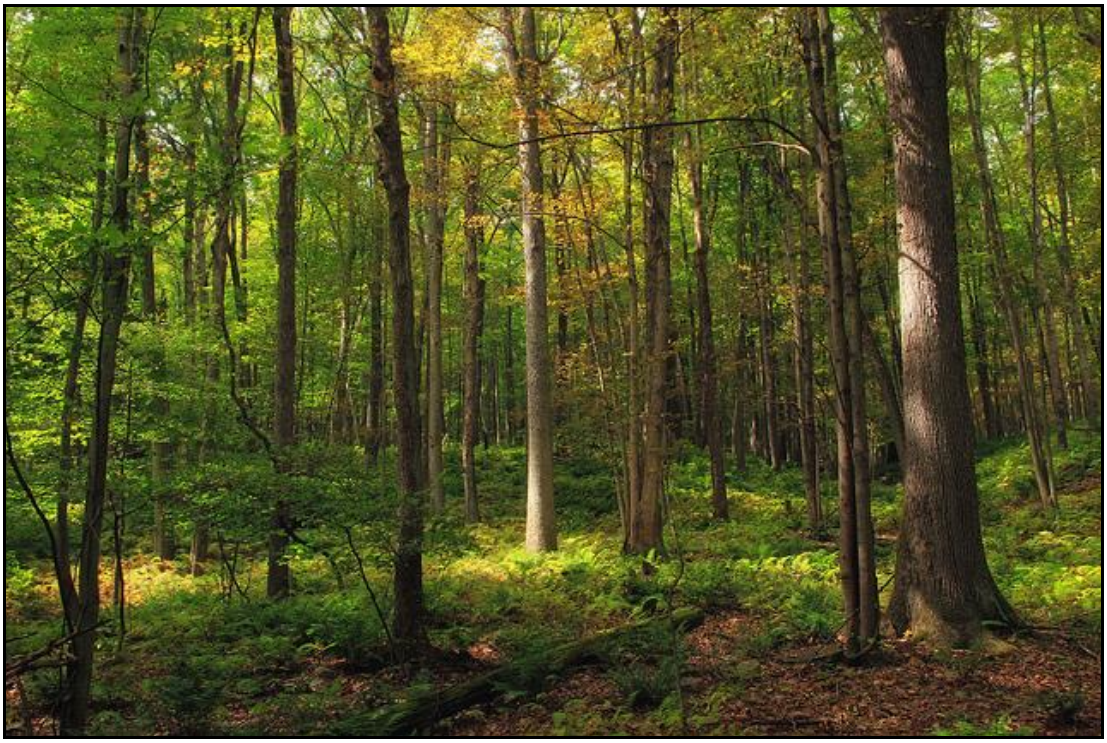
Lock Haven City Authority



Forest Management Plan
Executive Summary

(A Supplement to LHCA's FSC-Certified Forest Management Plan of 2013)

Summarized by:

Mike Wolf
Appalachian Forest Consultants
(814) 659-1280 cell
www.appalachianforestconsultants.com

September 30, 2014

Purpose of Summary:

The purpose of this summary – a supplement to a previously written FSC certified forest management plan (TNC Group Certificate; Working Woodlands Group Member, FSC Certificate Number: SW-FM/CoC-000238) – is to provide the Lock Haven City Authority and its constituents a guide to the forest management strategies within the FSC-certified forest management plan. This summary does not replace the certified version of the forest management plan; it was designed to be utilized as a quick and easy way of understanding and tracking all of LHCA's forest management activities. For a complete and detailed understanding, please refer to the FSC-certified plan.

LHCA's Forest Management Goals:

The following are overarching goals that will drive the management activities on the LHCA properties:

1) Preserve the high drinking water quality and quantity of the sources by maintaining or improving the capacity of the watershed to produce these values and maintaining or improving watershed security to insure the safety of the supply.

2) Improve the capacity of the watershed and its properties to produce financial return that will better enable LHCA to protect and enhance the long term value of the asset. This includes sustainable timbering, potential renewable energy and monetizing ecosystem services (carbon, NRCS cost share, easements, leases etc.).

3) Promote ecosystem health, resilience, diversity, and sustainable management of all resources through conformance with FSC US National Standards and other "best management practices" and compliance with all federal, state, and municipal legal requirements (See Appendix… for relevant legal requirements).

4) Within constraints of other objectives, manage opportunities to allow the public access for compatible recreational use on LHCA lands.

Current Forest Condition:

Most of the LHCA property is wooded and consists of medium to large sawlog size oak stands. Chestnut oak is dominant, but there are also an abundance of red oak, white oak, hickory, red maple, black birch, white pine, hemlock and others. The quality of the timber on LHCA property ranges from average to below average. Overall, the health of the forest's overstory is good, however the property contains some hemlock dominated valleys that have been attacked by the hemlock woolly adelgid. The hemlocks are dying. There is a healthy diversity of species of trees in the overstory. The mid-story and understory levels of the LHCA forest are where most of the problems are found. Due to the historical overabundance of deer and the resulting competing plant explosion, preferred native seedlings and saplings are absent and species diversity is poor. Prior harvesting methods may also have helped exacerbate the problem by selecting certain species for harvesting over others and by creating openings in the canopy without regard for concerns on the forest floor. Overall, the health of the forest's midstory and understory is poor. Instead of an abundance of native seedlings present, there is an abundance of competing plants present.

Desired Future Condition

LHCA's primary objective is to protect the quality of water that their forested watershed provides. Therefore, our forest management goals are to improve forest health and viability. A healthy forest system will be the best protection for LHCA's water quality and will also benefit the LHCA in many other ways. The following defines forest health and lists specific desired forest conditions related to forest health:

- Forest Health – Improving forest health is a paramount objective of LHCA and is a primary focus of this forest management plan. Forest health is a topic of great discussion in the environmental arena. Depending on both perspective and objectives, definitions of forest health will differ among professionals. A simple, working definition could be that *a healthy forest has the capacity to both renew itself and sustain itself*. Digging deeper, we can say that *a healthy forest is viable and productive, and is able to withstand and overcome outside negative forces*. For the sake of this management plan, improving forest health will be determined by improvements in the following areas:
    - Diversity of Plants and Habitats – Diversity has been a key indicator of forest health and wellness for a long time. Forests with diverse plant and animal species are better suited to withstand the inevitable invasion from disease, insect, or exotic species. Diverse forests are also much more interesting to explore. We will improve plant diversity at LHCA by creating opportunities for desirable, native

plants to flourish. Because plant species vary greatly in their site needs, we will create diverse micro-sites within the forest so that an abundant variety of plants will thrive across the entire property. Additionally, diverse micro-sites will allow us to diversify the habitat of the property. This will increase the amounts and types of forest habitat and wildlife at LHCA.

- Advanced Regeneration – *Regeneration* is simply defined as seedlings and small saplings that are capable of replacing the current forest. *Advanced Regeneration* is simply regeneration that is available in advance of a timber harvest that is designed to begin a process of overstory replacement. Advanced regeneration is now known to be a major contributor to a sustainable timber harvest. Any harvest that is designed to replace the existing overstory must consider the establishment of advanced regeneration.

- Deer in Balance with the Habitat – It's been found that an average deer needs to eat over 5 lbs of woody browse (buds of trees and shrubs) per day. This amount of woody browse would fill your outdoor garbage can. Day after day, each deer that calls LHCA home, needs to eat enough woody browse to fill an outdoor garbage can. Compounding the issue is the fact that deer eat certain plants and do not eat other plants. Based primarily on taste, deer are selective feeders. For decades on these tracts, deer have eaten the woody browse of their choice. Long ago, they started eating the plants that tasted best to them. After eliminating those plants, the deer moved on to less palatable plants. Presently, there is ample evidence of deer browsing on each LHCA tract. Essentially, deer have totally altered LHCA's future timber stand composition at this point. When a deer herd is in balance with its surrounding habitat, the forest is able to produce food for the deer and is able to produce advanced regeneration that is in place to replace its own overstory and become tomorrow's forest.

