

# YELLOW RIVER STATE FOREST MANAGEMENT PLAN



Iowa Department of Natural Resources  
Conservation and Recreation Division  
Forestry Bureau – January 2009.

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## **Purpose**

The purpose for developing a management plan for the State Forests is to ensure that these lands are sustained for future generations and that the mission and core functions for the DNR and Bureau of Forestry are reflected in the management of these lands. Furthermore, this plan serves as a record of public input and desired uses for these lands. This plan reflects the management intentions for the next twenty years based on current knowledge of land capability, inventory data, sound forestry practices, land stewardship, and public demands. This plan will be a working document, and will be revised as needed to address the challenge of managing a forest resource that is constantly changing.

The mission and core functions of the DNR are as follows:

### **Iowa DNR Mission:**

To conserve and enhance our natural resources in cooperation with individuals and organizations to improve the quality of life in Iowa and ensure a legacy for future generations.

### **Iowa DNR Vision:**

Leading Iowans in caring for our natural resources

### **Core Functions of the Iowa DNR:**

Conservation, Protection, & Stewardship – Protect, manage, and ensure the lands through the effective use of policies and procedures. Provide sustainable, responsible recreational opportunities where possible. Increase awareness and understanding of natural resources values and needs. Provide all vital infrastructure needs necessary to administer and support agency operations to achieve results for Iowans.

### **Bureau of Forestry Mission:**

To help Iowans value, protect, expand and enjoy our trees, forests and prairies and the amenities they provide.

This plan will achieve forest and prairie management goals on the state forest to help accomplish our mission. In the planning process we have developed goals and objectives that will move the forest resource to a desired future condition. This plan ensures a system of orderly management and development of the state forest which reflects the current science regarding harvesting, forest stand improvement, and reforestation. The following management goals and objectives lay a foundation for the implementation of sound forestry management practices.

## **Management Goals**

**Sustainability** - Manage for healthy, sustainable forests and prairies. Maintain and improve the diversity of plant species and communities on the state forests.

- Improve forest age diversity through the harvest and regeneration of over-mature forest stands
- Use forest stand improvement to enhance species diversity.
- Manage native prairies and savannahs using fire management to promote plant diversity and control unwanted woody plants and invasive species.
- Increase the quality, quantity, and connectivity of public forestlands in Iowa.

**Utilization** – Ensure a sustainable flow of wood products for public benefit while promoting forest vigor by applying proper forest management techniques.

- Intensify forest management practices to utilize and regenerate over-mature and declining forest stands.
- Use forest stand improvement to enhance tree growth rates and vigor.
- Reduce non-forest acreage through natural succession and tree planting.

**Demonstration and Research** - Create and maintain forest management demonstration areas and research areas to increase the public awareness of the value and role of forests in Iowa and provide educational opportunities for students, organizations and others.

- Establish and maintain forest research plots.
- Establish forest demonstration areas, host field days, and provide outdoor classrooms to increase awareness and understanding of forest and prairie management.
- Seek partnerships with supporting private organizations, non-profit groups, and educational institutions to promote forestry education and awareness.

**Wildlife** - Maintain or improve natural wildlife habitat for game and non-game species. Protect known endangered and threatened species, as well as species of concern and their habitats.

- Use forest stand improvement and other practices to improve mast production for wildlife species.
- Maintain prairie and grassland habitats, increase contiguous forest cover, and create forest edge where appropriate to promote habitat diversity.
- Identify, study, and preserve unique habitats and T & E species.

**Recreation** – Create and enhance primitive, low-impact recreational opportunities.

- Maintain primitive trail and camping facilities where appropriate.
- Promote hunting, fishing and other game management activities.
- Promote other primitive activities such as backpacking and bird-watching.

**Water quality** – Enhance water quality by protecting watersheds and preventing soil loss by erosion.

- Prevent soil erosion by employing good conservation practices
- Protect and enhance streams and waterways adjacent to agricultural land by establishing riparian buffers.
- Use “Best Management Practices (BMP’s)” in all forest management operations.

## **Management Objectives**

1. Approach sustainable harvest levels (40 acres per year) through timber sales and regeneration harvests on non productive forest stands, using techniques that favor maintaining a viable oak component.
2. Use forest stand improvement to affect changes in growth and diversity on 200 acres per year.
3. Increase contiguous forest cover through tree planting on open fields and reduce amount of non-forest acreage.
4. Monitor and control invasive species and forest pests.
5. Maintain unique hill prairies through prescribed burning and tree cutting.
6. Maintain demonstration areas which showcase forestry techniques to the public at Forestry Field Days and other outdoor classroom events.

