



Barry Conservation District
1611 S. Hanover, Suite 105
Hastings, MI 49058
(269) 948-8056 ext. 3

October 17, 2008

Board of Directors
Historic Charlton Park
2545 S. Charlton Park Rd.
Hastings, MI 49058

To the Members of the Charlton Park Board of Directors:

The Barry Conservation District Board of Directors has received and reviewed a copy of the *Forest Stewardship Plan for Historic Charlton Park* completed by Mark Janke, Consulting Forester and approved by Mike Hanley, Regional Service Forester for the Michigan Department of Natural Resources. The plan is comprehensive and shows an understanding of the park's many uses as well as the features of its diverse forestlands.

It is clear that there is a lot of work to be done to implement the Forest Stewardship Plan. The Barry Conservation District offers its help and support in whatever way we can assist Historic Charlton Park in this endeavor. We welcome the opportunity to develop educational outreach programs in forest management to coincide with various plan activities, and we will work with Historic Charlton Park staff and board members to seek grant support for aspects of the plan which can benefit the greater Barry County community.

Thank you for the opportunity to be involved in this process.

Sincerely,

Joanne L. Barnard
Executive Director

For the Barry Conservation District Board of Directors

Oct 16 08 12:48p

p.3

RECEIVED

SEP 16 2008

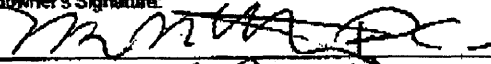


FMFM



**MICHIGAN LANDOWNER
FOREST STEWARDSHIP PLAN**

Required by authority of Part 501 of Act 451, PA 1994, as amended to certify the management plan has been reviewed and approved by the Landowner and the DNR Service Forester.

Prepared For (Landowner Name(s)): <i>Historic Charlton Park (Barry County)</i>
Plan Prepared By (Name of Professional Resource Manager): <i>Mark P. Janke, Consulting Forester, LLC</i>

Preparer's Address: 2676 111 th Ave.		Preparer's Telephone Number: (269)330-0347	
Name: (Last, First, MI) Janke, Mark P.			
Work Telephone Number: (269) 673-7367		Home Telephone Number: (269) 673-7367	
Address: 2676 111 th Ave.		City, State and Zip Code: Allegan, MI 49010	
Location of Parcel (Township/Range/Section Description): N 1/2, Section 25, Hastings Township (T. 3N. - R. 8W.)			
County: Barry		Township: Hastings	
Total Acres in Parcel: 286	Total Forested Acres in Parcel: 190	Acres Included in Plan: 286	
Description of How to Find Parcel from Nearest Town: From Hastings - South on M37 2 1/2 miles then East on M79 HWY 3 miles to Charlton Park Rd. - turn North approx. 3/8 mile to park entrance.			
Describe the Landowner's Goals and Objectives for Owning this Property: This is a county park with unique historical, cultural, and recreational significance. The county wants to manage for the multiple values and stewardship of the resource.			
Michigan's Stewardship Ethic			
Stewardship is an ethic recognizing that the land and its natural inhabitants have an inherent worth and that we have a responsibility to manage our actions as part of that. It guides us to manage our activities to the utmost of our abilities, to insure the future health, productivity, and well being of the land, its natural communities and species, and to allow our successors opportunities at least equal to ours to use the land and its resources.			
This plan is compatible with my goals and objectives. I understand that Landowner Stewardship Management Plans are voluntarily accepted. This acceptance represents a good faith, but non-binding commitment to implement strategies suggested in this plan. As a non-binding commitment, private property rights cannot be jeopardized as a result of receiving a plan.			
Landowner's Signature: 		Date: Sep 9, 2008	
Plan Writer's Signature: 		Date: 06-25-08	
DNR Service Forester's Signature: 		Date: 9/24/08	

Upon signature of both the Landowner and Plan Writer, submit this signature sheet to the appropriate DNR Service Forester for his/her signature. Copies will be provided to the Landowner and Plan Writer after being signed by the Service Forester.

Oct 16 08 12:49p

P.5



Michigan Department of Natural Resources
Forest, Mineral, and Fire Management Division



MICHIGAN FOREST STEWARDSHIP ASSESSMENT

Required by authority of Part 501 of Act 451, PA 1994 as amended, to determine landowner goals and objectives prior to preparing a management plan under the Forest Stewardship Program.

The Forest Stewardship Act of 1996 provides cost-sharing assistance for owners of non-industrial private lands, who have an approved Forest Stewardship Plan.

The Michigan Landowner Forest Stewardship Plan is divided into two sections. The first section is designed to help landowners assess their goals and objectives for the parcel. This assessment section should be filled out by the landowner in cooperation with a consulting forester or other natural resource professional. The assessment should include a reconnaissance of the property by the forester with the landowner whenever possible.

The second part of this plan is the technical portion entitled the "Michigan Landowner Forest Stewardship Plan". It involves putting together a management plan map, detailing the existing forest conditions and describing action to be taken. This section should be done by a consulting forester or other natural resource professional.

General Information:			
Landowner(s) (Last Name First) BARRY COUNTY - CHARLTON PARK		Home Telephone Number: (269) 945-3775	
Street Address: 2545 S. CHARLTON PARK	City, State and Zip Code: HASTINGS, MI 49058	Work Telephone Number: (269)	
Parcel Located:			
Legal Description: N 1/2 (North and West of Thornapple Lake & River, excluding Lake Lots			
Section: 25	Township: 3 N.	Range: 8 W.	County: BARRY
Acres in Forest Stewardship Plan: 286		Total Land Ownership: 286	
Parcel Also Enrolled In:		Tree Farm	
Commercial Forest Act <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Private Forest Reserve Act <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Western UP Forest Improvement District <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Ownership: <input checked="" type="checkbox"/> Deed <input type="checkbox"/> Land Contract <input type="checkbox"/> Lease <input type="checkbox"/> Other		How long have you owned this land?	
Brief statement of your overall goals and objectives for this land: This is a County Park with unique historical, cultural and recreational significance. The county wants to manage for multiple values and stewardship of the resource.			
Are you presently working with a resource professional, or have you ever worked with one for the management of natural resources on your property? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		If so, who? MARK P. JANKE - CONSULTING FORESTER	
Have you received any cost share assistance in the last 10 years (ACP, FFP, CRP)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Received WHIP in 2000		If yes, note location and acreage:	
Rank the following forest values in your order of priority (1 being the highest):			
6 Aesthetics		7 Wildlife	
5 Timber Production		1 Recreation	
2 Water & Soil Quality		8 Fishery	
3 Wetland/Riparian Area Protection		9 Reforestation	
4 Rare/Endangered Plants/Animals		2 Other (indicate): State Historic Site	
Comment or expand on landowner interests:			
Have you, or will you, be investing time or money toward achieving your forest goals? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		(Optional) If so, what is your estimate of your yearly contribution in hours and/or dollars?	
Timber Management:			
Do you have a forest management plan?		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> Don't Know N/A
Have you ever sold sawlogs, pulpwood or firewood?		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> Don't Know N/A
Are you willing to have trees cut on your property for the following reasons?			
• Cash Return on Present Timber Value		<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Enhancement of Future Economic Value		<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Improve Wildlife Habitat		<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Improve Other Forest Values (i.e. Recreation, Tree Health)		<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Firewood		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Do you have any active plans for a timber sale?		<input type="checkbox"/>	<input checked="" type="checkbox"/> N/A

Oct 16 08 12:49p

P.6



MICHIGAN DEPARTMENT OF NATURAL RESOURCES - FOREST, MINERAL AND FIRE MANAGEMENT DIVISION
LANDOWNER FOREST STEWARDSHIP PLAN ELIGIBILITY
APPLICATION AND NOTICE



The information is required under the Forestry Code of 2006 (Public Law 109-40) for entering Forest Stewardship Plans on private landowners. No circulation of this information may result in loss of funding for the stewardship plan.

Proprietor's SSN or Federal ID: 38-3742631		Project Number: FSP 08-34
Landowner's Name (please type or print): BARRY COUNTY - CHARLTON PARK		Plan Proprietor's Name: MARK P. JANKE
Address: 2545 S. CHARLTON PARK RD		Address: 2676 111th Ave
City, State and Zip Code: HASTINGS MI 49058		City, State and Zip Code: ALLEGAN, MI 49010
Home Telephone: (269) 945-3775	Work Telephone: ?	Work Telephone: (269) 673-7367
<p>Individual landowners excluded by race and ethnic groups:</p> <p><input type="checkbox"/> Black (Not Hispanic) <input type="checkbox"/> American Indian or Alaskan Native</p> <p><input type="checkbox"/> Hispanic <input type="checkbox"/> White (Not Hispanic)</p> <p><input type="checkbox"/> Asian or Pacific Islander <input type="checkbox"/> Other COUNTY PARK</p>		
<p>Individual landowners excluded by gender or ethnicity:</p> <p><input type="checkbox"/> Individual Male <input checked="" type="checkbox"/> Organization</p> <p><input type="checkbox"/> Individual Female <input type="checkbox"/> Other</p> <p><input type="checkbox"/> Family</p>		
County: BARRY	Township: HASTINGS	Section: 25
Legal Description: N 1/2 SECTION 25		
Total Acres of Ownership: 286	Number of Acres to be Planned: 286	
<p>Does the landowner's purpose for wanting a Landowner Forest Stewardship Plan for this property: Landowner wants to manage the land to provide multiple benefits and Stewardship of the Natural Resource and to focus on Recreation/Education along with sustainable harvest</p>		
Yes	No	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Is the property non-adjacent private land owned by a private individual, group, corporation, or other legal private entity?
<input type="checkbox"/>	<input type="checkbox"/>	Does the landowner own 12 or more contiguous acres, of which at least 6 acres are forested or to be planted in trees?
<input type="checkbox"/>	<input type="checkbox"/>	Does the landowner own 50% of the property?
<input type="checkbox"/>	<input type="checkbox"/>	Does the landowner own more than 100 acres?
<input type="checkbox"/>	<input type="checkbox"/>	Is the landowner engaged in the commercial production of wood products?
<input type="checkbox"/>	<input type="checkbox"/>	Is this land enrolled under the Commercial Forest Program (CFP)?
<input type="checkbox"/>	<input type="checkbox"/>	Has the landowner previously received federal assistance for a Landowner Forest Stewardship Plan?
<input type="checkbox"/>	<input type="checkbox"/>	Is any of the property under any Forest Service Agency (FSA) management in ACP, FIP, CRP, or RIF in 2000?
<input type="checkbox"/>	<input type="checkbox"/>	Are there any other factors to consider in regard to the preparation of a Landowner Forest Stewardship Plan? IF YES, explain: Area is a unique County Park, Recreation Area and Historical and cultural location with Forestry & Education
Landowner's signature certifying that information is accurate: 		Date: 7/10/2008
Plan Proprietor's Signature: Mark P. Janke		Date: 6/25/08

Oct 16 08 12:50p

P. 7

Charlton Park

Plan Preparation Charges: The total cost of the forest stewardship plan is an agreed upon figure between the landowner and the planwriter. This section is intended to determine if the landowner and planwriter cost agreement conforms to the Forest Stewardship requirements and qualifies for reimbursement under the program. In no way should this section be construed as limiting or defining the total cost of the plan. This is to verify charges and is not a contract between the landowner and the planwriter.

Total Charge for Plan Preparation \$ 1965

Portion of Plan Preparation Charge to be paid by Forest Stewardship Program funds (\$200 for plans 75 acres or less. Plans larger than 75 acres, \$125 per plan, plus \$1.25 per acre or 50% of the cost, whichever is less. Maximum reimbursement for any plan is \$2,000.) \$ 0

Portion of the plan Preparation Charge to be paid by the landowner (Minimum 50% of cost of plan). \$ 1965

Landowner's Initials _____ Planner's Initials _____

This property is eligible ineligible for the preparation of a Landowner Forest Stewardship Plan.

This signature block certifies the eligibility of the land. The payment authorization signature block is listed below.