- Viability of Overstory and Understory – Trees and shrubs can either be healthy and vibrant, or they can be unhealthy and stagnant. More specifically, if a tree or shrub is not growing, it will soon die. Similarly, a forest that is growing well and has the ability to replace itself can withstand the inevitable obstacle, such as wind/ice damage or insect/disease outbreak. This is not much different from a healthy person being able to fight off infection easier than an unhealthy person. Additionally, a viable overstory and understory produce increased forest benefits. Forests clean our air by using carbon dioxide and providing oxygen; forests protect and filter our water supplies; forests provide a home for countless plants and animals; forests make up a vital part of the economy; forests are a major source of employment; and forests supply the key ingredients for more than 5,000

products. All of these benefits are increased with increasingly healthy forests. Some of LHCA's overstory can still be improved. By removing trees with less viability, we can give the most viable trees the room they need to grow and thrive. Crowns of preferred trees can be given room to expand and produce more seed and food for wildlife. Also, the understory can be improved greatly by the replacement of competing and invasive plants with native hardwood seedlings and saplings.

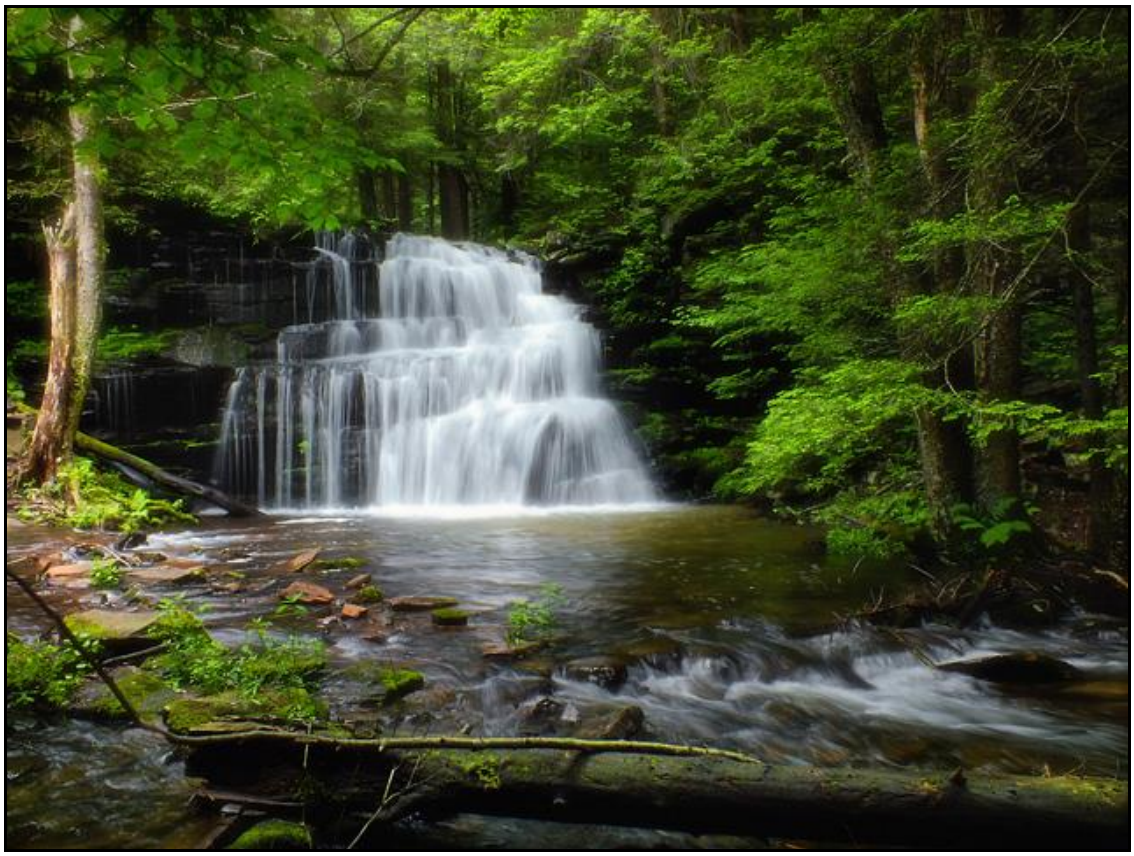
Additionally, surrounding the primary goals of protecting water quality and improving forest health, the following forest conditions are also desirable for LHCA properties:

- Species – The desired forest condition would be for all of the desirable and productive species that are currently growing at LHCA to continue to grow and even expand their numbers. Management strategies will be designed to increase species that are important for future timber production as well as species that are important to wildlife. Diversity is an important element for improving forest health. Management strategies will seek to maintain and/or improve the abundance of desirable and productive forest plant species.

- Quality –The management strategy will be to remove trees with decreased vigor and health and allow healthy productive trees to reside. In the long term, this strategy will not only increase the overall quality of the forest, but it will also increase the values associated with the forest and the land. Ideally, the future LHCA property will contain vigorous, productive, and desirable trees of high quality and varying age classes.

- Understory –Ideally, the understory would be made up of species that are on our desirable future forest list. In other words, oak, hickory, and maple would be prevalent and inter-mixed with and competitive with all the other native species that are currently present at LHCA.

- Competing and Invasive Plants – When competing plants and/or invasive plants take hold in a forest understory, they can control it and impede or even eliminate the growth of desirable native forest plants. Ideally, invasive plants would be eliminated from LHCA's forests and competing plants would be controlled enough to allow native plants to flourish. These are very lofty ideals. Unfortunately, it is nearly impossible to either completely eliminate or even completely control these plants that are well adapted to thriving in our forests. In addition, management costs associated with wide-scale competing and invasive control are high.



Interior Forest Waterfalls within Ohl Tract

Three Properties/Tracts Approach

A "cut to the chase" approach used in this summary is to look immediately at the LHCA forest tracts, which is 5,294.1 acres combined, as three separate properties as follows:

- Keller Tract 3,492.44 acres
- Ohl Tract 1,216.38 acres
- Castanea Tract 585.28 acres

Additionally, within each tract, management units have been designated. See figures 1-6.

