002-A

Net Pulp Cord Volume Per Acre

SPECIES >	ALL SP	RO	WA	RM	AB	SM	Asp	BF	WP	GB
SAPS	0	0	0	0	0	0	0	0	0	0
POLES	5	2.8	0	0.9	0.4	0	0.3	0.2	0	0.3
SM SAW	2.2	1.5	0.5	0	0.2	0.1	0	0	0	0
MED SAW	0.2	0.1	0	0	0	0	0	0	0.1	0
LG SAW	0	0	0	0	0	0	0	0	0	0
TOTAL	7	4	0	1	1	0	0	0	0	0
SPECIES%	100	59	6	12	9	2	5	3	1	4

Net Board Volume per Acre

SPECIES >	ALL SP	RO	WA	RM	AB	SM	Asp	BF	WP	GB
SAPS	0	0	0	0	0	0	0	0	0	0
POLES	493	338	0	0	155	0	0	0	0	0
SM SAW	3325	2240	757	0	240	88	0	0	0	0
MED SAW	362	197	0	0	0	0	0	0	165	0
LG SAW	0	0	0	0	0	0	0	0	0	0
TOTAL	4180	2775	757	0	395	88	0	0	165	0
SPECIES%	100	66	18	0	9	2	0	0	4	0

0-002-B

This stand type is approximately 15 acres. The stand consists of white pine, hemlock, balsam fir, northern red oak, red maple, yellow birch, and sugar maple. The average dbh for this stand is 12 inches. Tree heights within this stand range from 65-75 feet. Average basal area is within 83 square feet per acre.

The understory and midstory consists of thick balsam fir, white pine and hemlock regeneration. Northern red oak, red maple and yellow birch were also found in the understory. Evidence of past selective timber harvest was found throughout the stand. This harvest is believed to have occurred 15-20 years ago.

Stand 0-002-B

Net Pulp Cord Volume Per Acre

SPECIES >	ALL SP	RO	WP	WA	RM	Hem	AB	BF	YB
SAPS	0	0	0	0	0	0	0	0	0
POLES	3.6	1.4	1.1	0.7	0	0	0.4	0	0
SM SAW	3.5	1.8	0	0.4	0.4	0.4	0	0	0.5
MED SAW	1.3	0.5	0.7	0	0	0	0	0	0
LG SAW	0	0	0	0	0	0	0	0	0
TOTAL	8	4	2	1	0	0	0	0	1
SPECIES%	100	44	22	13	5	4	4	0	7

Net Board Foot Volume per Acre

SPECIES >	ALL SP	RO	WP	WA	RM	Hem	AB	BF	YB
SAPS	0	0	0	0	0	0	0	0	0
POLES	241	0	241	0	0	0	0	0	0
SM SAW	4943	3663	0	263	263	482	0	0	271
MED SAW	2280	290	1989	0	0	0	0	0	0
LG SAW	0	0	0	0	0	0	0	0	0
TOTAL	7464	3953.	2231	263	263	482	0	0	271
SPECIES%	100	53	30	4	4	6	0	0	4