MDNR Service Forester's Signature _____ Date 9/29/08

Comments:

Service Forester's Signature (authorization for payment):	Date:
Forest Stewardship Coordinator (final authorization for payment):	Date:

*In the event that the State of Michigan no longer needs the service specified from the certified plan writer due to program changes, changes in law, rules or regulations, or lack of funding, the State may cancel by giving thirty (30) days written notice prior to the cancellation date. Other factors affecting payment may include that the stewardship plan is unacceptable and/or the plan writer is not eligible for payment. Contact the Service Forester or the State Forest Stewardship Coordinator for more information.

MDNR NONDISCRIMINATION STATEMENT

Equal Rights for Natural Resource Users

The Michigan Department of Natural Resources (MDNR) provides equal opportunities for employment and access to Michigan's natural resources. Both State and Federal laws prohibit discrimination on the basis of race, color, national origin, religion, disability, age, sex, height weight or marital status under the Civil Rights Acts of 1964 as amended (MI PA 453 and MI PA 220, Title V of the Rehabilitation Act of 1973 as amended, and the Americans with Disabilities Act). If you believe that you have been discriminated against in any program, activity, or facility, or if you desire additional information, please write:

HUMAN RESOURCES
MICHIGAN DEPARTMENT OF NATURAL RESOURCES
PO BOX 30028
LANSING MI 48909-7528

OR MICHIGAN DEPARTMENT OF CIVIL RIGHTS
STATE OF MICHIGAN PLAZA BUILDING
1200 6TH STREET
DETROIT MI 48226

Or OFFICE FOR DIVERSITY AND CIVIL RIGHTS
US FISH AND WILDLIFE SERVICE
4040 NORTH FAIRFAX DRIVE
ARLINGTON VA 22203

For information or assistance on this publication, contact the MICHIGAN DEPARTMENT OF NATURAL RESOURCES, FOREST, MINERAL AND FIRE MANAGEMENT DIVISION, PO BOX 30452, LANSING MI 48909-7852.

This publication is available in alternative formats upon request.

Oct 16 08 12:48p

P.2



JENNIFER M. GRANHOLM
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
LANSING



REBECCA A. HUMPHRIES
DIRECTOR

October 10, 2008

Mr. Mark Janke
2876 111th Ave.
Allegan, MI 49010

Dear Mr. Janke:

I have reviewed and approved the management plan you wrote for Charlton Park. I've enclosed your copy of the plan, a copy of the approval letter, and one copy of the landowner application and invoice form. I thought this was a well-written plan.

Thanks for your patience.

Sincerely,

Mike Hanley, Service Forester
Southeastern Lower Peninsula
Forest, Mineral and Fire Management
517-241-1608
email: hanleym@michigan.gov

Enclosure

NATURAL RESOURCES COMMISSION

Keith J. Charters, Chair • Mary Brown • Hurley J. Coleman, Jr. • Darrell Earley • John Madigan • J. R. Richardson • Frank Whetstone

STEVENS T. MASON BUILDING • P.O. BOX 30028 • LANSING, MICHIGAN 48909-7528
www.michigan.gov/dnr • (517) 373-2329

Great Lakes, Great Times, Great Outdoors!

Legal Description: Charlton Park- Aerial Photo 2005
T3N R6W, SECTION 25, N1/2

By: MARK JANKE
Field Office: HASTINGS SERVICE CENTER
Agency: NRCS

Assisted By: Rawson, Michael L

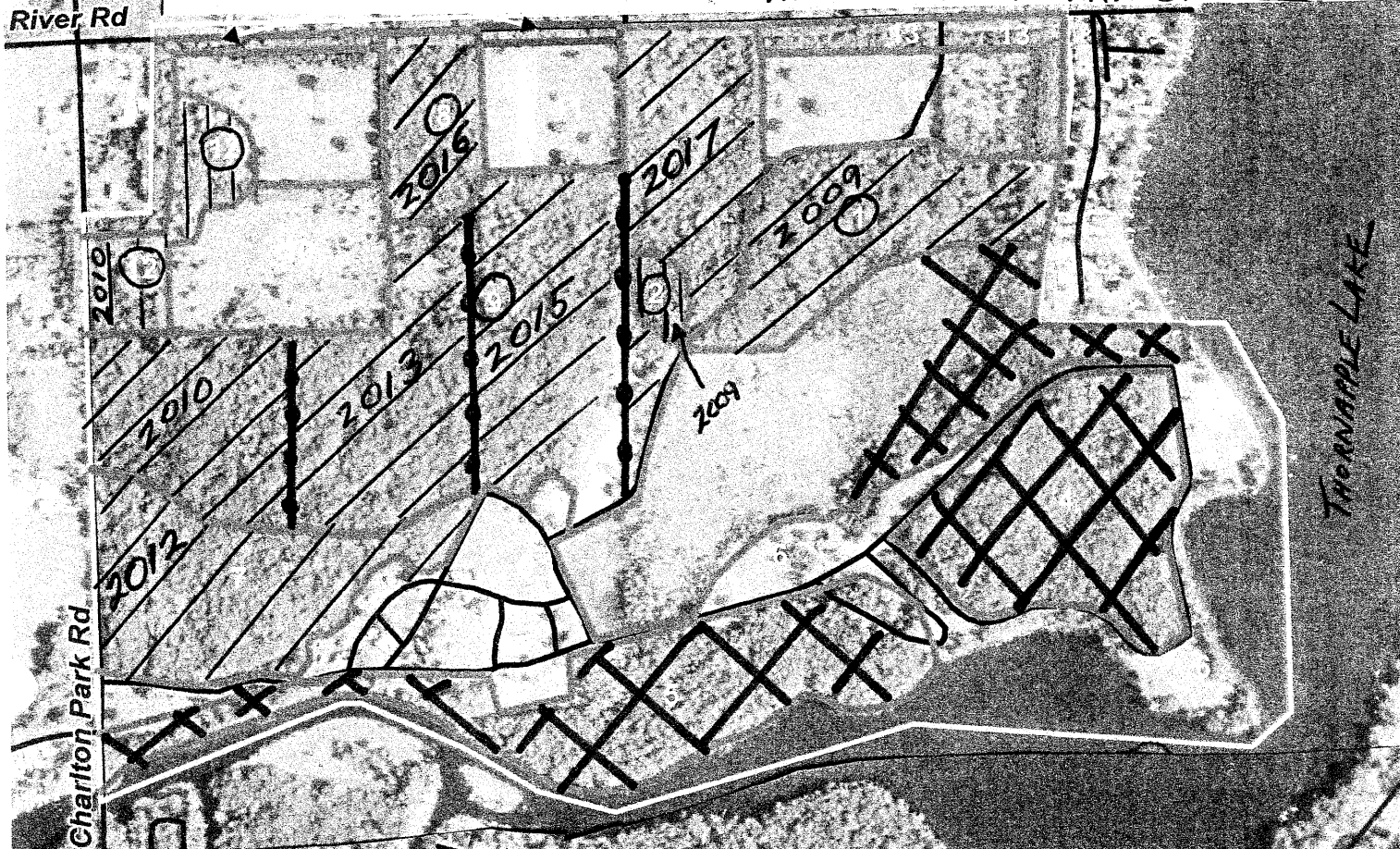
State and County: MI, BARRY

ACTIVITY MAP: PRIMARY FOREST TREATMENT

TIMBER MANAGEMENT

- NO HARVEST
 - SELECTION HARVEST
 - REGENERATION HARVEST
- 4-YEAR

River Rd



Charlton Park Rd

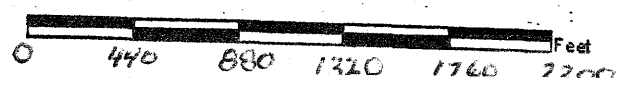
THORNAPPLE LAKE

Unit	Cover Type	Acres
1	Oak-Hickory [Diagonal lines] - SELECTION HARVEST	13.0
2	Red Pine [Cross-hatch] - REGEN HARVEST	2.0
3	Wetland/Hardwoods [Solid black] - NO HARVEST	35.0
4	Lowland Hardwoods [Solid black] - NO HARVEST	23.0
5	Lowland Hardwoods [Solid black] - NO HARVEST	26.5
6	Historic Village and Recreation Areas	36.5
7	Mixed Hardwoods [Diagonal lines] - SELECTION HARVEST	20.0

Unit	Cover Type	Acres
8	Old Orchard Mixed Hardwood [Diagonal lines] - SELECTION HARVEST	8.0
9	Mixed Hardwood [Diagonal lines] - SELECTION HARVEST	64.0
10	Successional Opening Battle Field	12.5
11	Old Crop Fields	27.0
12	Successional Hardwoods [Cross-hatch] - REGENERATION HARVEST	7.5
13	Red & White Pine Plantings	11.0

Legend
— Roads
— Section Corners

Approximate Park Boundry
Management Units
SUB UNIT - UNIT 9
Roads

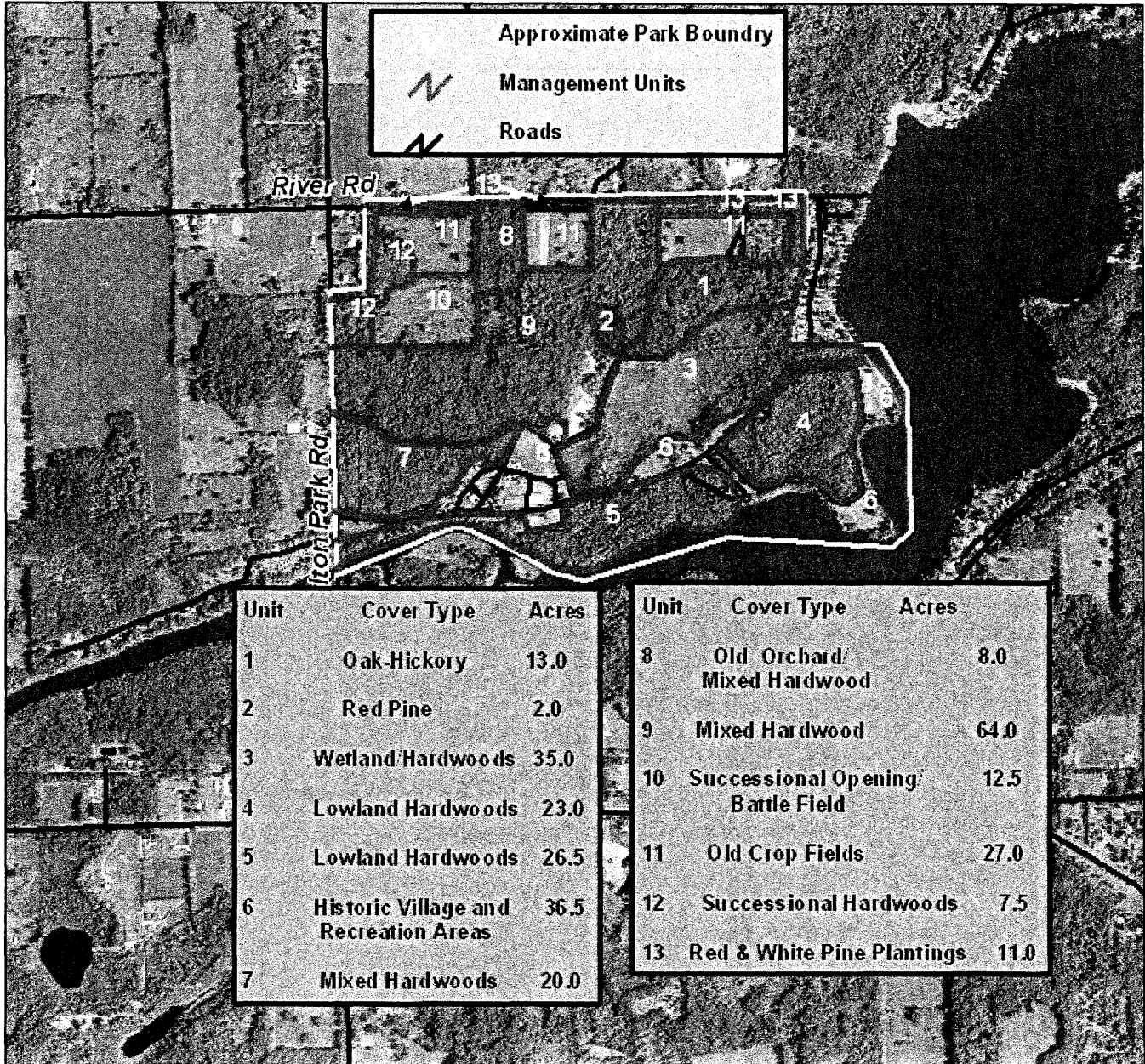


Charlton Park-Forest Stewardship Plan

Date: 9/9/2008

Legal Description: Charlton Park- Aerial Photo 2005
T3N R8W

Field Office: HASTINGS SERVICE CENTER
Agency: NRCS
Assisted By: Rawson, Michael L
State and County: MI, BARRY