Figure 1

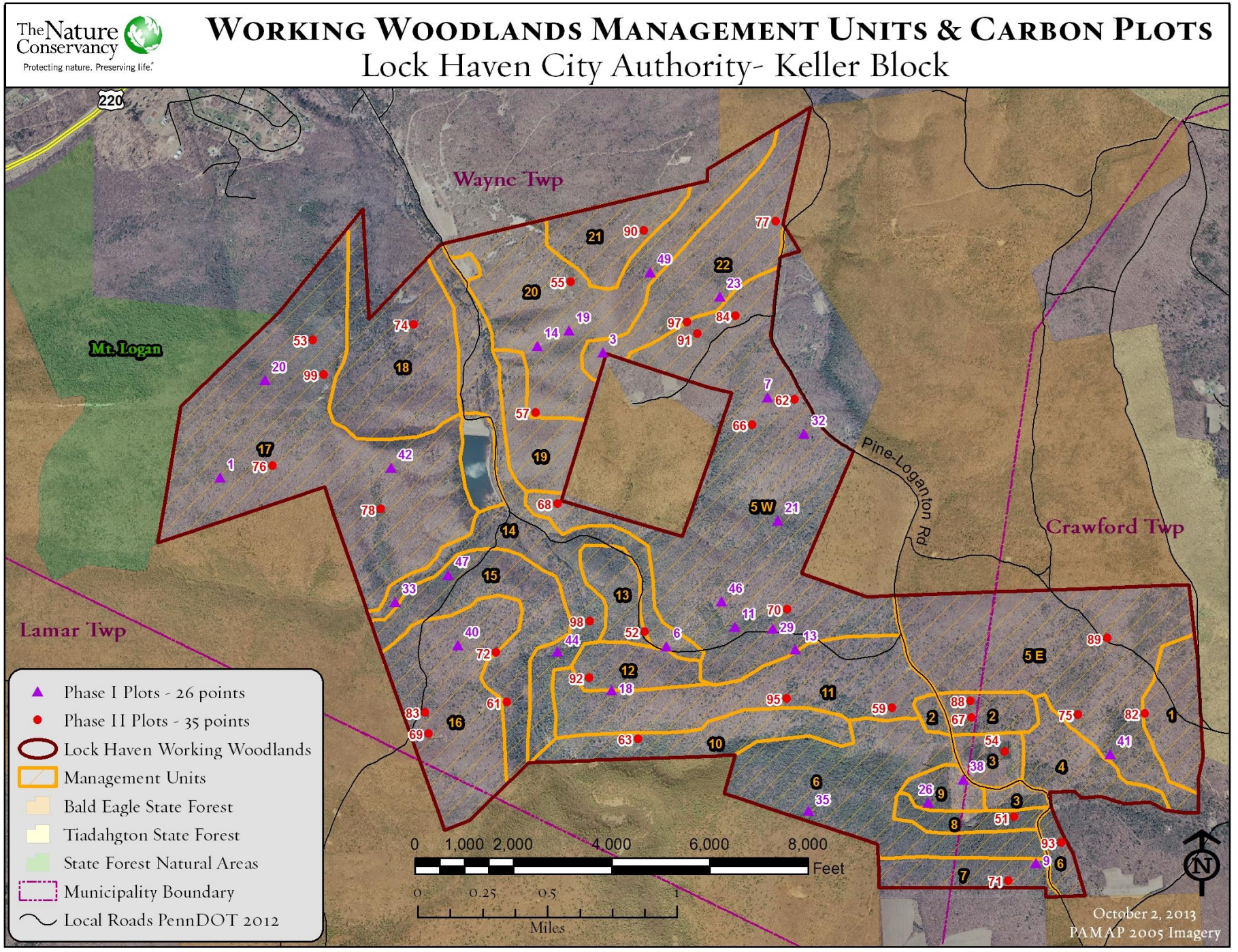

The Nature Conservancy
Protecting nature. Preserving life.
WORKING WOODLANDS MANAGEMENT UNITS & CARBON PLOTS
Lock Haven City Authority- Keller Block
220
Waync Twp
Mt. Logan
Lamar Twp
Crawford Twp
Pine-Loganton Rd
Phase I Plots - 26 points
Phase II Plots - 35 points
Lock Haven Working Woodlands
Management Units
Bald Eagle State Forest
Tiadahgton State Forest
State Forest Natural Areas
Municipality Boundary
Local Roads PennDOT 2012
0 1,000 2,000 4,000 6,000 8,000
Feet
0 0.25 0.5 1
Miles
N
October 2, 2013
PAMAP 2005 Imagery

Figure 2

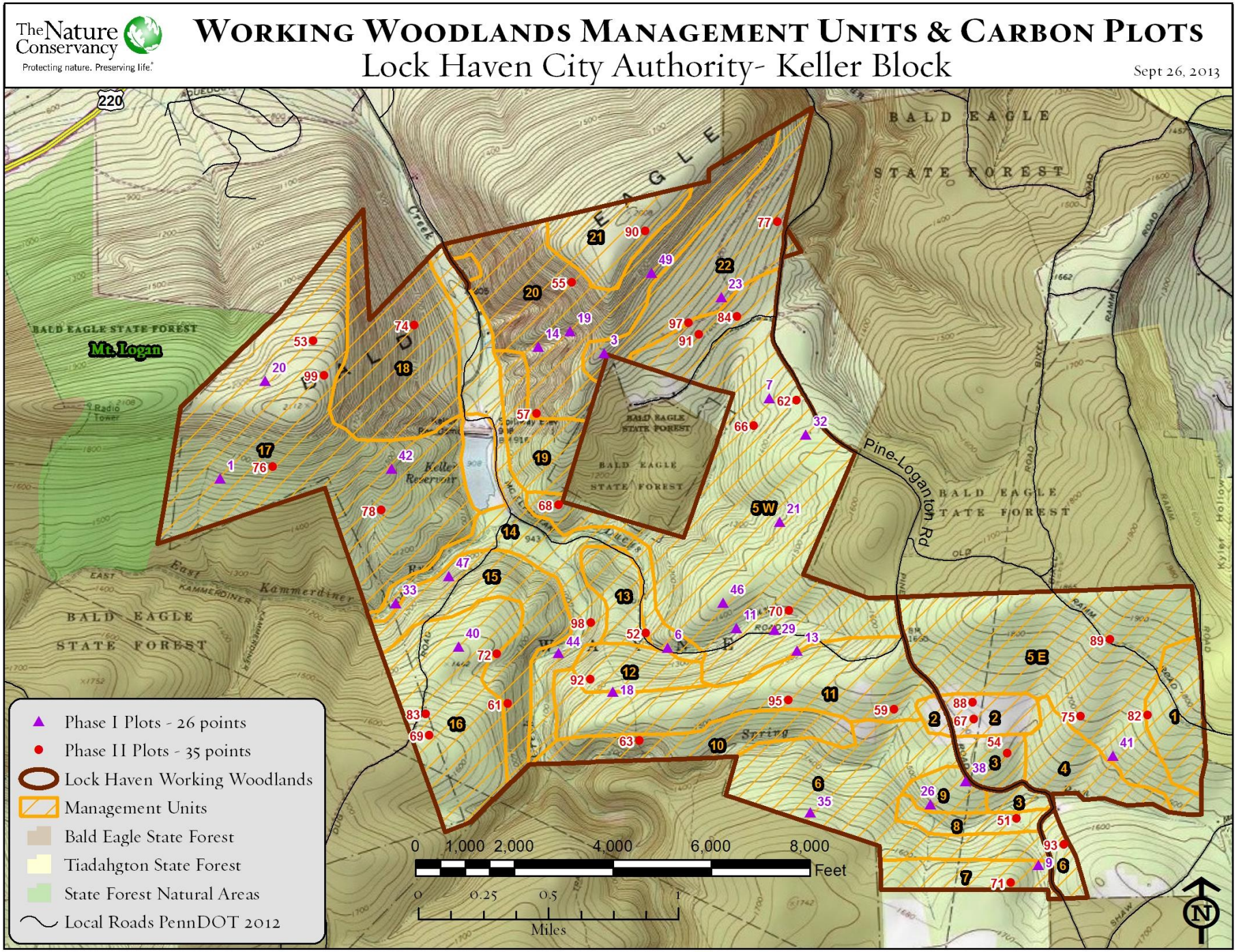

The Nature Conservancy
Protecting nature. Preserving life.
WORKING WOODLANDS MANAGEMENT UNITS & CARBON PLOTS
Lock Haven City Authority- Keller Block
Sept 26, 2013
Phase I Plots - 26 points
Phase II Plots - 35 points
Lock Haven Working Woodlands
Management Units
Bald Eagle State Forest
Tiadahgton State Forest
State Forest Natural Areas
Local Roads PennDOT 2012
0 1,000 2,000 4,000 6,000 8,000 Feet
0 0.25 0.5 1 Miles
BALD EAGLE STATE FOREST
Mt. Logan
Pine-Loganton Rd
Keller Reservoir
East Kammerdiner
Spring
N