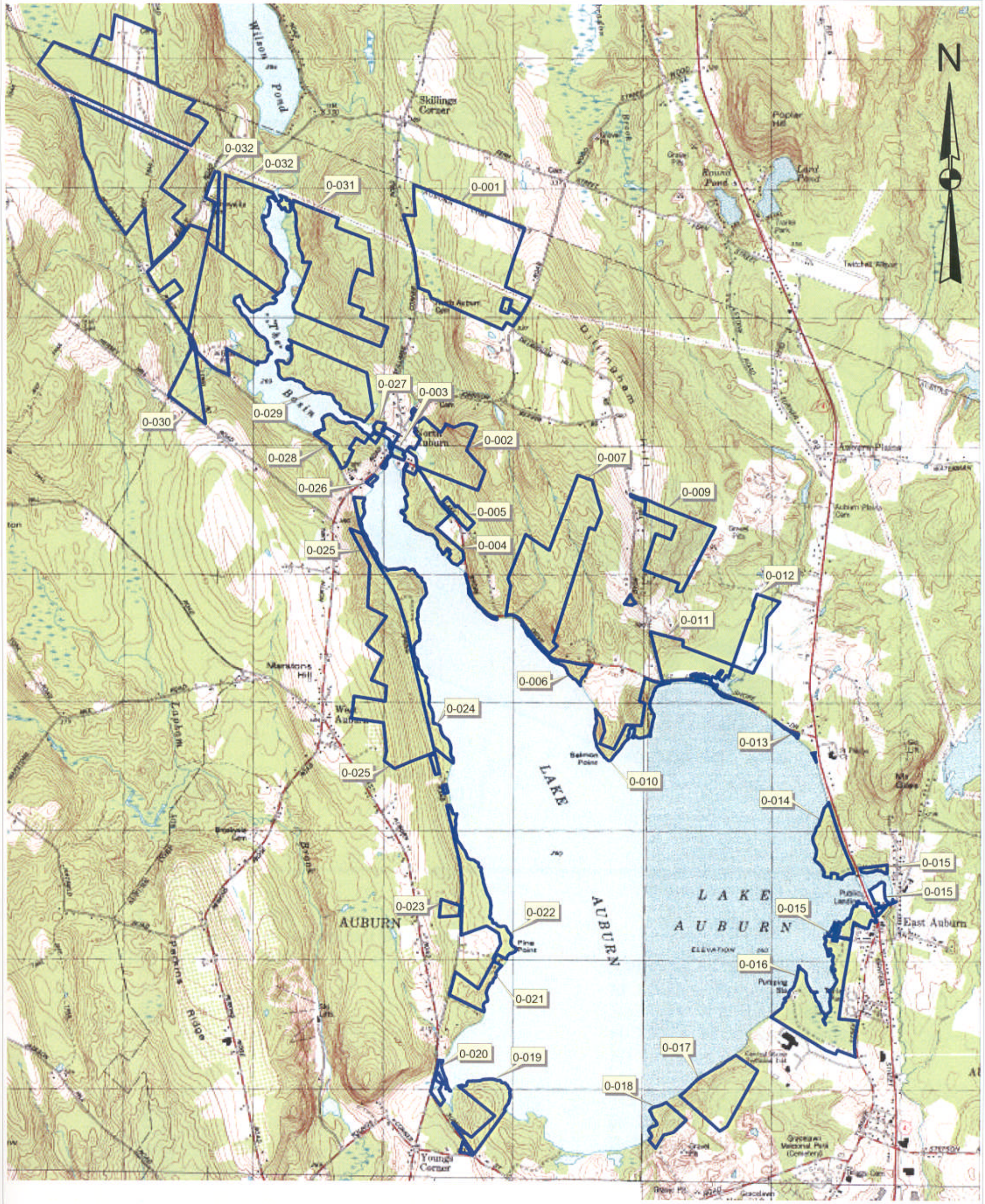
Management Recommendations

0-002-A

It is recommended that the stand be harvested and pre-commercially thinned. Removal of 10-20 square feet of basal area is recommended. Large residual white pine trees are found scattered throughout this hardwood stand and it is recommended that these trees be removed. These trees were left after the last harvest to promote softwood regeneration but were unsuccessful, and have reached biological maturity. It is also advised to remove the poor quality red oak, the mature American beech, and the few mature balsam fir found within the stand. Management prescriptions of this stand should favor the high quality northern red oak that is growing within this cover type. Thinning of the understory should occur during the next harvest. This thinning should favor red oak, white ash, and sugar maple saplings. The regeneration should be spaced to promote high quality timber. All the American beech, aspen and gray birch should be removed from the understory. The boundary trees should be painted and blazed.

0-002-B

It is recommended that 20-30 square feet of basal area be removed through a selective harvest within the stand. The large biological mature balsam fir, hemlock, and white pine should be removed. Removal of some of the large residual trees should promote the thick regeneration to grow. Opening the canopy should also favor growth in the white pine regeneration. Thinning of the hardwoods within the overstory as well as the midstory and understory is also recommended to convert the stand to a pure softwood stand. Boundary lines should be painted and blazed.



LAWPC Properties
Within Lake Auburn Watershed
Auburn,Maine

Compartments

1:40000

Water Quality Protection

- According to the American Forest Foundation “two-thirds of the drinking water in the United States is filtered through America’s forests. Forests also help prevent soil erosion and mitigate flooding. Streamside plantings, increasing buffer zones and other management activities, all help improve fish habitat, safeguard our water supply, and protect our communities.”


QUESTIONS???
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