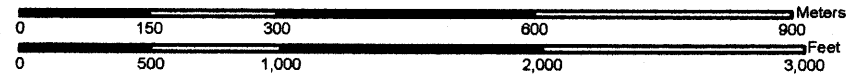
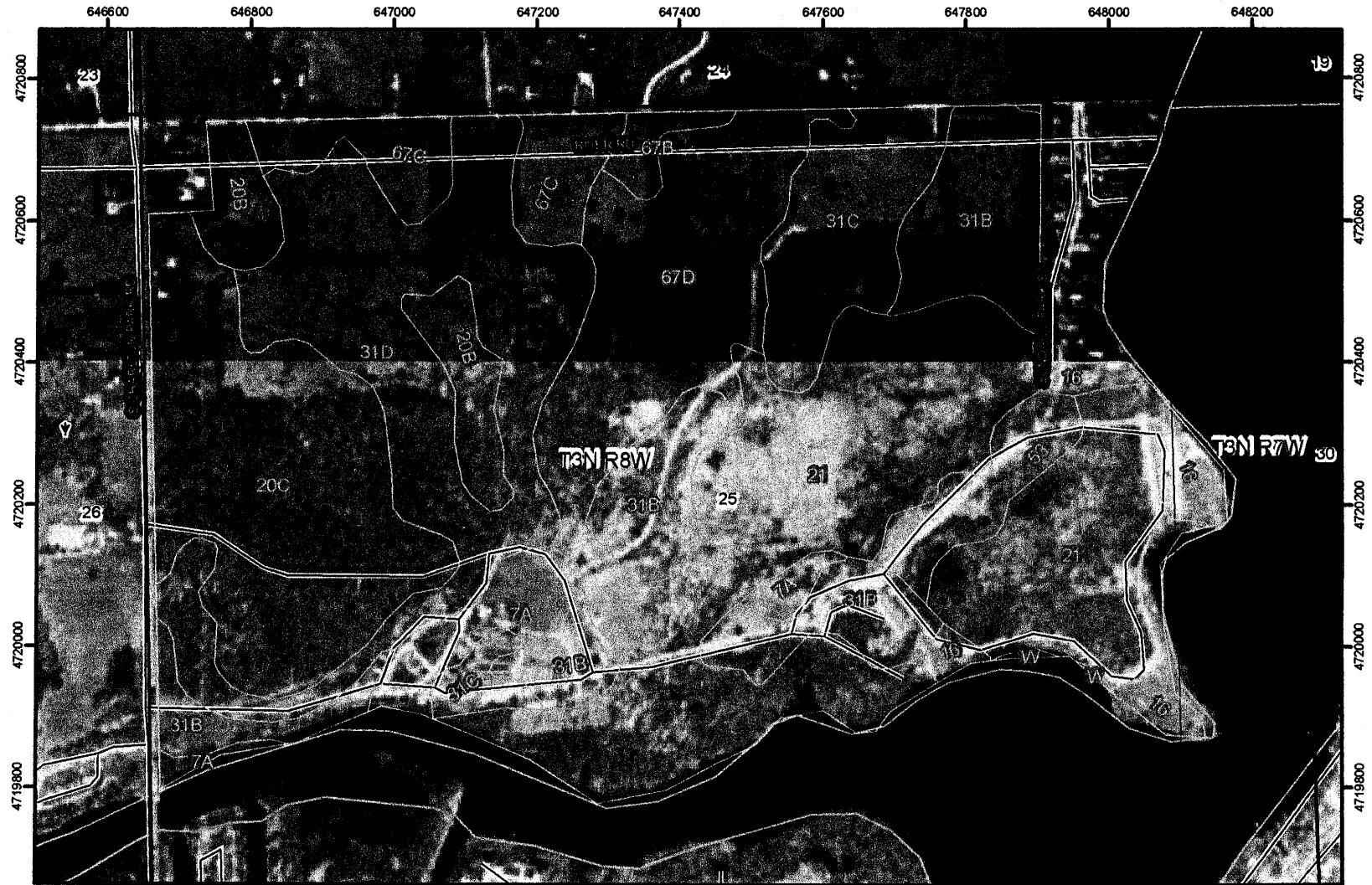


Legend

- Roads
- Section Corners





Soil Map—Barry County, Michigan
(Charlton Park - Soil Map)
























Soil Map—Barry County, Michigan
(Charlton Park - Soil Map)




MAP LEGEND

Area of Interest (AOI)
 Area of Interest (AOI)




Soils
 Soil Map Units

Special Point Features

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot
-  Spoil Area
-  Stony Spot



-  Very Stony Spot
-  Wet Spot
-  Other

Special Line Features



-  Gully
-  Short Steep Slope
-  Other

Political Features



Public Land Survey

-  Township and Range
-  Section

Municipalities

-  Cities
-  Urban Areas






Water Features

-  Oceans
-  Streams and Canals

Transportation

-  Rails

Roads

-  Interstate Highways
-  US Routes
-  State Highways
-  Local Roads
-  Other Roads

MAP INFORMATION

Original soil survey map sheets were prepared at publication scale. Viewing scale and printing scale, however, may vary from the original. Please rely on the bar scale on each map sheet for proper map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: UTM Zone 16N

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Barry County, Michigan
 Survey Area Data: Version 6, Jan 12, 2007

Date(s) aerial images were photographed: 4/23/1998

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Barry County, Michigan (MI015)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
7A	Brady sandy loam, 0 to 3 percent slopes	9.1	3.2%
16	Udorthents and Udipsamments, 0 to 6 percent slopes	6.9	2.4%
20B	Tekenink fine sandy loam, 1 to 6 percent slopes	9.8	3.4%
20C	Tekenink fine sandy loam, 6 to 12 percent slopes	40.4	14.0%
21	Houghton muck	73.8	25.6%
31B	Osherno sandy loam, 0 to 6 percent slopes	34.7	12.0%
31C	Osherno sandy loam, 6 to 12 percent slopes	17.9	6.2%
31D	Osherno sandy loam, 12 to 18 percent slopes	44.7	15.5%
53	Pits	7.2	2.5%
67B	Marlette-Osherno complex, 0 to 6 percent slopes	2.3	0.8%
67C	Marlette-Osherno complex, 6 to 12 percent slopes	11.3	3.9%
67D	Marlette-Osherno complex, 12 to 18 percent slopes	30.3	10.5%
W	Water	0.3	0.1%
Totals for Area of Interest (AOI)		288.7	100.0%

FOREST STEWARDSHIP PLAN

This is a forest management plan developed under 2002 Federal and State forest stewardship guidelines.

Date Prepared 09/12/08
Plan Time Frame: 2009 - 2018
Property Owner(s): Historic Charlton Park/Barry County
Address: 2545 S. Charlton Park Road
Hastings, Michigan
49058
Telephone: 269-945-3775
Email:

**Property Address
(if applicable):
Legal description
or directions to
site:**

The property is located in the N1/2 of Section 25, Hastings Township, (T.3N.-R.8W.) Barry County, Michigan. The Property is located about .25 miles north of M-79 on Charlton Park Road, just east of Quimby and is bordered by River Road to the north, Charlton Park Road to the west and Thornapple Lake and River to the east and south.

Property Code:
Prepared By: Mark P. Janke
Company: Mark P. Janke, Consulting Forester LLC.
Address: 2676 111th Ave.
Allegan, Michigan
49010
Telephone: 269-673-7367
Email: mark@michiganforester.com

Approvals

Landowner: _____ **Date:** _____
Preparer: _____ **Date:** _____
Approving Agency: _____ **Date:** _____

GENERAL INFORMATION

Landowner Assessment

Description of resources and level of interest from the landowner:

Historic Charlton Park is owned and operated by Barry County. Charlton Park has a Board of Directors and a Properties Committee that oversee the activities of the Park. "The Mission of Charlton Park is to provide educational and recreational opportunities, through the collection, preservation and demonstration of early rural Michigan life, artifacts and buildings, and the maintenance of natural and recreational areas." The stakeholders for this unique property are many and varied, with diverse interests which in the past have not included active forest management as a primary goal. There is considerable interest by Barry County and the Properties Committee to carve out plan that properly manages the natural resources of the Park in a sustainable way, that will not sacrifice the unique historical and recreational values which the County and the public enjoy on a year around. basis. There is considerable value in the standing timber resources located on the property and these can and should be managed in a sustainable manner to improve the health and diversity of the forested components of the Park. These activities can often produce periodic economic value to help enhance the Park and improve its natural resource and recreational opportunities.

**Landowner's goals
for the property:**

- This property is a County Park. It is used extensively for all sorts of recreation uses but the primary one is the Historic village and its use for a variety of festivals and community events. The park is open daily to a wide range of visitors including school groups and locals and is owned and maintained by Barry County. The park has hiking trails, fishing access, picnic areas and 286 acres on which to enjoy rural Barry County.
- Develop hiking trails
- Create viewscales or vistas
- Establish feeding stations
- Promote hunting opportunities
- Promote fishing opportunities
- Generate periodic income from timber production
- Increase the richness of wildlife species
- Provide both local and broad-scale variation in the overstory canopy
- Maintain an open overstory canopy with a dense understory
- Minimize disturbance
- Create new openings in the forest
- Preserve existing openings in the forest
- Allow Visual Access
- Leave many big trees
- Promote vegetation that displays colorful foliage and/or fruit in Autumn
- Promote vegetation that displays attractive flowers
- Promote vegetation that produces interesting fruit (berries, seeds, nuts, etc.)
- Maintain woody plants with interesting bark
- Promote vegetation that maximizes a variety of foliage
- Promote vegetation with a variety of growth habits and forms
- Protect water resources
- Protect wetlands
- Protect riparian zones
- Provide warmwater fish habitat
- Enhance biological diversity on a regional level
- Enhance biological diversity on a local level
- Promote a variety of forest types
- Restore native ecosystem elements
- Discourage or eliminate exotic elements
- Work to eliminate Autumn Olive, multiflora rose, honey suckle, garlic mustard. Reduce Deer herd by managed harvest, focusing on the harvest of does.

Goal Comments:

There is a great deal of potential for periodic income from timber both short and long term. Charlton Park could easily be conducting periodic sustainable harvest on this ownership on a 5-10 year basis depending on markets and the Parks financial need. In the short term much of the forested acreage is in need of some intensity of harvest to get the stands into a more productive condition.

General Property Information

Total land area: 286.0 acres

Number of stands/mgmt units: 13

Region/subsection or ecosystem type:

General property description:

Charlton Park is a County owned and maintained property occupying 286 acres in Hastings Township of Barry County being operated primarily as a county Park, with the historic village and recreation areas being the major draw along with many events and festivals which bring people from a several county area to visit. The park contains a Historic village, museum, day use and recreation area along the Thornapple Lake and River. It contains wetlands, river and lake frontage, mature hardwood, intermediate and successional forest types along with some plantation pine, openings, old fields and orchards. As a general rule the forest lands are in need of a more active forest management approach including harvest of mature timber and timber stand improvement. There are opportunities with respect to openings management and the inclusion of the establishment of natural prairie and the development of a more extensive interpretive natural resource focus. There are staff employed by Barry County that maintain the park which may be able to implement some of the timber stand improvement work which is recommended and could be used to help construct and maintain a more developed system of interpretive trails. Many of the recommended treatments should be done commercially such as the timber harvests and much of the timber stand improvement work.