Figure 3

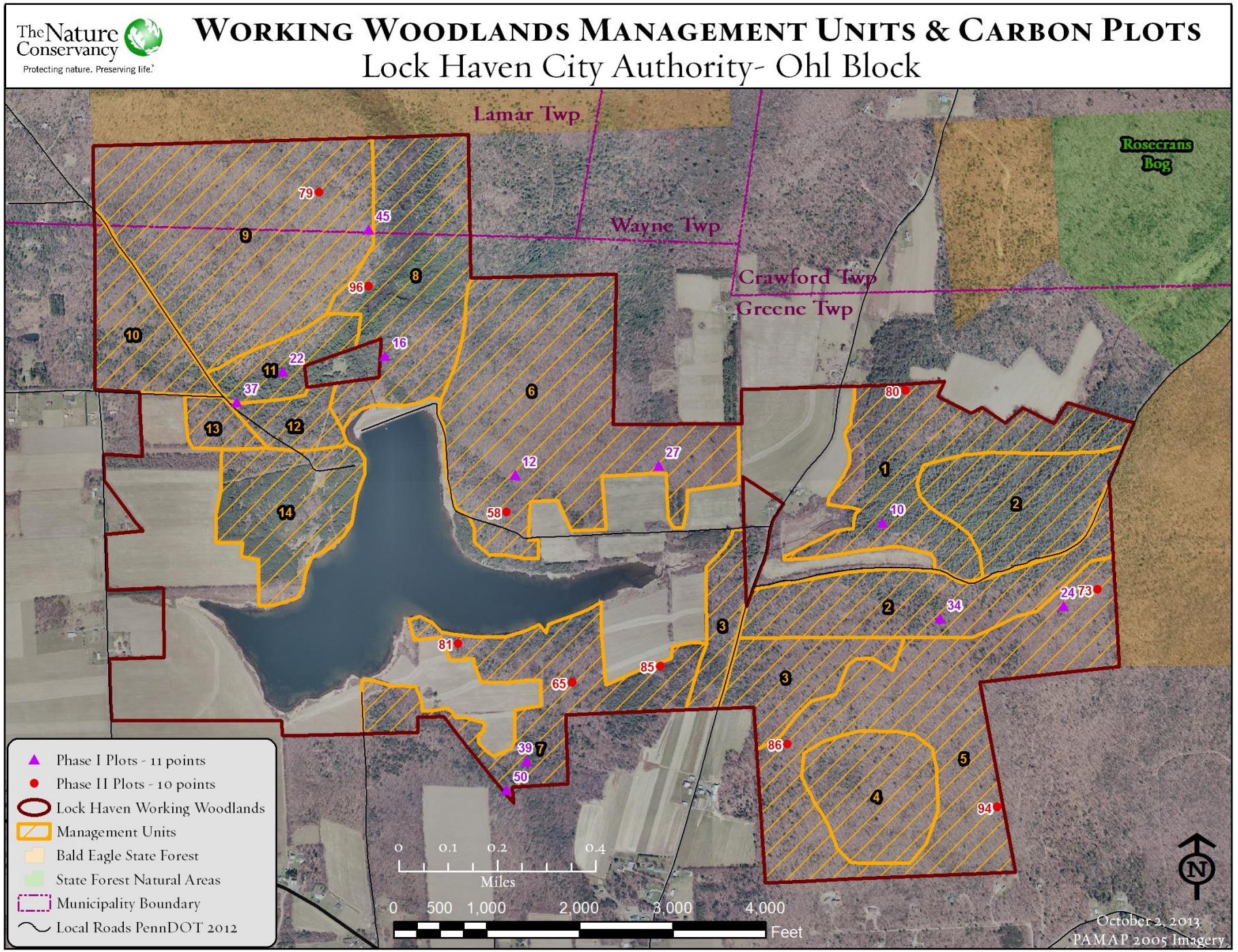

The Nature Conservancy
Protecting nature. Preserving life.
WORKING WOODLANDS MANAGEMENT UNITS & CARBON PLOTS
Lock Haven City Authority- Ohl Block
Lamar Twp
Wayne Twp
Crawford Twp
Greene Twp
Rosecrans Bog
Phase I Plots - 11 points
Phase II Plots - 10 points
Lock Haven Working Woodlands
Management Units
Bald Eagle State Forest
State Forest Natural Areas
Municipality Boundary
Local Roads PennDOT 2012
0 0.1 0.2 0.4
Miles
0 500 1,000 2,000 3,000 4,000
Feet
N
October 2, 2013
PAMAP 2005 Imagery

Figure 4

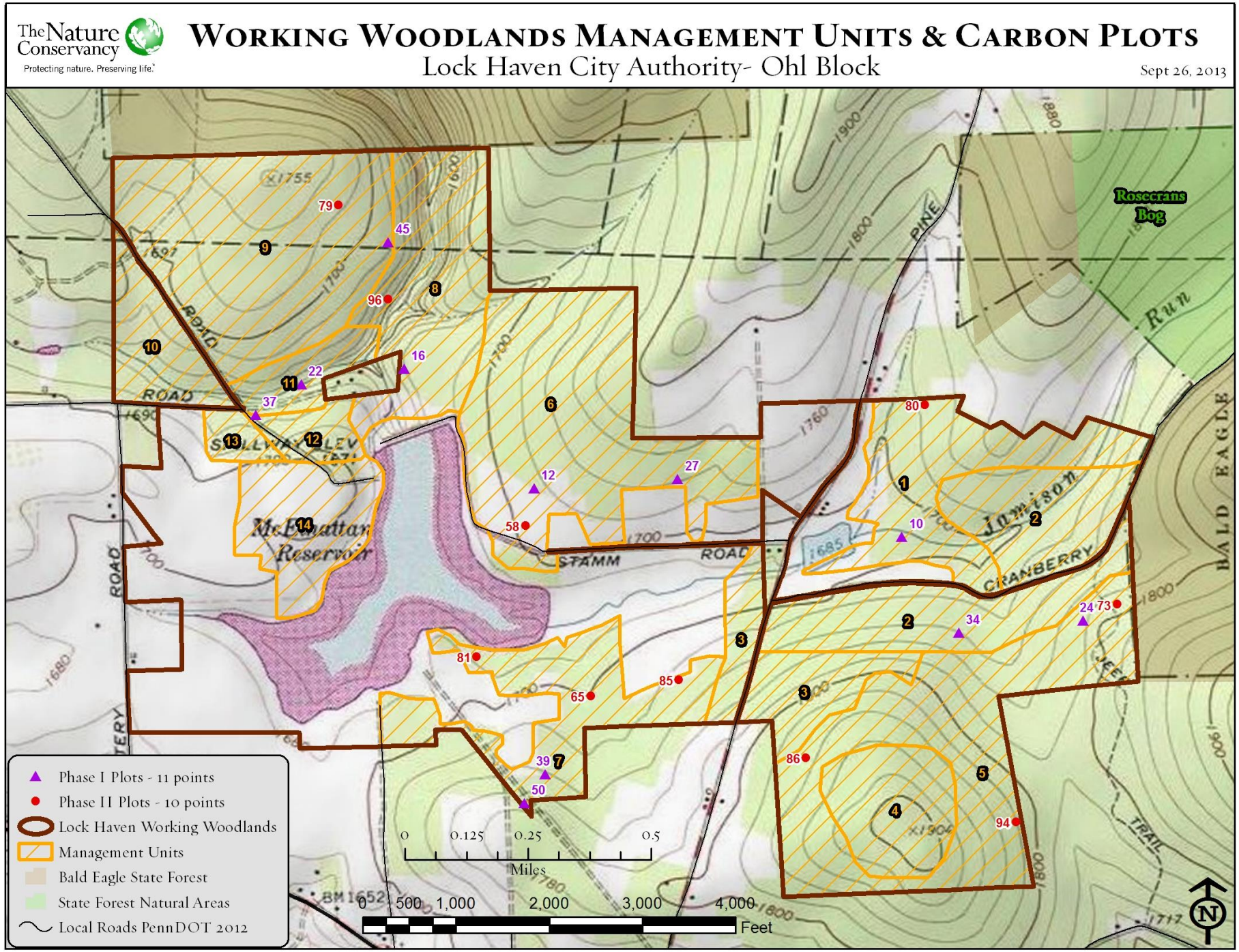

The Nature Conservancy
Protecting nature. Preserving life.
WORKING WOODLANDS MANAGEMENT UNITS & CARBON PLOTS
Lock Haven City Authority- Ohl Block
Sept 26, 2013
Rosecrans Bog
Run
PINE
BALD EAGLE
ROAD
STAMM
ROAD
CRANBERRY
McElhattan Reservoir
TRAIL
Phase I Plots - 11 points
Phase II Plots - 10 points
Lock Haven Working Woodlands
Management Units
Bald Eagle State Forest
State Forest Natural Areas
Local Roads PennDOT 2012
0 0.125 0.25 0.5
Miles
0 500 1,000 2,000 3,000 4,000
Feet
N