7. Continue collection of data to improve knowledge base and further understanding of changes in the forest landscape.

## **History and Overview**

### **History**

Yellow River State Forest was originally acquired in 1935 with money that was appropriated to support the Civilian Conservation Corps during the Great Depression. The Iowa General Assembly had in mind the goal of preserving a large tract of native forest in northeast Iowa. The land originally purchased was mostly adjacent to the Yellow River near its confluence with the Mississippi. At that time, the name “Yellow River Forest” was appropriate. In 1949, however, 1500 acres of the original Yellow River Forest was transferred to the National Park Service and is now known as Effigy Mounds National Monument. The main units of the state forest are now north of the original units in the Paint Creek watershed. Later land purchases tied fragmented pieces together and today, there are about 8600 acres in the state forest.

Most of the land that was purchased was farmland and pasture and much of the early management of Yellow River Forest dealt with protecting the forest from grazing cattle and controlling erosion. Fire protection was also a major consideration. Harvesting trees provided raw materials for buildings and other CCC structures such as bridges and dams on state parks and other areas.

During the 1940's, most of the open farmland on the state forest was planted to trees under a cooperative agreement with the US Forest Service. Many of the large pine plantations at Yellow River Forest are the result of this effort. The first record of any tree planting was a planting of white pine on the Luster Heights unit in 1946. A series of species adaptation plots was established in 1946 and the reforestation effort lasted up till around 1961. Most of the former crop fields were planted to conifers and the crop lease program was all but phased out.

Since fire protection was part of the management plan, an extensive system of fire lanes was constructed to allow access in case of a forest fire on the area. Administrative changes in the 40's caused more emphasis to be placed on forest management to demonstrate more complete and efficient use of our forest resources. Watershed protection and erosion were major considerations, along with improving wildlife habitat and providing outdoor recreation.

In 1947, a sawmill was moved into the Paint Creek Unit from Pikes Peak State Park and continues to operate today. The first logging project on the Paint Creek Unit occurred in 1948 near where the fire tower now stands. The aspen harvested was used to make fish box bolts for the Fisheries Section of the then Iowa Conservation Commission. This harvest was partly responsible for the construction of the Fire tower Road which was completed in 1950.

Also starting in 1946 was a prison labor program which is still in existence at YRSF. The original inmate workers traveled from the Men's Reformatory at Anamosa to work on the forest area. These men performed the lion's share of work on the state forest including fencing, tree planting, and harvesting, as well as operation of the sawmill, under the supervision of Francis McMillan, the first prison labor foreman. The first area forester at Yellow River was Milo Petersen who started the same year. At that time, the headquarters was in the town of McGregor.

During the 50's and 60's, outdoor recreation became a bigger factor in the management of Yellow River Forest. In 1954 the county road from Cherry Mound Church was re-routed through the state land which facilitated the development of camping and picnic areas. More trails were developed for improved access to the area for hunters, trout fishermen, and other outdoor enthusiasts. The trail systems were extended to accommodate horseback riders as well as hikers. A trail ride concession was set up in 1964 so forest visitors could see more of the area. Recreational use of the state forest boomed to the point of hiring a full time recreational supervisor and building an information center.

During this period, the Paint Creek Unit was made up of many small, unconnected land parcels, which made fencing difficult, and cattle encroachment on the area was severe. It was decided in the late 50's to move the headquarters to the Paint Creek Unit, and workshops and other buildings were constructed to house the sawmill crews and the area forester, in an effort to better protect the forest area. The headquarters was moved from McGregor in 1961, and an acquisition program was implemented to tie all segments of the Paint Creek Unit together into one large contiguous area.

The early 60's saw the implementation of the "Multiple Use Management" concept, and a committee made up of representatives from Fisheries Management, Game Management, and Forestry was convened to make recommendations about programming and resource development on Yellow River State Forest. The forest staff was expanded, and the inmate labor program was extended on an experimental basis to include temporary housing set up in mobile trailers near the site of the current headquarters building. The program proved to be so successful that a permanent prison labor camp was developed on the Luster Heights Unit in 1963.

The 1970's saw a renewed interest in forestry demonstration. It was recognized that hardwood forests were by and large poorly managed in the private sector, and that Yellow River State Forest could serve as an outdoor classroom to private landowners and forest industry people in general. Demonstration continues to be one of our main missions today, not only the demonstration of forestry techniques, but also that good forest management in the long term can provide a sustainable flow of wood products, while enhancing the area for wildlife habitat, clean water, and outdoor recreation as well.