Description of surrounding properties:

Rural landowners to the north and west and lake lots (residential) to the east.

Soils information:

Oshtemo Sandy Loam, 0-18% slopes, Brady sandy loam 0-3% slopes, Tekenink fine sandy loam 0-12% slopes, Udorthents and Udipsamments 0-6 % slopes, Houghton Muck, Marlette Oshtemo complex (0-18% slopes). See attached soil survey information.

Management access:

Management access is possible from Charlton Park Road through two park entrances and from the north into openings along River Road.

Presence of threatened and endangered species:

None.

Cultural importance:

State Historic Preservation Site- Indian Landing. In the early nineteenth century the Thornapple Band of the Ottawa Indians established a village a short distance from Thornapple Lake. It was served in the 1840's by a Methodist Mission and school conducted by the Reverend Mannaseh Hickey. Trails leading to Canada and the Grand

River intersected near the northeast end of the Lake. In 1848 four Indian Families purchased land here remaining until their removal in 1855. In 1936 Irving D. Charlton donated the land to Barry County for a park and served as director until 1963.

Map information:

A map based on an aerial photograph is included in the plan.

Items with an asterisk are shown on the map:

- * North arrow (required)
- * Scale bar (required)
- * Legend (required)
- * Locator map
- * Stand boundaries

EXISTING CONDITIONS FOR 'UNIT 1'

Land area: 13 Acres

Landuse History: This unit is comprised of the only forest stand that is assumed to have always been in a wooded condition. This stand shows up as woodland in the 1938 aerial photo unlike most of the present Charlton Park forest which have reverted after farming practices ceased. This older growth stand has had a history of individual tree selection harvests common over most of the regions hardwood forests.

Forest Type:
- Existing Oak-Hickory
- Potential Black Cherry-Maple

Successional Trend: The overstory of this stand is primarily Oak, consisting of predominantly Red oak, white oak with Burr oak, cherry, black oak, walnut, ash, hickory, tulip poplar, aspen and soft maple also present. Many of the dominant trees are in the 30" DBH size catagroy and are overmature. The understory consists largely of soft maple, cherry and hickory, ash with some spotty advanced red and white oak regeneration also present. There are old stumps from a previous selective timber harvest 15-25 years ago. Many of the stumps have holes due to the advanced age of the stand which is characteristic of much of the existing overstory trees as well. There is some mortality occuring in the stand and some standing dead trees which may or not be salvageable. The eastern half of this stand is very much in decline due to advanced age. Portions of the western half of this stand appear to be somewhat younger and in a healthier overall forest condtion with a higher percentage of longer lived white oak species and a slightly better site condition.

Forest Health: The stand is overmature and many of the trees are declining as evidence by rot and holes in many of the trees and decreasing live-crown ratio. Forest management activities such as harvest should not be done between April 1st and August 1st to prevent the possible spread of oak wilt within the unit. Removal of the Ash component is recommended due the likely future attack from Emerald Ash Borer.

Site Quality: High. This is a very good site for high quality timber to be produced.

Approximate age: 100+ **Size Class:** Large Sawlogs (23.5" +)
Trees per acre: **Mean Stand Diameter:**
Basal area (BA): 150 **Acceptable BA:** 70-90
Growth Rate: **Timber Quality:** high
Stocking: This unit is the most mature out of all of the forest units at Charlton Park. The species that are present include white oak, red oak, black walnut, black cherry, red maple, ash and black oak. The unit has a mixture of high quality large sawtimber with pockets of nice small to medium sized sawtimber along with some poletimber.

Stand volume:

This stand has a history of some periodic light selective harvest but is currently overstocked for maximum growth. Many trees in the 30" DBH range and some are exhibiting signs of defect and some mortality due to old age.

Stand volume:

Habitat and wildlife use:

This stand is good wildlife habitat. The proximity to the open field to the north and the wooded wetland (swamp) to the south make this stand ideal for many wildlife species to use as hiding and nesting cover as well as for food with the stand producing a large amount of both hard and soft mast. Deer, turkey, rabbit, squirrel and a host of song bird species that use mature forests such as scarlet tanager, indigo bunting and Baltimore oreole.

Recreational opportunities:

Good recreation opportunities. The area is used extensively as an important component of the County Park. The area is used for Hiking, Birding, mushroom hunting, wildlife viewing and an assortment of other activities.

Potential for timber production:

This stand has good timber production potential. Good species types and good soils make this the best stand for timber production potential at Charlton Park. The only drawback is the stands old age and the desire to manage the stand in a historical context and for an older growth condition which will reduce the stand from its maximum production capability which occurs when managed on a shorter rotation basis.

Potential for other uses:

The proximity of this stand to the on site sawmill makes for increased utilization opportunities by Charlton Park, both as raw material for the parks lumber needs as well as to demonstrate sawmilling as a part of the museums interpretive programs or festivals.

Water quality issues:

This stand is in close proximity to Thornapple Lake to the east and the Lowland Hardwood stand (swamp) to the south. This stand as value to the overall water quality of the area and is best maintained by through accepted Forest Management Practices. Harvesting of Timber on a sustainable basis is consistent with the protection of Water quality.

Important natural features:

None.

MANAGEMENT PLANS FOR 'UNIT 1'

Landowner's objectives for this stand: This stand is to be managed in its older growth condition for multiple values, focusing on Timber production in concert with the interpretive goals of the park along with wildlife, recreation and aesthetics.

Silvicultural Prescription

Recommended silvicultural system: Uneven-aged management, favoring White Oak, Walnut, Red Oak, Hickory, and Tulip Poplar. Target maximum diameter is 24 inches. The desired cutting cycle is 8 years.

Details of the silvicultural prescription: A single tree selection harvest is recommended for this stand. The harvest should be marked by a Registered Forester, who should mark each tree to remove based on forest health, density of the stand, species composition, ownership goals, wildlife issues and the overall impact on the Parks appearance. This does not mean marking just the most valuable trees, but marking those trees which are declining in health, are overmature, will not improve in value due to branching or defect, are vulnerable species types like ash and those that by their removal will benefit the growth rates and value appreciation of the best crop trees for the future. Species to manage for are the white oak, walnut, black cherry and red oak. Generally, the goal will be to leave healthy, straight, high quality healthy trees at the optimum density to achieve the best growth of the stand while meeting the many other stated values for the unit. Target Residual Basal Area to maintain in this stand is between 70 and 90 Sq. Ft. per acre.

Planned Activities

2009: Due to the advanced age of this stand and the declining stand health, a Single Tree Selection harvest is recommended that would remove trees which are declining and are unlikely to live until the next scheduled harvest in 2015-2020. The harvest should be marked by a Registered Forester who will mark each tree to harvest by assessing factors such as; management objective, economic value and risk of loss, visual considerations, market condition, value to wildlife, position in the stand, windthrow probability, production of seed or mast and overall tree health. As a general rule this harvest should focus on trees over 22" DBH, but many healthy trees well above this size should be maintained for their recreation, visual and interpretive value. Species to favor in the management are the Red Oak, White Oak, Cherry, Walnut, Hickory, Tulip Poplar, Red Maple. I recommend that all of the mature Ash be removed due to the probability of an Emerald Ash Borer infestation which will kill these trees.

Priority: 1

- 2010:** Clean up of tree tops from 2009 Timber sale and Timber Stand improvement treatment. This treatment should be the cutting grape vines, invasive species and undesirable competing species types such as elm, ash, ironwood, sassafras, beech and damaged, defective trees of all species.
- Priority:** 3
- 2011:** Timber Stand Improvement.
- Priority:** 3
- 2016:** Individual Tree Selection Harvest to be marked and administered by a Registered Forester. Reduce Basal Area back to 70-90 s.f. and monitor Oak and other hardwood regeneration.
- Priority:** 1
- 2017:** Timber Stand Improvement Thinning during clean up of tops from past harvest operations. Remove undesirable species and culls.
- Priority:** 3

EXISTING CONDITIONS FOR 'UNIT 2'

Land area: 2 Acres

Landuse History: Red pine stand established in the early to mid 1950 's.

Forest Type:
- Existing Red Pine
- Potential Oak-Hickory

Successional Trend: Planted Red stand stand which has received no prior management. Red Pine is not well suited to this site due to heavy soil type and it is presently in decline. Mortality is increasing in the stand and hardwoods species such as white oak, red oak, black oak, red maple, cherry and ash are regenerating in the understory, especially in open pockets resulting from the mortality of individual and pockets of pine.

Forest Health: Declining.

Site Quality: Meduim. Site is not suited well to growing Red pine, but is well suited to growing mixed hardwoods.

Approximate age: 55 **Size Class:** Poles (5.5 - 11.5")
Trees per acre: **Mean Stand Diameter:**
Basal area (BA): 180 **Acceptable BA:**
Growth Rate: **Timber Quality:** medium

Stocking: This red pine stand was established in the 1950's. There has been no forest management performed on this stand and soil type is not ideally suited for red pine. The stand is declining and the stand is gradully being replaced by a hardwood understory which is dominated by black cherry, but also contains red oak and white oak.

Stand volume:

Habitat and wildlife use: Once clearcut, this stand will be an excellent example of an early sucssional forest and will be very useful to many song birds species as well as rabbits, turkeys, deer, grouse and American Woodcock.

Recreational opportunities: This highly visible area just east of Exhibition Hall and north of the main access road could be an excellent place to demonstrate the process of natural regeneration to the guests of the park.

Potential for timber production: The existing pine stand should be clearcut as it is rapidly declining. This stand has good future timber production potential as a hardwood stand. The understory cherry is not favored browse for whitetailed deer, so regeneration success should be high.

Potential for other uses:

Water quality issues: None.

Important natural features: None.

MANAGEMENT PLANS FOR 'UNIT 2'

Landowner's objectives for this stand: Convert the stand to a young hardwood forest stand through the natural regeneration process.

Silvicultural Prescription

Recommended silvicultural system: Even-aged management, favoring Red oak, White Oak, Cherry, and Hickory.. Desired rotation age is 60 years.

Details of the silvicultural prescription: Clearcut for natural conversion to Hardwoods.

Planned Activities

2009: The existing Red pine stand is declining rapidly. Salvage of this stand is the best option and this is accomplished by clearcutting the stand. This drastic but appropriate treatment will accomplish four main goals. First, is the salvage and utilization of the pine material on the site. In this treatment, all of the pine, regardless of size, needs to be cut to salvage this resource and to receive some economic value for the usable material. Second, the harvest will accomplish the goal of regenerating a healthy young stand of hardwoods consisting of Oak, maple and cherry which is already established in the pine understory. Third, the overall health and diversity of the Charlton Park forest is increased by the newly established young hardwood stand and fourth, by creating some excellent young early successional habitat for wildlife. Many wildlife species such as ruffed grouse, rabbit, American woodcock, and a large assortment of bird species depend on these young hardwood stands.

Priority: 4

2010: Pile brush for rabbit habitat.

Priority: 5

EXISTING CONDITIONS FOR 'UNIT 3'

Land area: 35 Acres

Landuse History: This unit was farmed through the 1960's and then naturally converted to hardwood forest when this activity ceased. A wetlands project was done in 2005 where native shrubs were planted along unit border areas for wildlife. Nest boxes were also installed for woodducks.

Forest Type:
- Existing Swamp/ Lowland hardwoods
- Potential Swamp/ Lowland hardwoods

Successional Trend: This unit is mostly swamp/ wetlands and lowland hardwoods. Soils types are muck and organic soils which do not lend themselves to intensive forest management. Much of this Unit was farmed until 50-60 years ago and now consists of Cattails, marsh grass, Skunk Cabbage, Red stemmed Dogwood and other wetlands plants.