Figure 5

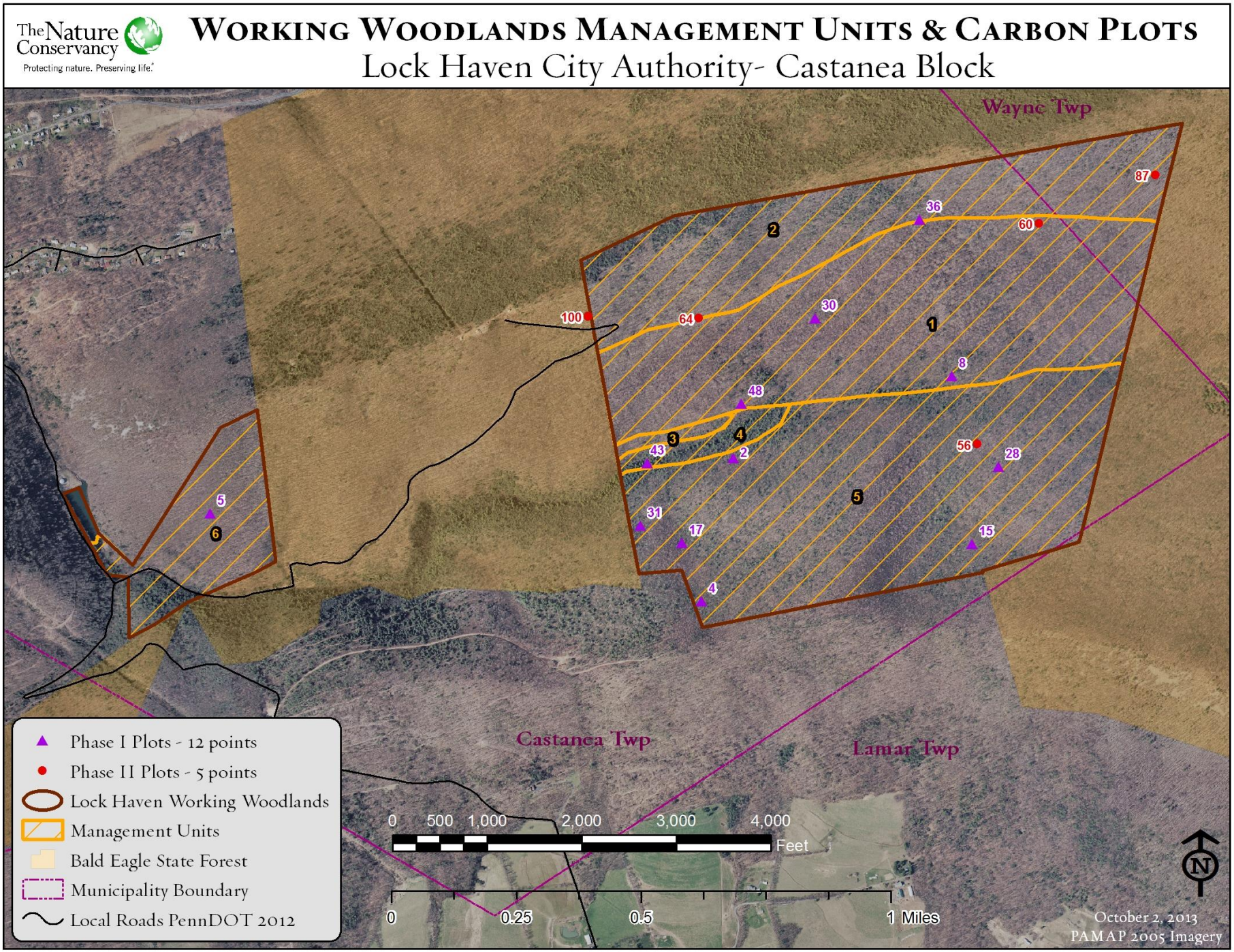
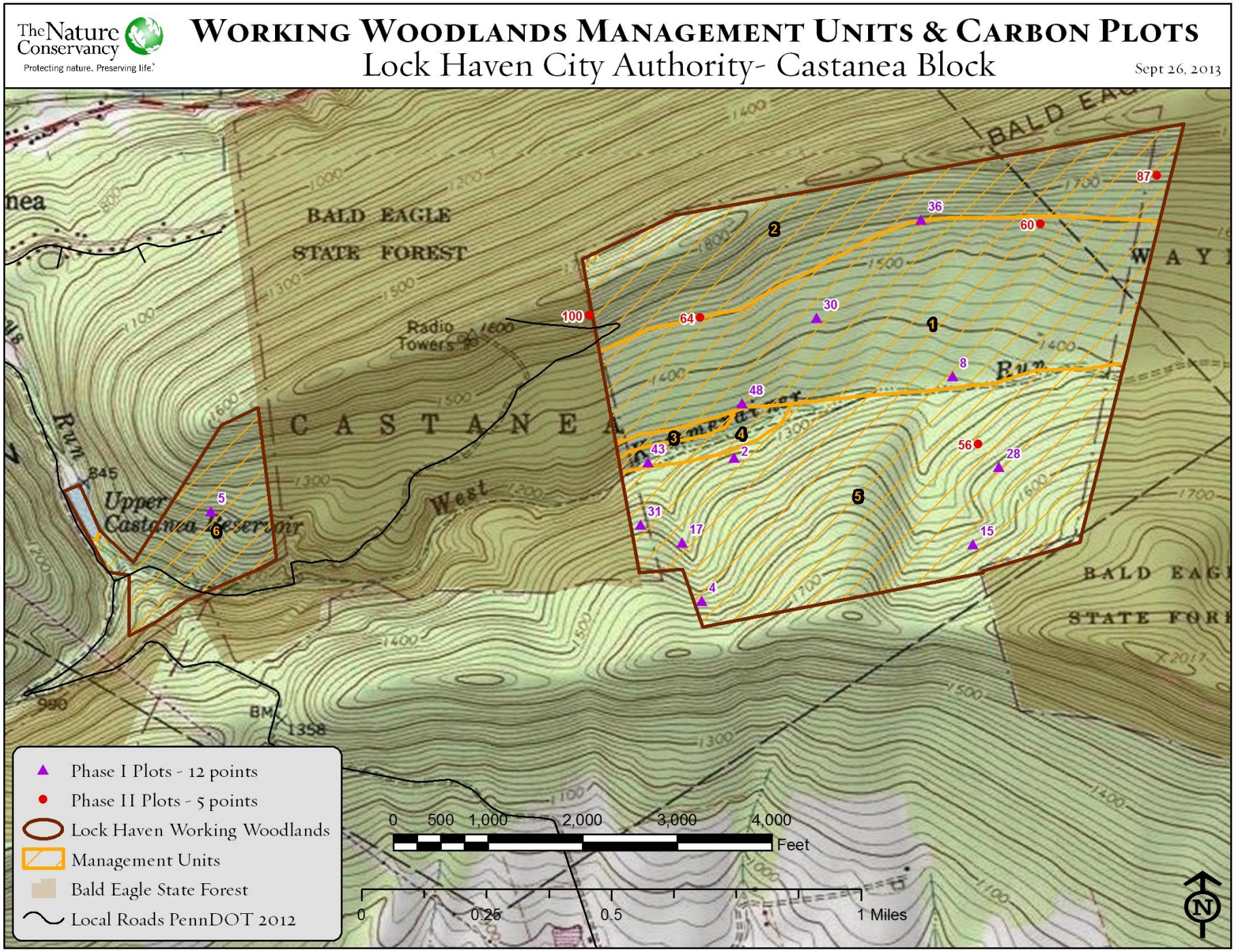

The Nature Conservancy
Protecting nature. Preserving life.
WORKING WOODLANDS MANAGEMENT UNITS & CARBON PLOTS
Lock Haven City Authority- Castanea Block
Wayne Twp
Castanea Twp
Lamar Twp
Phase I Plots - 12 points
Phase II Plots - 5 points
Lock Haven Working Woodlands
Management Units
Bald Eagle State Forest
Municipality Boundary
Local Roads PennDOT 2012
0 500 1,000 2,000 3,000 4,000
Feet
0 0.25 0.5 1 Miles
N
October 2, 2013
PAMAP 2005 Imagery

Figure 6


The Nature Conservancy
Protecting nature. Preserving life.
WORKING WOODLANDS MANAGEMENT UNITS & CARBON PLOTS
Lock Haven City Authority- Castanea Block
Sept 26, 2013
BALD EAGLE
STATE FOREST
CASTANEA
Radio Towers
Upper Castanea Reservoir
West Run
BM 1358
1 2 3 4 5 6
100 64 36 60 87 30 8 48 43 2 56 28 31 17 15 4 5
Phase I Plots - 12 points
Phase II Plots - 5 points
Lock Haven Working Woodlands
Management Units
Bald Eagle State Forest
Local Roads PennDOT 2012
0 500 1,000 2,000 3,000 4,000 Feet
0 0.25 0.5 1 Miles
N

Forest Management Approach

The three tracts were reviewed thoroughly and divided into Management Units. The Management Units were then overlayed by Management Zones. These "zones" would designate and identify special areas needing protection as well as areas where wise forest management would be feasible. The three "zones" designations are: Streamside Management Zone, High Conservation Value Zone, and Managed Forest Zone. There was some overlap among these three zones, so priority was first given to the streamside management zone, then to the high conservation value, and lastly to the managed forest. The purpose of this "zoning" was to ensure the protection of the forest's water resources and conservation values. See Figure 7 – the only areas that will be actively managed (herbicide use in understory, timber harvesting, etc) are brown and are in the Managed Forest Zone…the other areas are in either Streamside Management Zones (yellow on map), High Conservation Value Zones (green on map), or uncolored areas where access for management is an issue. These areas will not be actively managed and would likely only be entered for the purpose of mitigating insect or disease outbreaks, repairing erosion-prone roads/trails, or other purposes as deemed necessary for protecting water quality and forest health. See Table 1 and Figures 7, 8, and 9.