## **Landscape Perspective**

YRSF is part of an area known locally as "Little Switzerland" due to its rugged terrain. The landscape is cut by deep valleys associated with tributaries of the Mississippi River, which creates the deepest gorge of them all. Underlying the soil in this area is shallow carbonate bedrock which is subject to cracks and fissures allowing the bedrock to erode away, causing sinkholes, springs, and caves. This phenomenon is known as "karst" topography and gives rise to the many interesting landforms and biological habitats that make the area unique.

Local land use is mostly agricultural, with farming on the flatter ridge tops and on the bottomlands next to creeks and rivers. Livestock grazing is prevalent on the steeper open grounds, and forest cover is abundant with oak-hickory, maple basswood, and bottomland hardwood forests. Some prairie remnants dot the steeper south facing slopes.

Major communities in the area include Waukon, Lansing, and Marquette, Iowa as well as nearby Prairie du Chien, Wisconsin. The smaller communities of Harpers Ferry, Waterville, and Rossville account for most of the local population.

## Cultural History

Prior to European settlement, the diverse landscape in northeast Iowa supported a variety of plant and animal communities. With plenty of rock caves for places of shelter, and fertile soils which could support agriculture, the area was ideal for the development and survival of prehistoric societies and cultures. The very earliest native American activity in the area dates to about 12,000 years ago in the Paleo-Indian period, as evidenced by archaeological finds of their primitive tools. Over the next few thousand years, the climate moderated allowing tribes which were once always on the move to settle and rely not only on fish and game for sustenance, but also on agriculture. The archaeological record of Allamakee County is rich with sites bearing ritual burial mounds, encampments, and petroglyphs. Early natives in this area included tribes in the Hopewell Interaction Sphere. Famous for their extensive trade networks, the sophistication of the Hopewell is evidenced by their conical burial mounds dating to over 2000 years ago and still visible today. In the following Woodland prehistoric period, mounds in the shapes of birds, mammals, and even humans were common in this area. Many of these mounds are still on display along with information on their cultural significance at Effigy Mounds National Monument, located just south of YRSF.

Over time, the late woodland period cultures were replaced by the more agrarian Oneota peoples of which little is known in this area. The Oneota society probably developed into the Iowan, Sauk and Fox, Winnebago, Oto, and other Siouan speaking tribes which inhabited the Midwest when the Europeans arrived. Throughout this early period of fur trade, Europeans exploited the route traveled by Marquette and Joliet in 1673; up the Fox River from Lake Michigan, then down the Wisconsin River to the Mississippi. Much of the early activity of Europeans in this area involved their interaction with these native tribesmen, first in the fur trade industry, and later in the enforcement of treaties and hunting zones between warring tribes.

In 1803, when the Louisiana Purchase ceded the land west of the Mississippi River to the United States, the Sauk and Fox tribes claimed possession of the west bank of the Mississippi River south of the Upper Iowa River. The Winnebago lived along the east bank of the Mississippi River near Prairie du Chien, while the Dakota controlled the regions to the north. Throughout the early 19<sup>th</sup> century, US Government troops did what they could to control neighboring tribes' rights to hunting grounds in the early Iowa territory, and several forts were built toward this effort. Fort Crawford was built at Prairie du Chien in 1829 with lumber milled at the first water powered sawmill in Iowa, generally referred to as the "Jefferson Davis Sawmill" actually built by Captain T. Smith. Interestingly enough, much of the lumber sawn was white pine which was rafted down the Mississippi from the Chippewa River in Wisconsin, some 120 river miles to the north. Lumber from this mill was also used in the construction of the first mission school west of the Mississippi, the site of which is within the boundaries of YRSF. This school was used to teach the children of the Winnebago, moved out of Wisconsin, agriculture, reading, writing, and sewing. The building of Fort Atkinson established a road leading from Prairie du Chien to the west which was subsequently used by the earliest settlers in the area after the Winnebago Indians were finally displaced from the state in 1848.

By 1837, steamboats were traveling up the Mississippi bringing settlers and facilitating trade in the new Iowa Territory. Many forests along the river were decimated in the quest for fuel to feed the boilers on these boats. The decks were often stacked with as much cordwood as they could carry. Many old photographs depicting early river towns show the hillsides virtually denuded of timber.

Most of the earliest settlers moved west of the rough country near the Mississippi to more suitable agricultural lands which were already devoid of trees. There was very little if any farming in Allamakee County before 1850, but eventually, the abundant wildlife and diverse landscape began attracting settlers, many of German and Norwegian descent, who built mostly on the edges of forests where they had some protection from the elements and a source of fuel and building materials.