Forest Health: Stand health is good.

Site Quality: Good.

Approximate age: 75 **Size Class:** Medium Sawlogs (17.5 - 23.5")
Trees per acre: **Mean Stand Diameter:**
Basal area (BA): **Acceptable BA:**
Growth Rate: **Timber Quality:** low
Stocking: Most of this area is an emergent wetland with a strip of forested wetland on the eastern and southern perimeter. Most of this muck was actually farmed until about the 1960's. Much of the area consists of cattails, marsh grass and other wetland plants. The forested wetland consists of Eastern Cottonwood, Willow, Silver Maple, White ash, Green ash, Elm, Swamp white oak, Burr Oak and Basswood.

Stand volume:

Habitat and wildlife use: Wetlands are excellent wildlife habitat and should be protected for their unique value to support a wide variety of unique flora and fauna. Some of this area has value as the Riparian edge to the Thornapple Lake. Some species relying on this unit for habitat are Great Blue Heron, Canada Geese, Wood ducks, Mallard Duck, Eastern Tree Swallow, Red Winged Black Bird, Eastern Painted Turtle, Sping Peeper and Common Snaping Turtle and Bull Frog to name a few.

Recreational opportunities: Limited to wildlife viewing from park roads. Interpretive signage along the perimeter roadways could be an excellent way to help educate park visitors and especially those visitors which are handicapped or unable to venture away from the main roadways or their vehicals.

Potential for timber production: None

**Potential for other
uses:**

**Water quality
issues:**

Water quality issues are best addressed by leaving this area in its natural condition.

**Important natural
features:**

The unit is mostly Natural wetlands and should be managed in a non-intensive manner. No timber harvest is recommended at this time. Massasauga Rattle snakes have been sited in this unit. Massasauga Rattle snake is a species of concern according to the Michigan Natural Features program.

MANAGEMENT PLANS FOR 'UNIT 3'

Landowner's objectives for this stand: Maintain unit in present undisturbed condition as wetlands and as natural areas but to develop more for interpretive and educational values.

Silvicultural Prescription

Recommended silvicultural system: Uneven-aged management, favoring Lowland hardwoods. The desired cutting cycle is 25 years.

Details of the silvicultural prescription: No silvicultural prescription is recommended at this time due to fragile soil types and over-riding wetlands concerns.

Planned Activities

2011: Plant native shrubs and label with signs as a protection and educational measure.

Priority: 5

2012: Construct educational Boardwalk into areas native shrub plantings from the previous year.

Priority: 6

EXISTING CONDITIONS FOR 'UNIT 4'

Land area: 23 Acres

Landuse History: This forested wetland/ lowland hardwood unit has been forested for many years with aerial photos from 1938 showing most of it as woods. The wet soil types limited logging activity, but is expected that the usual pattern of periodic selective logging practice occurred with the use of horses during dry periods or more likely during the winter freeze.

Forest Type:
- Existing Lowland Hardwoods
- Potential Lowland Hardwoods

Successional Trend: Muck soil types limit forest management potential due to windthrow hazard, potential for excessive soil rutting.

Forest Health: The predominance of Ash in this unit and the likely loss of many of these trees from Emerald Ash Borer is the major health concern. The ash species will continue to exist in this stand in much the same manner as the Elm species (regenerating themselves, growing and occupying the site) with mortality of the larger trees occurring on a cyclical basis. The other species in the unit are for the most part healthy, but since forest management options are limited do to site limitations, the health of the unit will always be a concern.

Site Quality: Good

Approximate age: 75 **Size Class:** Medium Sawlogs (17.5 - 23.5")
Trees per acre: **Mean Stand Diameter:**
Basal area (BA): **Acceptable BA:**
Growth Rate: **Timber Quality:** medium

Stocking: This unit is described as a forested wetland and consists of lowland hardwood species types such as white ash, green ash, silver maple, burr oak, swamp white oak, sycamore, elm and cottonwood. The stand is predominantly pole timber and scattered large saw timber consisting of Burr oak, swamp white oak and ash.

Stand volume:

Habitat and wildlife use: Many species that prefer wetlands and forested wetlands, such as Great Blue Heron, Mallard duck, wood duck, eastern Painted turtle, common snapping turtle, spring peeper, white tail deer etc.

Recreational opportunities: Wildlife viewing.

Potential for timber production: Timber will grow well on this site, but harvesting limitations, forest management restrictions and insect infestations such as Emerald Ash Borer will severely limit the timber production potential in the future.

**Potential for other
uses:**

**Water quality
issues:**

This unit has a very important water quality role as a Riparian area. Maintaining the undisturbed forest condition is the best management option for this unit.

**Important natural
features:**

This unit is a forested wetland and serves an important riparian border along Thornapple Lake and Thornapple River. It also serves as a buffer for the day use and boat access. This forested wetland has significant value as wetlands for many important species of flora and fauna.

MANAGEMENT PLANS FOR 'UNIT 4'

Landowner's objectives for this stand: The soil type along with the proximity to the Park's day use area and the Thornapple Lake and River lend themselves best to this unit being maintained as Natural Areas.

Silvicultural Prescription

Recommended silvicultural system: Uneven-aged management, favoring Burr Oak, Swamp White Oak, and . Target maximum diameter is 30 inches. The desired cutting cycle is 25 years.

Details of the silvicultural prescription: No Management perscribed at this time.

Planned Activities

2012: Maintain the Riparian portions in this unit.
Priority: 5

2013: Trail maintenance within unit and educational signage.
Priority: 4

EXISTING CONDITIONS FOR 'UNIT 5'

Land area: 26.5 Acres

Landuse History: This stand has a history of limited use due to wetness issues. Springs within much of the area make any form of access very difficult.

Forest Type:
- Existing Lowland Hardwoods
- Potential Lowland Hardwoods

Successional Trend: Riparian Edge/ Lowland Hardwood stand. Species present include Red maple, silver maple, sycamore, willow, cottonwood, swamp white oak, elm, white ash, green ash.

Forest Health: Overall Stand health is good. Mortality is expected with most of the Ash due to Emerald Ash Borer and the ongoing loss of elm species from Dutch elm disease. Most of the area is not in an overmature condition and past site disturbance is minimal as access is very difficult due to mostly inundated soils.

Site Quality: High quality organic soil types dominate this unit.

Approximate age: 75 **Size Class:** Medium Sawlogs (17.5 - 23.5")
Trees per acre: **Mean Stand Diameter:**
Basal area (BA): **Acceptable BA:**
Growth Rate: **Timber Quality:** medium
Stocking: This unit is stocked primarily with white, green and black ash along with silver maple, Burr oak, Swamp white Oak, eastern cottonwood and basswood.

Stand volume:

Habitat and wildlife use: It is best to maintain this unit as a natural area in an undisturbed condition. This is also consistent with its value for wildlife habitat.

Recreational opportunities: The stand is a nice "green space" backdrop to the recreation area, museum and park areas. Some interpretive signs about the importance of natural wetlands and the associated wildlife value could be added to increase the educational value of the area.

Potential for timber production: This stand should be managed as a natural area because of proximity to the Thornapple River, the county park, its designation as wetlands and its Riparian value.

Potential for other uses: A potential exists to do some interpretive signage to highlight the importance of natural wetlands and riparian areas in a relatively undisturbed condition.

Water quality issues: This unit should be maintained primarily for its contribution to water quality by minimizing any disturbance, and protecting the area as an important riparian and wooded wetland. This is an extremely important streambank stabilization area as the lake changes to become the Thornapple River which has medium to high recreational use for boating and fishing.

Important natural features: Massasuaga Rattle snake has been sited in this unit.

MANAGEMENT PLANS FOR 'UNIT 5'

Landowner's objectives for this stand: Maintain as natural wetlands and riparian corridor as a natural buffer to the park and recreation area.

Silvicultural Prescription

Recommended silvicultural system: Uneven-aged management, favoring Mixed and Lowland hardwood.. Target maximum diameter is 30 inches. The desired cutting cycle is 25 years.

Details of the silvicultural prescription: No silvicultural prescription is recommended for the next 10-20 years.

Planned Activities

2013: Watershed and Riparian corridor maintenance in this unit.
Priority: 5

2014: Maintain trails within unit.
Priority: 4

EXISTING CONDITIONS FOR 'UNIT 6'

Land area: 36.5 Acres

Landuse History: This unit has had Recreational use since the 1940's under the management of Charlton Park. The Historic Village was added in the 1970's - 1980's. Prior to this time most of this unit was farmed and in one area there was some mining of gravel.

Forest Type:
- Existing Historic Village and Recreation Area
- Potential Historic Viillaga and Recreation Area

Successional Trend: N/A

Forest Health: Good.

Site Quality: Good

Approximate age: N/A **Size Class:** N/A
Trees per acre: **Mean Stand Diameter:**
Basal area (BA): **Acceptable BA:**
Growth Rate: **Timber Quality:** low

Stocking: Basically this unit is a park area and not maintained as a forest. However, the park area has some very nice white pine which were planted in the 1960's which are thriving and contributing to the areas biological diversity and the aesthetic values of the unit.

Stand volume:

Habitat and wildlife use: This unit is of significant value to wildlife as openings and provides an "edge" component between the water front, the wetlands and the forest units.

Recreational opportunities: This unit is managed almost exclusively for its recreational value as a day use park, boat access to Thornapple Lake and River and as the Park Headquarters. The Historic village and museum is located in this unit as is the Exhibition area is where many of the Park events and festivals are held.

Potential for timber production: N/A

Potential for other uses:

Water quality issues: This unit contains much of the Parks accessible frontage to the Thornapple Lake and Thornapple River. The boat launch and beach front are also contained in this unit. From a water quality standpoint, any activties that would create erosion or sedimentation into these water bodies should be restricted. Providing educational information on the importance of water quality to their long term health and sustainablity of these resources is recommended.

Important natural features: None.

MANAGEMENT PLANS FOR 'UNIT 6'

Landowner's objectives for this stand: Maintain unit in its current condition as County Park and site of the Charlton Park Historic Village and Museum. Use area more extensively to educate visitors about conservation and the importance of long term sustainability of the parks important Natural Resources.

Silvicultural Prescription

Recommended silvicultural system: Uneven-aged management, favoring White pine.

Details of the silvicultural prescription: No Silvicultural prescription is recommended at this time for this Park area.

Planned Activities

2009: Trail maintenance activities for this unit and focus on interpretive values and construct signage.

Priority: 3

2015: Enhance and maintain trails within this unit and add to interpretive trail system.

Priority: 4

EXISTING CONDITIONS FOR 'UNIT 7'

Land area: 20 Acres

Landuse History: This stand has a varied history. Most portions of the area are dominated by pole timber and smaller sawtimber with some open grown larger diameter individuals indicating a history of pasture and farming practices over the past 60-100 years. Some areas, especially near the village have some larger diameter sawtimber that is primarily dominated by red and white Oak.

Forest Type:
- Existing Mixed Hardwoods
- Potential Mixed Hardwoods

Successional Trend: Mixed Hardwood stand consisting of Sugar maple, Red oak, Hickory, Walnut, Ash, Cherry, Red Maple, White Oak, Basswood, Elm, Black Oak, Hackberry, Bitternut Hickory, Beech, Flowering Dogwood, Sassafras, Burr Oak, Tulip poplar and Aspen.

Forest Health: Overall stand health is good for an overstocked forest with a very limited forest management history. Forest Management treatments such as harvest should not be performed between April 1st and August 1st to prevent the possible spread of Oak wilt within the unit.

Site Quality: The site quality is very good as a forest site. Many of the species types that dominate such as Black walnut, hard maple, red oak tulip poplar will only grow on very good sites.