Table 1: Acreage breakdown for all three tracts related to "zones" discussed

Tract	**# Mgt Units**	**# Total Acres Mgt Units**	**# Total Acres Zones**	**# Acres SMZ**	**# Acres HCVZ**	**# Acres MFZ**
Keller	22	3492.44	2,410.86	612.42	418.72	1,379.71
Ohl	14	1216.38	718.48	193.33	43.16	481.99
Castanea	6	585.28	267.55	90.58	39.37	137.60
Total	42	5294.1	3396.89	896.33	501.25	1999.3

Figure 7

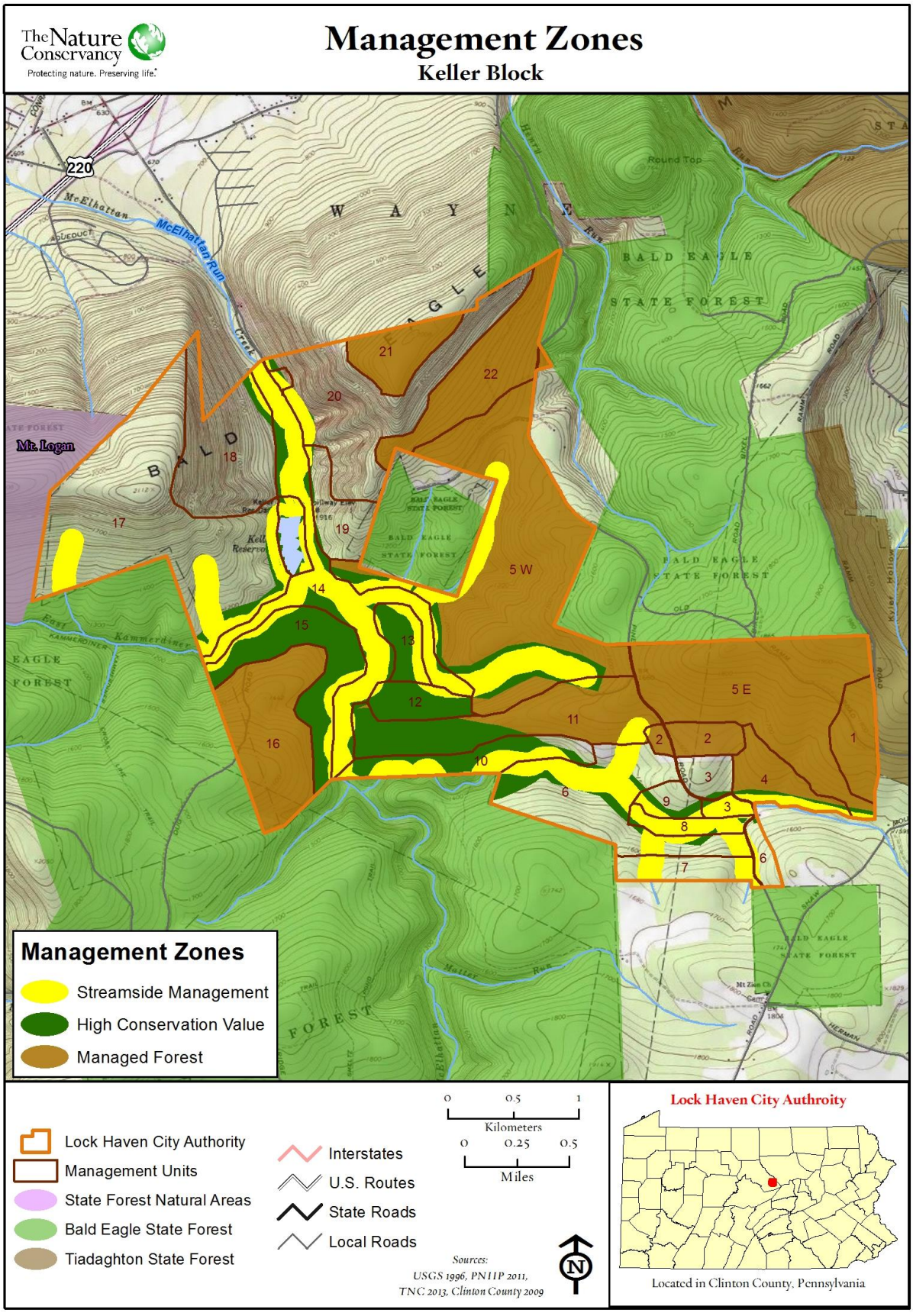

The Nature Conservancy
Protecting nature. Preserving life.
Management Zones
Keller Block
220
McElhattan
McElhattan Run
Mt. Logan
Round Top
BALD EAGLE STATE FOREST
WAYNE
EAGLE FOREST
Kammerdiner
Management Zones
Streamside Management
High Conservation Value
Managed Forest
Lock Haven City Authority
Management Units
State Forest Natural Areas
Bald Eagle State Forest
Tiadaghton State Forest
Interstates
U.S. Routes
State Roads
Local Roads
0 0.5 1
Kilometers
0 0.25 0.5
Miles
Sources:
USGS 1996, PNHP 2011,
TNC 2013, Clinton County 2009
N
Lock Haven City Authroity
Located in Clinton County, Pennsylvania