Approximate age: 60 **Size Class:** Medium Sawlogs (17.5 - 23.5")
Trees per acre: **Mean Stand Diameter:**
Basal area (BA): 140 **Acceptable BA:** 70-90
Growth Rate: **Timber Quality:** high
Stocking: This stand is overstocked and contains black walnut, sugar maple, red maple, ash, red oak, white oak, black oak, burr oak, tulip poplar, elm, bitternut hickory, beech, hackberry, sassafras, hawthorn, ironwood, flowering dogwood, basswood and aspen. The stand is primarily medium sized sawtimber with some large sawtimber and pole timber sized trees. Much of the larger sawtimber are open grown cherry and walnut indicating that it had been cleared or pastured in its past.

Stand volume:

Habitat and wildlife use: This unit is excellent habitat for deer, rabbits, squirrels, turkeys and an assortment of bird species which prefer forest habitats.

Recreational opportunities: The recreational opportunities for this unit are great due to proximity to the historic village, the roads the surround it and being contained within the county park.

Potential for timber production: This unit has high timber production potential. Many desirable species types such as Walnut, cherry Hard maple, red and white oak are all in high demand, have

high timber value and are found only on good forest soil types and site conditions.

Potential for other uses: This unit contains the historic Robinson cabin which had been moved here from a location nearby as an example of early Michigan architecture.

Water quality issues: None

Important natural features: None

MANAGEMENT PLANS FOR 'UNIT 7'

Landowner's objectives for this stand:

The primary objective for this stand is to maintain primarily for its recreation and interpretive value because of its proximity to the Historic Village. This unit is surrounded by Charlton Park Road to the west and both the north and south entrance roads into the park. The unit does have good forest management potential and should be managed in a sustainable manner through a forest management approach that can demonstrate multiple use forest management.

Silvicultural Prescription

Recommended silvicultural system:

Uneven-aged management, favoring Hard maple, walnut, red oak, white oak, burr oak, tulip poplar, hickory, and basswood. Target maximum diameter is 22 inches. The desired cutting cycle is 10 years.

Details of the silvicultural prescription:

The recommended management for this unit is to conduct timber stand improvement (TSI) work by removing low quality, poor species types and defective trees in favor of the highest quality crop trees. Species to favor in the management are sugar maple, red oak, white oak, walnut, cherry, hickory, burr oak, tulip poplar and basswood. The thinning can be done either commercially if good pulpwood, biomass or firewood markets exist or non-commercially by park staff and volunteers. Trees to remove should be marked and/monitored by a Registered Forester. Species to discriminate against include ash, aspen, sassafras, hawthorn, elm and ironwood. In addition, an individual tree selection timber harvest is also recommended for this stand. This can be done before or just after the TSI thinning. There are benefits to both approaches, however, without a good commercial biomass or pulpwood market, conducting the Selective timber harvest first and then doing some light TSI in the process of cleaning up the tops for firewood may make the most sense. The selective harvest should focus on removing the worst first. This means removing less desirable trees such as much of the open grown/large diameter walnut and cherry, the ash and mature trees where the trees are too crowded to achieve maximum growth. All forest management activities should be approached very carefully to make sure that the recreation and interpretive goal is not compromised. Each practice should be used as a tool to educate park visitors of the benefits of sustainable forest management. Desired Residual Basal Area is between 70 and 90 Sq. Ft. per acre.

Planned Activities

2012: Conduct light individual tree selection harvest to be administered by a Registered Forester. Harvest is to be aimed at improving the stand composition, vigor and long term value with the focus of incorporating forest management practices into a well developed interpretive display of a working, multiple use approach to stewarding the Charlton Park Forest.

Priority: 1

2013: Clean up of tops from previous harvest and removal of udesirable. low quality, defective and damaged trees in favor of the highest quality crop trees, espeically sugar maple, red oak, white oak, walnut and cherry.

Priority: 3

2014: Trail work and construction of interpretive trail system within the unit. Trial system should focus on the many important native forest species and their uses and value to wildlife, useful wood products that are used everyday and their ecological importance. Some attention to describing shade tolerance and the importance of harvest on the health, growth, composition and naural regeneration which occurs following harvest.

Priority: 3

2018: Individual Tree Selection Harvest to be marked and administered by a Registered Forester.

Priority: 1

EXISTING CONDITIONS FOR 'UNIT 8'

Land area: 8 Acres

Landuse History: This Unit had been farmed until about 1930 when an apple orchard was established. Over time the orchard was let go sometime during the 1950-60s and began brushing in with hardwood species. Remnants of the old orchard are still visible, but are becoming very obscure as it has naturally converted itself to a hardwood stand through the process on natural regeneration.

Forest Type:
- Existing Old Orchard/ Mixed Hardwood
- Potential Mixed Hardwood

Successional Trend: This is an old orchard that is reverting to mixed hardwoods. There are the expected early successional forest species such as sassafras and cherry along with walnut, red oak, sugar maple, basswood and white oak which becoming more predominant. The stand is primarily pole timber with scattered small to medium sized sawtimber. This old orchard component is becoming more obscure as the mixed hardwoods have really taken over the site.

Forest Health: Good. Forest Management practices such as Timber Harvest should not be performed between April 1 and August 1 to prevent the possible spread of oak wilt within the stand.

Site Quality: Medium. No forest management activity such as harvest should be permitted between April 1 and August 1 to prevent the possible spread of oak wilt within the unit.

Approximate age: 70+ **Size Class:** Small Sawlogs (11.5 - 17.5")
Trees per acre: **Mean Stand Diameter:**
Basal area (BA): 130 **Acceptable BA:** 70-90
Growth Rate: **Timber Quality:** medium
Stocking: This mixed hardwood stand contains many species types including cherry, sassafras, walnut, red oak, white oak, hackberry, sugar maple, elm and basswood.

Stand volume:

Habitat and wildlife use: The amount of forest edge and the desirable mast producing species such as cherry, red and white oak in this unit make it very useful to deer, rabbits, turkeys, and a host of other wildlife species including many song bird species.

Recreational opportunities: This unit is visible and accessible from River Road. The unit is basically surrounded by openings, the Road and a corner of unit # 9. The opening to the west that is used as a Civil War reenactment site gives this unit some non-traditional recreational value during these events. The conversion to this unit naturally through the process of natural forest succession could also be used for its educational value.

Potential for timber production: This mixed hardwood stand is actually very nicely stocked with many desired species types such as walnut, cherry, sugar maple, red oak, white oak and basswood. It has good potential to produce good quality timber with the proper silvicultural methods.

Potential for other uses:

Water quality issues: None

Important natural features: None

MANAGEMENT PLANS FOR 'UNIT 8'

Landowner's objectives for this stand: The objective for this stand is to manage for the multiple uses of recreation, wildlife, timber and aesthetics. The old orchard may be used as a tool with school groups to teach forest (plant) succession.

Silvicultural Prescription

Recommended silvicultural system: Uneven-aged management, favoring Walnut, cherry, red oak, white oak and sugar maple.. Target maximum diameter is 22 inches. The desired cutting cycle is 10 years.

Details of the silvicultural prescription: This unit is in need of a timber stand improvement thinning. The thinning would concentrate of reducing the basal area from 130 SF to between 70-90 SF. Species to favor in the management are cherry, walnut, red oak, white oak and sugar maple. The thinning should focus on removing the sassafras, elm, hackberry along with the suppressed or poor quality cherry and walnut. In most cases the leave trees are the cherry, walnut, hard maple, red and white oak which are over 10" DBH.

Planned Activities

2012: Timber Stand Improvement harvest to reduce stocking level to 70-90 s.f. of Basal Area. Remove undesirable and low quality trees to favor the highest quality crop trees.

Priority: 4

2016: Individual tree Selection Harvest to be marked and administered by a Registered Forester.

Priority: 2

2017: Timber Stand Improvement harvest and clean up of tops from previous timber harvest.

Priority: 2

EXISTING CONDITIONS FOR 'UNIT 9'

Land area: 64 Acres

Landuse History: Originally this unit was used by native Americans and there are remnants of this activity as the area was the site of a Methodist mission. A school house constructed in the 1840's is also located in this unit. A history of agricultural practices and the gradual process of ceasing these activities have contributed to a highly variable unit with an abundance of forest species types, sizes and conditions. For the most part, most if not all of this stand has originated in the past 40-60 years with the exception of the central portion running along both sides of the small creek which flows from north to south and dumps into the large swamp and eventually Thornapple Lake. This central portion of the unit is much older which may have always been wooded and the dominant existing trees are 90-100 years old or more.

Forest Type:
- Existing Mixed Hardwood
- Potential Mixed Hardwood

Successional Trend: This stand is really a mixed bag. For the most part it is different stages of forest succession dating back to when agricultural practices ceased in the 1950-1960's.. There are young successional walnut pockets, mature black locust, young mixed hardwood pockets mixed in with well established pole timber mixed in with small to medium sized mixed hardwood sawtimber areas of very diverse species composition. Many of the larger trees on this site show up in the aerial maps from the 1950-1960s indicating that much of the unit was used for pasture during this period. Once this activity ceased, the hardwood forest that now occupies the site began taking over much of the area. Only a small area on both sides of the small creek comprising about 2-3 acres of the total unit acreage was in woods in 1938.

Forest Health: Good. An abundance of Ash species and invasive species encroaching from the openings to the north pose the greatest threat to stand health. Timber Harvesting or other forest management treatments should not be permitted between April 1st and August 1st to prevent the possible spread of oak wilt within the unit.

Site Quality: Fair to Good

Approximate age: 60 **Size Class:** Small Sawlogs (11.5 - 17.5")
Trees per acre: **Mean Stand Diameter:**
Basal area (BA): 100 **Acceptable BA:** 70-90
Growth Rate: **Timber Quality:** medium

Stocking: This is a highly variable mixed hardwood stand with walnut, cherry, elm, ash, sugar maple, black locust, honey locust, sassafras, aspen, cottonwood, white oak, red oak, burr oak, basswood, black oak, white pine, hawthorn, tulip poplar, beech, dogwood, ironwood and hickory. Tree diameters range from less than 1' DBH to

Stand volume:

well over 30" DBH.

Stand volume:

Habitat and wildlife use: Many wildfide species are using this unit. The significance of a small spring and stream for many wildlife species cannot be understated. Because of the high degree of habitat types from mature forest to young forest, this unit has great species richness in terms of mammals, birds, amphibians, reptiles etc. White tailed deer, raccoon, rabbit, turkey, opossum, skunk, squirrel, grouse, American woodcock and a big assortment of other species are currently using this unit as habitat.

Recreational opportunities: This area has high recreational value as the location for the Native American Interpretive Village. The area is also used for birding, mushroom hunting, nature walks and wildlife viewing.

Potential for timber production: This unit has good potential for producing good quality timber within the context of the other stated goals of recreation, wildlife, scenic beauty and as an important component of the Park,

Potential for other uses: This unit contains the Native American Interpretive Village. Archeological digs to locate Native American artifacts are conducted at this unit at the north park entrance road and the stream crossing.

Water quality issues: The small spring and creek in this stand which runs along both sides of the Native American Interpretive village represents the most critical water quality issue. This creek should be protected by keeping a 30-50' buffer along both sides consistent with Best Management Practices for Water Quality which have been established by the State of Michigan- Department of Environmental Quality.

Important natural features: None

MANAGEMENT PLANS FOR 'UNIT 9'

Landowner's objectives for this stand: This stand contains the Native American Interpretive village which means that the recreation and interpretive goal trumps all other forestry objectives in approximately 4 acres in the central portion of this unit. The remaining 60 acres should be managed for the multiple uses of timber, recreation, wildlife and for their scenic and interpretive value.

Silvicultural Prescription

Recommended silvicultural system: Uneven-aged management, favoring Walnut, sugar maple, red oak, white oak, cherry, hickory, burr oak, basswood, and tulip poplar.. Target maximum diameter is 22 inches. The desired cutting cycle is 10 years.

Details of the silvicultural prescription: This stand is highly diverse and the recommended treatments will vary considerably within in based on species composition, age, quality and the specific use of the particular area. Due to the large size of this unit and the desire to keep up with the firewood clean up of tree tops from the timber harvests, I am recommending that 16 acre selection harvests be performed about every 2-3 years. This will allow the appropriate harvest and follow up thinning over the entire acreage by 2018. The Park is also interested in utilizing its own Sawmill to process some of the lower quality timber from these areas on an ongoing basis for demonstration, exhibition, community and educational purposes. This all fits in very well with the stand conditions of this unit. In general, the unit is in need of an Individual Tree Selection harvest followed up by a light timber stand improvement thinning that would cut the grape vines and the low quality, suppressed, undesirable and defective trees in favor of the best quality crop trees. Species to favor in the management are the walnut, cherry, red oak, white oak, hickory, tulip poplar, hickory and basswood. The black locust area in the southwest portion of this unit is declining and could be clearcut and regenerated if desired. The white pine pocket in this unit should be maintained as it greatly diversifies the unit and the remainder of the Parks ownership. The younger crop tree walnut should be released and pruned. Invasive species should be eliminated where possible. The initial single tree selection harvest should focus on the removal of the open grown, older and defective walnut and cherry along with others selected by a Registered Forester. This treatment will improve the overall health, quality and composition of this forest stand.

Planned Activities

- 2010:** Individual Tree Selection Harvest in eastern most 16 acre block to me marked by a Registered Forester to remove open grown, mature and overmature walnut and cherry. Lower value species such could be cut and utilized by Charlton Parks sawmill for a demonstration in conjunction with a Tree Farm Field Day or other appropriate event.
- Priority:** 1
- 2011:** Timber Stand Improvement and clean up of tops from previous timber harvest.
- Priority:** 4
- 2013:** Individual tree Selection harvest of 16 acres just east of the 2010 cutting. The harvest should be marked by a Registered Forester. The focus should concentrate on the harvest of trees consistent with the harvest prescription and be geared toward improving the stand's composition, vigor and growth rate in concert with the stated recreation objectives for the stand. The harvest should focus on removal of overmature, open grown walnut, cherry along with poor species types such as ash and elm. A woodlot management demonstration event could be planned to showcase the Charlton Park Sawmill and the benefits of forest management.
- Priority:** 1
- 2014:** Clean up of tops from 2013 harvest and conduct improvement thinning by removing poor species types such as elm, ash and ironwood along with defective, poorly formed or damaged trees of all species to favor the highest quality crop trees.
- Priority:** 1
- 2015:** Conduct individual tree selection harvest of 16 acre block of the Unit just east of the 2013 harvest area. Remove open grown and mature trees consistent with the stand prescription and the stated goals of Charlton Park. The harvest should be marked and administered by a Registered Forester.
- Priority:** 1
- 2016:** Clean up of tops from 2015 harvest and light improvement thinning in the portion of the unit. Remove low quality trees and inferior species types consistent with the stand prescription and the goals of Charlton Park.
- Priority:** 4
- 2017:** Individual tree selection harvest of the eastern most 16 acres of this unit consistent with stand prescription and the goals of Charlton Park and in the same manner as the harvests previously described in the unit. The timber harvest should be marked by a Registered Forester.
- Priority:** 1
- 2018:** Clean up of tops from 2017 harvest and timber stand improvement work to remove unwanted species types and poor quality individual trees in favor of the best quality crop trees.
- Priority:** 2

EXISTING CONDITIONS FOR 'UNIT 10'

Land area: 12.5 Acres

Landuse History: Old Crop field which in the recent years has been th site of an annual Civil War reenactment.

Forest Type:
- Existing Successional Opening/ Battle field
- Potential

Successional Trend: Sucessional vegetation encroaching into old crop field with invasives such as Autumn olive beginnig to take over the site.

Forest Health: Good.

Site Quality: Good

Approximate age: **Size Class:** Saplings (1 - 5.5")
Trees per acre: **Mean Stand Diameter:**
Basal area (BA): **Acceptable BA:**
Growth Rate: **Timber Quality:** cull
Stocking: Primarily successional hardwood regeneration along with much autumn olive and multiflora rose and other brush invading into this unit. A few open grown larger hardwoods (cherry, oak, maple) are beginning to take over the old opening (Battlefield) and making it less usable for its intended use.

Stand volume:

Habitat and wildlife use: Sucessional openings such as this have great value for a wide range of upland wildlife species such as deer, turkey, grouse, rabbit as well as many song bird species. The wildlife habitat could be improved by planting some of the area to native grasses and establishing some 1-2 acre food plots containing several species of clover. Maintaining these areas as openings will suit both the wildllife and recreation objectives for this unit.

Recreational opportunities: The main goal for this unit is to improve and maintain it as a Civil War reenactment Battlefield.. This Civil War The area has a nice network of trails which weave through the area which are periodically mowed.

Potential for timber production: Good

Potential for other uses:

Water quality issues: None

Important natural features: None

MANAGEMENT PLANS FOR 'UNIT 10'

Landowner's objectives for this stand:

The objective for this unit is to manage for its main recreational goal as the Civil War Reenactment site. To accomplish this means that it be managed as openings and not be allowed to revert back into forest species as it is currently doing without an active program to control the vegetation.

Silvicultural Prescription

Recommended silvicultural system:

Even-aged management, favoring Native Grasses.

Details of the silvicultural prescription:

This unit will require both mechanical and chemical control measures to recapture the area as openings. First, the area should be mowed with a heavy brush machine of all vegetation less than 6" DBH. Second, the area should be allowed to resprout and then sprayed with Garlon, 2-4D or other hardwood brush killing chemicals. Third, stumps should be ground allowing the area should be worked up. Fourth, the area should be seeded to a combination of switchgrass pockets in 25% of the area, interspersed with 50% big and little bluestem grasses and then 25% to mixed perennial rye and clover seedings. This will provide excellent visual and habitat diversity while at the same time allowing it to be maintained for its annual Civil War reenactment. The switchgrass and native grass component should be burned every 2-3 years under the direction of a professional experienced with these type of burns and including the local fire department in these practices.

Planned Activities

- 2009:** Remove all unwanted vegetation and preparation of the site to recapture the area as managed openings.
Priority: 2
- 2010:** Establish new seeding of desirable native grasses compatible with the areas periodic use as a Civil War Battlefield reenactment site.
Priority: 2
- 2014:** Kill vegetation, work up the ground to prepare the site for new seeding of perennial or native grasses.
Priority: 2
- 2015:** Planting of native and perennial grasses consistent with the areas use as a Civil War Battlefield.
Priority: 2

EXISTING CONDITIONS FOR 'UNIT 12'

Land area: 7.5 Acres

Landuse History: This unit has a history of being old Cropfields and Pasture.

Forest Type:
- Existing Successional Hardwoods
- Potential Black Cherry-Maple

Successional Trend: This unit is comprised of successional openings which are naturally reverting to hardwood forests. These areas are primarily old cropfields and pasture lands that have been let go and now are supporting an assortment of hardwood species types including silver maple, cherry, walnut, box elder, elm, mulberry, red maple, black oak, red oak, aspen and sassafras along with invasive species such as honeysuckle and autumn olive.

Forest Health: Very Poor due to grazing livestock and no active management.

Site Quality: Fair.

Approximate age: 15-25 **Size Class:** Poles (5.5 - 11.5")
Trees per acre: **Mean Stand Diameter:**
Basal area (BA): **Acceptable BA:**
Growth Rate: **Timber Quality:** cull
Stocking: Mixed hardwoods invading into old openings. Quality is poor as this unit is understocked.

Stand volume:

Habitat and wildlife use: The unit is good habitat for Deer, Turkeys, Rabbits, squirrels and a host of song bird species. The native shrub planting would add more habitat diversity and provide food and cover for a wide host of wildlife species.

Recreational opportunities: This undesirable forest unit has limited recreation potential in its current condition. However, the area once converted to native shrub species could have significant interpretive and educational value.

Potential for timber production: Very low quality timber production potential in this stand. The wood growing on this unit is biomass or firewood.

Potential for other uses: A small planting for thermal cover for wildlife could also be considered. Patches of .5 to 1 acre could be planted to white spruce or white pine. This would also provide additional wildlife habitat diversity.

Water quality issues: None

Important natural features: None

MANAGEMENT PLANS FOR 'UNIT 12'

Landowner's objectives for this stand: The owners objective for this area is to establish native shrub habitat after the removal and control of unwanted hardwoods and invasive species.

Silvicultural Prescription

Recommended silvicultural system: Uneven-aged management, favoring N/A.

Details of the silvicultural prescription: This area should be harvested of all undesirable trees on the site. A registered forester should designate all trees that should not be cut and market all saleable or usable material. The usable material should be chipped for biomass, cut for firewood, sold or used by the Park as sawlogs. The stumps should be then be ground out or sprayed until this unwanted vegetation is controlled. The site then can be restocked with native shrubs and or desirable hardwoods such as sugar maple, walnut, red oak, white oak and Hickory. Native shrub species such as grey dogwood, Service berry, flowering dogwood, red oshier dogwood, witchhazel, elderberry. Small conifer plantings of white pine and white spruce could also be incorporated into the mix to add some important thermal cover for wildlife.

Planned Activities

2010: Clearcut all undesirable woody vegetation to prepare the site for future planting of native shrubs.

Priority: 4

2011: Site Preparation activities including treating or removing tree stumps by excavator or stump grinder, followed by discing to smooth out the site.

Priority: 2

2012: Planting of Native shrubs species including grey dogwood, elderberry, serviceberry, etc.

Priority: 3

2014: Link the existing trail system into Native shrub planting area by constructing a loop into the area and placing signs for identification and also listing the importance of the specific shrub species to wildlife.

Priority: 5

EXISTING CONDITIONS FOR 'UNIT 13'

Land area: 11 Acres

Landuse History: This unit contains 3 separate stands. The stands on the east and west sides are red pine and the central stand is white pine. All three of these stands which comprise this unit were planted between 20-30 years ago.

Forest Type:
- Existing Red & White Pine plantings
- Potential Oak-Hickory

Successional Trend: These three planted pine plantations were established between 20-30 years ago. The central pine plantation is white pine and the two corner stands are comprised of pure red pine. These stands are serving as an excellent buffer for the park and will gradually give way to a natural hardwood understory. They are presently healthy. The stands are narrow and have very limited value for timber.

Forest Health: Good.

Site Quality: Good.

Approximate age: 25 **Size Class:** Poles (5.5 - 11.5")
Trees per acre: 900 **Mean Stand Diameter:** 6" inches
Basal area (BA): 150 **Acceptable BA:** 100
Growth Rate: **Timber Quality:** low

Stocking: This unit contains 3 separate stands of pine located along River Road. The east and west stands are Red Pine and the central stand is White pine.

Stand volume:

Habitat and wildlife use: This unit provides food and cover for a host of wildlife species. The narrow width of this unit limits its value as wildlife habitat for many species.

Recreational opportunities: This narrow shaped unit has limited value for recreation. However, a woodlot (Pine management) demonstration project could be set up in conjunction with a "Goods from the Woods" event where various craft items could be made with the wood removed in the thinning project.

Potential for timber production: This unit is capable of producing between .5 and 1 cord per acre per year. Quality very is low due to large amount of edge contained in these strips of trees which make up this unit.

Potential for other uses:

Water quality issues: None

Important natural features: None

MANAGEMENT PLANS FOR 'UNIT 13'

Landowner's objectives for this stand: The area is to be maintained as a park buffer. These planted pine stands provide an element of species diversity for the park which is predominantly hardwood forests, openings and agricultural lands. The Red pine stands may be converted to hardwoods 20-30 years out, but with white pine being the State Tree of Michigan should be maintained long term as a white pine stand.

Silvicultural Prescription

Recommended silvicultural system: Even-aged management, favoring Red pine and white pine. Desired rotation age is 60 years.

Details of the silvicultural prescription: Periodically, thin these areas by removing dead and multiple stemmed or poor quality trees to help keep the stand healthy. This can be done manually whenever there is time. The wood cut could be used to make craft items, rustic furniture or small log buildings for the Parks own use. A Registered Forester could mark the trees to be cut that would most benefit the stand.