Figure 8

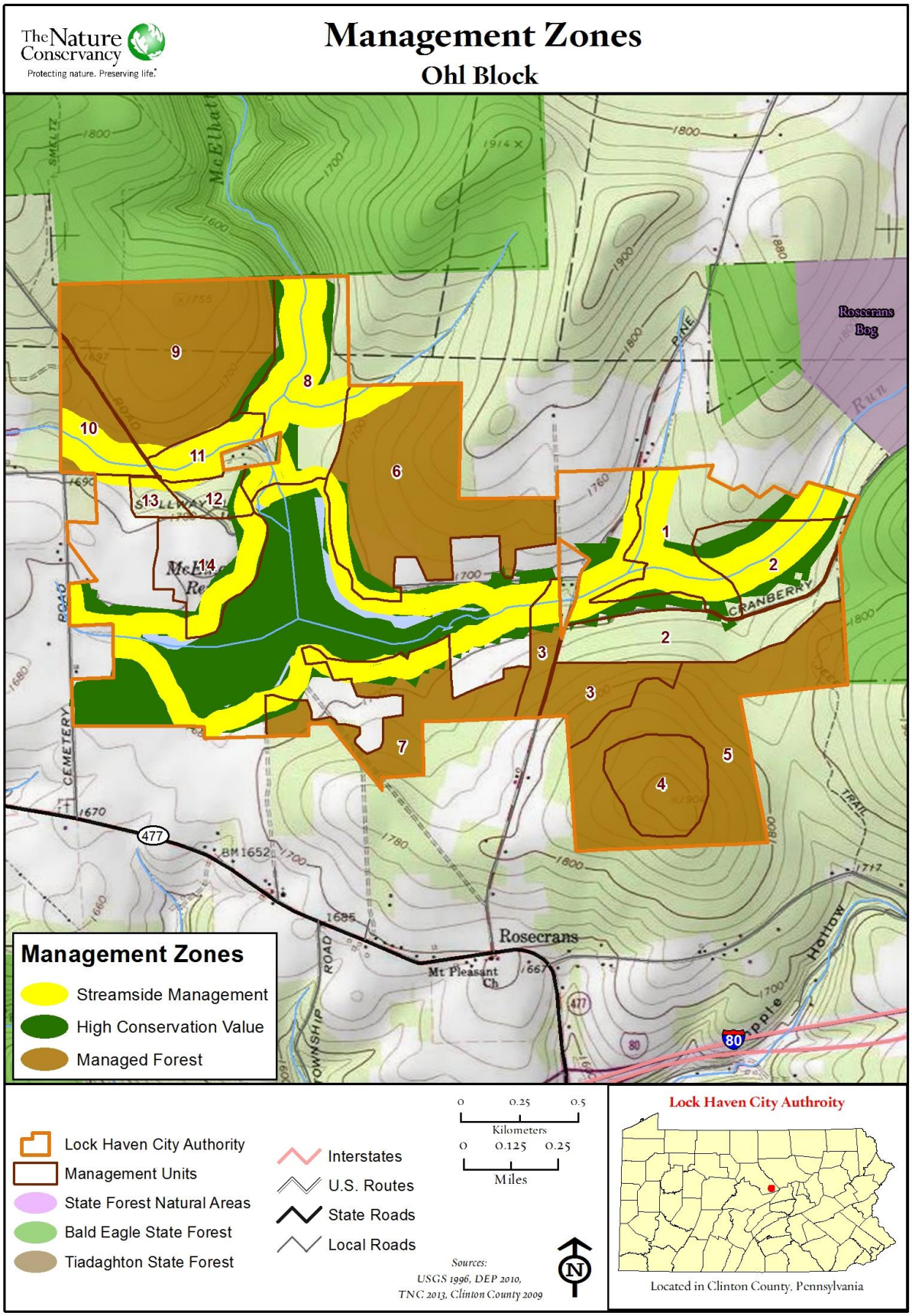
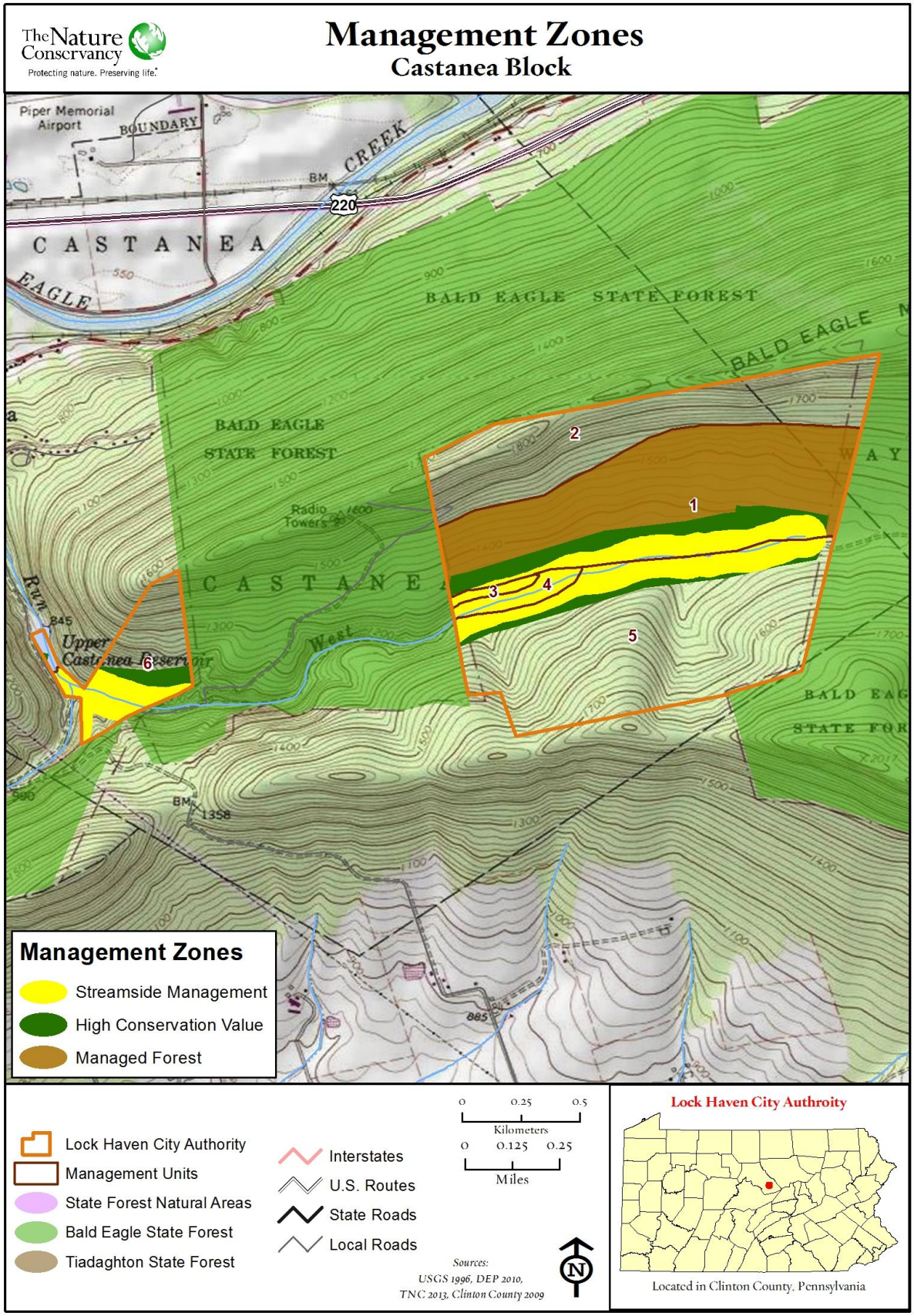

The Nature Conservancy
Protecting nature. Preserving life.
Management Zones
Ohl Block
Roscerans Bog
Rosecrans
Mt Pleasant Ch
Management Zones
Streamside Management
High Conservation Value
Managed Forest
Lock Haven City Authority
Management Units
State Forest Natural Areas
Bald Eagle State Forest
Tiadaghton State Forest
Interstates
U.S. Routes
State Roads
Local Roads
0 0.25 0.5
Kilometers
0 0.125 0.25
Miles
Sources:
USGS 1996, DEP 2010,
TNC 2013, Clinton County 2009
N
Lock Haven City Authroity
Located in Clinton County, Pennsylvania

Figure 9


The Nature Conservancy
Protecting nature. Preserving life.
Management Zones
Castanea Block
Piper Memorial Airport
BOUNDARY
CREEK
220
CASTANEA
EAGLE
BALD EAGLE STATE FOREST
BALD EAGLE
Radio Towers
Run
West
Upper Castanea Reservoir
BM
1358
845
885
1
2
3
4
5
6
Management Zones
Streamside Management
High Conservation Value
Managed Forest
Lock Haven City Authority
Management Units
State Forest Natural Areas
Bald Eagle State Forest
Tiadaghton State Forest
Interstates
U.S. Routes
State Roads
Local Roads
0 0.25 0.5
Kilometers
0 0.125 0.25
Miles
Sources:
USGS 1996, DEP 2010,
TNC 2013, Clinton County 2009
N
Lock Haven City Authroity
Located in Clinton County, Pennsylvania

The remainder of this Forest Management Plan Landowner Summary will focus on the active forest management that is planned for LHCA property within the Forest Management Zones defined previously. Each tract contains management units that have been zoned for forest management. The units zoned for forest management on the Keller Tract are 1, 2, 4, 5, 11, 16, 21, and 22. The units zoned for forest management on the Ohl Tract are 3, 4, 5, 6, 7, 9, and 10. The unit zoned for forest management on the Castanea Tract is unit 1. In all 1,999.3 acres of 5,294 acres will be actively managed.

Management Schedule by Decade:

Decade 1:

Keller Tract

Stand 22 pulpwood removal
- 2014 spray all invasive and competitive plants
- 2014 (or following herbicide treatment) thinning from below/pulp removal harvest

Stand 5W improvement thinning to 70 sq ft BA/acre
- 2014 spray all invasive and competitive plants
- 2014 (or following herbicide treatment) harvest – improvement thinning

Stand 5E improvement thinning to 70 sq ft BA/acre
- 2014 harvest – improvement thinning

Stand 1 improvement thinning to 70 sq ft BA/acre
- 2014 harvest – improvement thinning

Ohl Tract

Stand 6 overstory removal on 25 acres with WP midstory
- 2014 spray all invasive and competitive plants
- 2014 deer exclosure fence
- 2015 (or following herbicide and fence) overstory removal harvest to release WP midstory

Stand 7 pulpwood removal
- 2014 spray all invasive and competitive plants
- 2014 (or following herbicide treatment) thinning from below/pulp removal harvest

Stand 4 improvement thinning to 70 sq ft BA/acre

- 2014 spray all invasive and competitive plants
- 2014 (or following herbicide treatment) improvement thinning harvest

Stand 5 improvement thinning to 70 sq ft BA/acre

- 2014 spray all invasive and competitive plants
- 2014 (or following herbicide treatment) improvement thinning harvest

Castanea Tract

Stand 1 a. begin Regen Process Phase 1 with pulpwood removal (combining first two steps of pulpwood removal to regen process)
b. plans totally dependent on road access??

- 2014 Road work and access
- 2015 spray all invasive and competitive plants
- 2015 deer exclosure fence
- 2015 (or following herbicide and fence) thinning from below/pulp removal harvest

All Tracts

All Managed Stands – in addition to schedule above:

- 2016 all 2014/2015 proposed work should be accomplished
- 2018 regeneration assessments on all managed stands
- 2020 prepare for Decade 2 management (see harvest schedule)
  - will likely include herbicide and fencing projects in preparation for Decade 2 activities in:
    - Keller 22,16,5W
    - Ohl 7,10,4,5,6,9

All Stands – property wide:

- 2013 Complete Boundary Line Assessment/Improvement/Maintenance Plan
- 2013-2023 Schedule Boundary Line work per plan above
- 2015 Road and Trail Improvement and Maintenance Plan should be complete
- 2015-2023 Schedule and Budget Road and Trail Improvements
- 2013-2023 Annual ownership-wide forest health inspections

Decade 2:

Keller

Stand 22	a. shelterwood harvest b. overstrory removal
Stand 16	improvement thinning to 70 sq ft BA/acre
Stand 5W	a. shelterwood harvest (partial – 40%) b. overstory removal (partial – 40%)
Stand 21	improvement thinning to 70 sq ft BA/acre

Ohl

Stand 7	a. shelterwood harvest b. overstory removal
Stand 10	pulpwood removal
Stand 4	a. shelterwood harvest b. overstory removal
Stand 5	a. shelterwood harvest b. overstory removal
Stand 6	pulpwood removal
Stand 9	pulpwood removal

Castanea

Stand 1	overstory removal

Decade 3:

Keller

Stand 2	improvement thinning Crop Tree Release
Stand 4	improvement thinning Crop Tree Release
Stand 16	a. shelterwood harvest b. overstory removal
Stand 1	a. shelterwood harvest b. overstory removal
Stand 5E	a. shelterwood harvest (partial – 40%) b. overstory removal (partial – 40%)

Ohl

Stand 3	improvement thinning Crop Tree Release
Stand 10	a. shelterwood harvest b. overstory removal
Stand 6	a. shelterwood harvest b. overstory removal
Stand 9	a. shelterwood harvest b. overstory removal

Decade 4:

Keller

Stand 2	patch cut release (partial – 30%)
Stand 4	patch cut release (partial – 30%)
Stand 11	improvement thinning to 70 sq ft BA/acre
Stand 5E	patch cut release (partial – 25%)
Stand 5W	patch cut release (partial – 25%)

Decade 5-10:

All Tracts

Observe/Monitor/Adjust

Tracking Our Success Over Time:

The Nature Conservancy has created a "thematic report card" to quantify and rate current forest conditions at the stand level. Data collected from the forest is used to populate a table entitled "Forest Condition Report Card" to which has been produced for each of the three LHCA tracts below (Tables 2, 3, and 4). A simple way to look at these color-coded report cards…green is good, yellow needs improvement, and red is failing. You will see that these reports cards show that the LHCA forest as a whole has a good overstory, but is greatly struggling with understory (or regeneration) issues. Over time, we will use current data to re-fill the KEA report cards and we will be able to see improvements on each tract over time and with good forest management.

Table 2: Keller Tract Forest Condition Report Card

Mgmt. Unit*	COMPOSITION				STRUCTURE		REGENERATION	
	Stocking (%)		Tree Species		live>/=	snags>/=	all stems	% desirable
	TOTAL	AGS	Diversity	Evenness	16"dbh	10" dbh	(regen)	(regen)
1	108	78	9	0.51	8	2	3750	0
2	122	91	8	0.67	14	0	1333	17
3	150	126	12	0.70	5	0	0	0
4	113	89	11	0.82	11	7	0	0
5 (E&W)	116	85	21	0.60	15	4	721	77
6	141	120	14	0.77	21	3	53	0
7	146	129	9	0.62	24	4	286	0
8	190	156	6	0.68	26	15	0	0
9	98	84	11	0.83	6	1	0	0
10	107	95	12	0.60	16	2	500	100
11	134	102	19	0.61	15	2	313	60
12	145	130	10	0.76	10	2	1250	0
13	167	143	14	0.81	14	3	0	0
14	156	137	23	0.55	28	8	208	0
15	145	124	17	0.53	21	0	1231	12
16	125	98	15	0.44	14	0	80	100
17	134	113	18	0.77	22	5	37	100
18	120	110	17	0.59	24	2	1667	0
19	145	118	12	0.60	32	0	0	0
20	191	170	15	0.57	20	9	1125	0
21	180	154	12	0.77	12	12	0	0
22	148	135	15	0.63	18	4	500	31

	Stocking (%)		Tree Species		live>16"dbh	snags>/= 10" dbh	all stems (regen)	% desirable (regen)
RATING	TOTAL	AGS	Diversity	Evenness				
POOR	< 44	<40	by CPI unit; see table below	0 to 0.6	0 to 3	0 to 2	0-10k	<25
FAIR	45 to 58	41 to 53		0.61to 0.7	4 to 8	3 to 5	10,001-15k	26 to 54
GOOD	59 to 79	54 to 69		0.71 to 0.8	9 to 16	6 to 8	15,001-50k	55 to 74
V. GOOD	80+	70+		0.81+	17+	9+	>50k	>75

Table 3: Keller Tract Forest Condition Report Card

Mgmt. Unit*	COMPOSITION				STRUCTURE		REGENERATION	
	Stocking (%)		Tree Species		live>/= 16"dbh	snags>/= 10" dbh	all stems (regen)	% desirable (regen)
	TOTAL	AGS	Diversity	Evenness				
1	144	118	13	0.66	21	4	0	0
2	131	96	11	0.56	13	7	357	20
3	86	64	13	0.75	8	6	3714	42
4	84	67	8	0.56	7	14	16143	82
5	96	70	12	0.67	6	2	11217	83
6	122	82	13	0.78	7	3	46	0
7	182	116	15	0.63	24	12	0	0
8	125	97	15	0.86	8	1	0	0
9	118	76	13	0.70	6	3	250	0
10	150	108	9	0.66	20	7	167	0
11	177	133	8	0.42	7	6	0	0
12	120	90	3	0.66	19	0	0	0
13	130	105	4	0.87	23	5	0	0
14	120	95	4	0.12	0	0	0	0

	Stocking (%)		Tree Species		live>16"dbh	snags>/= 10" dbh	all stems (regen)	% desirable (regen)
RATING	TOTAL	AGS	Diversity	Evenness				
POOR	< 44	<40	by CPI unit; see table below	0 to 0.6	0 to 3	0 to 2	0-10k	<25
FAIR	45 to 58	41 to 53		0.61to 0.7	4 to 8	3 to 5	10,001-15k	26 to 54
GOOD	59 to 79	54 to 69		0.71 to 0.8	9 to 16	6 to 8	15,001-50k	55 to 74
V. GOOD	80+	70+		0.81+	17+	9+	>50k	>75

Table 3: Castanea Tract Forest Condition Report Card

Mgmt. Unit*	COMPOSITION				STRUCTURE		REGENERATION	
	Stocking (%)		Tree Species		live>/= 16"dbh	snags>/= 10" dbh	all stems (regen)	% desirable (regen)
	TOTAL	AGS	Diversity	Evenness				
1	125	76	19	0.58	16	5	0	0
2	112	69	8	0.90	15	7	0	0
3	160	90	4	0.77	0	0	0	0
4	160	100	6	0.66	0	13	0	0
5	116	64	15	0.66	9	7	54	100
6	116	69	12	0.79	18	8	0	0

	Stocking (%)		Tree Species		live>16"dbh	snags>/= 10" dbh	all stems (regen)	% desirable (regen)
RATING	TOTAL	AGS	Diversity	Evenness				
POOR	< 44	<40	by CPI unit; see table below	0 to 0.6	0 to 3	0 to 2	0-10k	<25
FAIR	45 to 58	41 to 53		0.61to 0.7	4 to 8	3 to 5	10,001-15k	26 to 54
GOOD	59 to 79	54 to 69		0.71 to 0.8	9 to 16	6 to 8	15,001-50k	55 to 74
V. GOOD	80+	70+		0.81+	17+	9+	>50k	>75