Planned Activities

2013: Remove cull trees, multiple stemmed and defective trees and release best quality trees.

Priority: 2

2018: Remove small pockets and selected individual trees to stimulate natural hardwood regeneration, to reduce stand density and to improve stand health.

Priority: 3

EXISTING CONDITIONS FOR 'UNIT 11'

Land area: 27 Acres

Landuse History: Actively farmed until the past 5-10 years.

Forest Type:
- Existing Old Crop fields
- Potential Native grassland

Successional Trend: Old crop fields that have been let go and have been invaded with young hardwood regeneration along with many invasive species such as Autumn Olive, Multiflora rose.

Forest Health: Good

Site Quality: Good

Approximate age: 15 **Size Class:** Saplings (1 - 5.5")
Trees per acre: N/A **Mean Stand Diameter:**
Basal area (BA): **Acceptable BA:**
Growth Rate: **Timber Quality:** cull
Stocking: Young hardwoods, brush and invasive species
Stand volume:

Habitat and wildlife use: Improve habitat diversity by re-establishing these area as openings.

Recreational opportunities: Wildlife viewing.

Potential for timber production: N/A

Potential for other uses:

Water quality issues: N/A

Important natural features: N/A

MANAGEMENT PLANS FOR 'UNIT 11'

Landowner's objectives for this stand: The goal for this unit is to manage the openings and establish native grasses to add to the areas diversity.

Silvicultural Prescription

Recommended silvicultural system:

Details of the silvicultural prescription: Kill and remove incoming woody vegetation and establish these areas into native grasses, switchgrass or seed to a perenial rye grass and clover mix for wildlife.

Planned Activities

2011: Prepare site for 2112 planting of native grasses, switch grass and food plots for wildlife. Spray, burn or work up areas conventionally to prepare seedbed for planting.
Priority: 1

2012: Planting of native grasses.
Priority: 2

2015: Prepare site for 2016 grassland planting of native grasses.
Priority: 3

2016: Planting of native grasses into prepared openings and establish food plot areas for wildlife habitat and viewing.
Priority: 3

SUMMARY OF PLANS BY YEAR

- 2009 -

UNIT	PRIORITY	ACTIVITY
Unit 1	1	Due to the advanced age of this stand and the declining stand health, a Single Tree Selection harvest is recommended that would remove trees which are declining and are unlikely to live until the next scheduled harvest in 2015-2020. The harvest should be marked by a Registered Forester who will mark each tree to harvest by assessing factors such as; management objective, economic value and risk of loss, visual considerations, market condition, value to wildlife, position in the stand, windthrow probability, production of seed or mast and overall tree health. As a general rule this harvest should focus on trees over 22" DBH, but many healthy trees well above this size should be maintained for their recreation, visual and interpretive value. Species to favor in the management are the Red Oak, White Oak, Cherry, Walnut, Hickory, Tulip Poplar, Red Maple. I recommend that all of the mature Ash be removed due to the probability of an Emerald Ash Borer infestation which will kill these trees.
Unit 10	2	Remove all unwanted vegetation and preparation of the site to recapture the area as managed openings.
Unit 6	3	Trail maintenance activities for this unit and focus on interpretive values and construct signage.
Unit 2	4	The existing Red pine stand is declining rapidly. Salvage of this stand is the best option and this is accomplished by clearcutting the stand. This drastic but appropriate treatment will accomplish four main goals. First, is the salvage and utilization of the pine material on the site. In this treatment, all of the pine, regardless of size, needs to be cut to salvage this resource and to receive some economic value for the usable material. Second, the harvest will accomplish the goal of regenerating a healthy young stand of hardwoods consisting of Oak, maple and cherry which is already established in the pine understory. Third, the overall health and diversity of the Charlton Park forest is increased by the newly established young hardwood stand and fourth, by creating some excellent young early successional habitat for wildlife. Many wildlife species such as ruffed grouse, rabbit, American woodcock, and a large assortment of bird species depend on these young hardwood stands.

- 2010 -

UNIT	PRIORITY	ACTIVITY
Unit 9	1	Individual Tree Selection Harvest in eastern most 16 acre block to me marked by a Registered Forester to remove open grown, mature and overmature walnut and cherry. Lower value species such could be cut and utilized by Charlton Parks sawmill for a demonstration in conjunction with a Tree Farm Field Day or other appropriate event.
Unit 10	2	Establish new seeding of desirable native grasses compatable with the areas periodic use as a Civil War Battlefield reenactment site.
Unit 1	3	Clean up of tree tops from 2009 Timber sale and Timber Stand improvement treatment. This treatment should be the cutting grape vines, invasive species and undesiable competing species types such as elm, ash, ironwood, sassafras, beech and damaged, defective trees of all species.
Unit 12	4	Clearcut all undesirable woody vegetation to prepare the site for future planting of native shrubs.
Unit 2	5	Pile brush for rabbit habitat.

- 2011 -

UNIT	PRIORITY	ACTIVITY
Unit 11	1	Prepare site for 2112 planting of native grasses, switch grass and food plots for wildlife. Spray, burn or work up areas conventionally to prepare seedbed for planting.
Unit 12	2	Site Preparation activities including treating or removing tree stumps by excavator or stump grinder, followed by discing to smooth out the site.
Unit 1	3	Timber Stand Improvement.
Unit 9	4	Timber Stand Improvement and clean up of tops from previous timber harvest.
Unit 3	5	Plant native shrubs and label with signs as a protection and educational measure.

- 2012 -

UNIT	PRIORITY	ACTIVITY
Unit 7	1	Conduct light individual tree selection havest to be administered by a Registered Forester. Havest is to be aimed at improving the stand composition, vigor and long term value with the focus of incorporating forest management practices into a well developed interpretive display of a working, multiple use approach to stewarding the Charlton Park Forest.
Unit 11	2	Planting of native grasses.
Unit 12	3	Planting of Native shrubs species including grey dogwood, elderberry, serviceberry, etc.
Unit 8	4	Timber Stand Improvement harvest to reduce stocking level to 70-90 s.f. of Basal Area. Remove undesirable and low quality trees to favor the highest qualtiy crop trees.
Unit 4	5	Maintain the Riparian portions in this unit.

Unit 3	6	Construct educational Boardwalk into areas native shrub plantings from the previous year.
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- 2013 -

UNIT	PRIORITY	ACTIVITY
Unit 9	1	Individual tree Selection harvest of 16 acres just east of the 2010 cutting. The harvest should be marked by a Registered Forester. The focus should concentrate on the harvest of trees consistent with the harvest prescription and be geared toward improving the stand's composition, vigor and growth rate in concert with the stated recreation objectives for the stand. The harvest should focus on removal of overmature, open grown walnut, cherry along with poor species types such as ash and elm. A woodlot management demonstration event could be planned to showcase the Charlton Park Sawmill and the benefits of forest management.
Unit 13	2	Remove cull trees, multiple stemmed and defective trees and release best quality trees.
Unit 7	3	Clean up of tops from previous harvest and removal of undesirable, low quality, defective and damaged trees in favor of the highest quality crop trees, especially sugar maple, red oak, white oak, walnut and cherry.
Unit 4	4	Trail maintenance within unit and educational signage.
Unit 5	5	Watershed and Riparian corridor maintenance in this unit.

- 2014 -

UNIT	PRIORITY	ACTIVITY
Unit 9	1	Clean up of tops from 2013 harvest and conduct improvement thinning by removing poor species types such as elm, ash and ironwood along with defective, poorly formed or damaged trees of all species to favor the highest quality crop trees.
Unit 10	2	Kill vegetation, work up the ground to prepare the site for new seeding of perennial or native grasses.
Unit 7	3	Trail work and construction of interpretive trail system within the unit. Trail system should focus on the many important native forest species and their uses and value to wildlife, useful wood products that are used everyday and their ecological importance. Some attention to describing shade tolerance and the importance of harvest on the health, growth, composition and natural regeneration which occurs following harvest.
Unit 5	4	Maintain trails within unit.
Unit 12	5	Link the existing trail system into Native shrub planting area by constructing a loop into the area and placing signs for identification and also listing the importance of the specific shrub species to wildlife.

- 2015 -

UNIT	PRIORITY	ACTIVITY
Unit 9	1	Conduct individual tree selection harvest of 16 acre block of the Unit just east of the 2013 harvest area. Remove open grown and mature trees consistent with the stand prescription and the stated goals of Charlton Park. The harvest should be marked and administered by a Registered Forester.
Unit 10	2	Planting of native and perennial grasses consistent with the areas use as a Civil War Battlefield.
Unit 11	3	Prepare site for 2016 grassland planting of native grasses.
Unit 6	4	Enhance and maintain trails within this unit and add to interpretive trail system.

- 2016 -

UNIT	PRIORITY	ACTIVITY
Unit 1	1	Individual Tree Selection Harvest to be marked and administered by a Registered Forester. Reduce Basal Area back to 70-90 s.f. and monitor Oak and other hardwood regeneration.
Unit 8	2	Individual tree Selection Harvest to be marked and administered by a Registered Forester.
Unit 11	3	Planting of native grasses into prepared openings and establish food plot areas for wildlife habitat and viewing.
Unit 9	4	Clean up of tops from 2015 harvest and light improvement thinning in the portion of the unit. Remove low quality trees and inferior species types consistent with the stand prescription and the goals of Charlton Park.

- 2017 -

UNIT	PRIORITY	ACTIVITY
Unit 9	1	Individual tree selection harvest of the eastern most 16 acres of this unit consistent with stand prescription and the goals of Charlton Park and in the same manner as the harvests previously described in the unit. The timber harvest should be marked by a Registered Forester.
Unit 8	2	Timber Stand Improvement harvest and clean up of tops from previous timber harvest.
Unit 1	3	Timber Stand Improvement Thinning during clean up of tops from past harvest operations. Remove undesirable species and culls.

- 2018 -

UNIT	PRIORITY	ACTIVITY
Unit 7	1	Individual Tree Selection Harvest to be marked and administered by a Registered Forester.
Unit 9	2	Clean up of tops from 2017 harvest and timber stand improvement work to remove unwanted species types and poor quality individual trees in favor of the best quality crop trees.

Unit 13	3	Remove small pockets and selected individual trees to stimulate natural hardwood regeneration, to reduce stand density and to improve stand health.
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- UNIT SUMMARY TABLE -

UNIT	ACRES	COVER TYPE	STAND DIAMETER	BASAL AREA	SILVICULTURAL SYSTEM
Unit 1	13	Oak-Hickory		150	Unevenaged mgmt. Maximum diameter 24 inches. Cutting cycle of 8 years.
Unit 2	2	Red Pine		180	Evenaged mgmt. Rotation age is 60 years.
Unit 3	35	Swamp/ Lowland hardwoods			Unevenaged mgmt. Cutting cycle of 25 years.
Unit 4	23	Lowland Hardwoods			Unevenaged mgmt. Maximum diameter 30 inches. Cutting cycle of 25 years.
Unit 5	26.5	Lowland Hardwoods			Unevenaged mgmt. Maximum diameter 30 inches. Cutting cycle of 25 years.
Unit 6	36.5	Historic Village and Recreation Area			Unevenaged mgmt.
Unit 7	20	Mixed Hardwoods		140	Unevenaged mgmt. Maximum diameter 22 inches. Cutting cycle of 10 years.
Unit 8	8	Old Orchard/ Mixed Hardwood		130	Unevenaged mgmt. Maximum diameter 22 inches. Cutting cycle of 10 years.
Unit 9	64	Mixed Hardwood		100	Unevenaged mgmt. Maximum diameter 22 inches. Cutting cycle of 10 years.
Unit 10	12.5	Successiona l Opening/ Battle field			Evenaged mgmt.
Unit 12	7.5	Successiona l Hardwoods			Unevenaged mgmt.
Unit 13	11	Red & White Pine plantings	6" in.	150	Evenaged mgmt. Rotation age is 60 years.
Unit 11	27	Old Crop fields			