In 1857, the main line railroad was opened between McGregor and Harpers Ferry, putting further strain on the forest resources of the area. By 1900, there was a farmstead on nearly every 160 acre parcel in northeast Iowa and most of the local towns were established. Farming was confined to the flatter ridge tops and bottomlands near rivers and streams. Often, these lands were cleared of timber to make way for corn, potatoes, and wheat. The Yellow River was the site of several sawmills and grist mills during this time period.

The mining of coal eventually took the strain off local timber as a source of fuel for boats and trains, and forests began to grow back except in places where crops were being grown. Prairie fires which once burned unchecked were a relic of the past, gone with the Native American culture. The landscape had changed dramatically in a span of about 65 years. Forests which had been heavily harvested were allowed to grow back, especially on the steep ground not well suited to farming.

While early riverboat traffic was instrumental to local development, it also consumed a lot of fuel from forests adjacent to the Mississippi River. As settlement continued, the railroads expanded into the area with even greater demand for fuelwood, and forests were cut heavily to supply this demand, not only along the Mississippi, but up its tributaries as well. Many of the earliest settlers preferred to build close to forests for a source of fuel and building materials, further increasing the demand on local forests. Much land was also cleared for farming.

By the 20<sup>th</sup> century, most of the local towns were established and there was a farm family on nearly every 160 acre parcel in northeast Iowa. Farms of the day were more diverse than today, but crops were still relegated to the flatter ridge tops and bottomlands near rivers and streams.

## **Geology**

YRSF is part of a landscape feature known as the Paleozoic Plateau in extreme northeast Iowa. Paleozoic bedrock was formed by the deposition of lime rich shells and skeletons of organisms occupying shallow seas between 300 and 550 million years ago, mixed with chemical depositions from sea water and plant debris, as well as sand. Now close to the surface in the Paleozoic Plateau, these ancient sediments are subject to erosion by rain water and melting snow that seeps into cracks and fissures in the rock. This situation has resulted in the presence of sinkholes, springs, and caves which are common in this area and are referred to as Karst topography. The existence of this Karst landscape accounts for the many unique microclimates in this area, as well as the cold water streams.

The Paleozoic bedrock is made up of fossil bearing limestone, sandstone, and dolomite sedimentary rock. The landscape is dominated by the presence of these rock strata and characterized by deep river valleys and prominent rock outcrops covered by rich wind blown loess soils.

The eastern half of the Paleozoic Plateau is often referred to as the "Driftless area", which was thought to be untouched by the most recent periods of glaciation in the pleistocene era. Although this has been found to be untrue by geologists, there is a striking difference in landscape features between the Driftless Area and the remainder of the state, where glacial deposits heavily mask the effect of local bedrock.

## **Forest Soils**

YRSF has been blessed with soils which are very productive for forest growth. Three soil types dominate our upland landscape: Fayette Silt Loams, Village Silt Loams, and Paint Creek Silt Loams. These are fairly deep soils that are well drained with good water holding capacity and high fertility on moderate slopes. All have high woodland suitability ratings. The Fayette soils occupy the best forest sites on the flatter uplands, with the Village and Paint Creek soils skirting the Fayette soils on moderate slopes. LaCrescent silt loams occupy the steeper slopes, interspersed with limestone outcrops. While not quite as fertile as the flatter uplands, LaCrescent



soils have a moderate woodland suitability rating. Drainages and stream channels are occupied by Arenzville-volney soils, Caneek silt loams, and Eitzen silt loams. All are moderately suited to woodlands with good fertility.

Many other smaller soil types are described for the YRSF area, but their extent is not large. Many have qualities similar to the upland soils listed above, except they are not as deep to bedrock, so wind throw can be a problem.

## **Archaeology**

Rich in prehistoric culture, this area of Iowa contains many known archaeological sites. The presence of Native American Effigy Mounds (burial mounds in the shape of animals) was one of the reasons that parts of the original YRSF were transferred to the National Park Service in 1949. This area became a national archaeological preserve, Effigy Mounds National Monument. Other sites that have archaeological significance can be found within the borders of YRSF, including Paint Rock, numerous Native American Camps, and site of the first Native American Mission school west of the Mississippi river in the Yellow River Unit.

Although we are aware of the locations of many archaeological sites on YRSF, we are not at liberty to divulge these locations and are dedicated to preserving their integrity as much as possible. All road & trail building and maintenance, as well as forestry activities are conducted with this protection in mind.

## **Land Acquisition**

In 1935 of the depression era, the Iowa legislature appropriated a million dollars to support the CCC program which was primarily aimed at building infrastructure on state parks. Some of this money was devoted to the purchase of some 12,000 acres of forest land in both southeast and northeast Iowa. Both Shimek and Yellow River State Forests evolved from this 1935 purchase. Some of the earliest acquisitions later became part of Effigy Mounds National Monument in 1949.

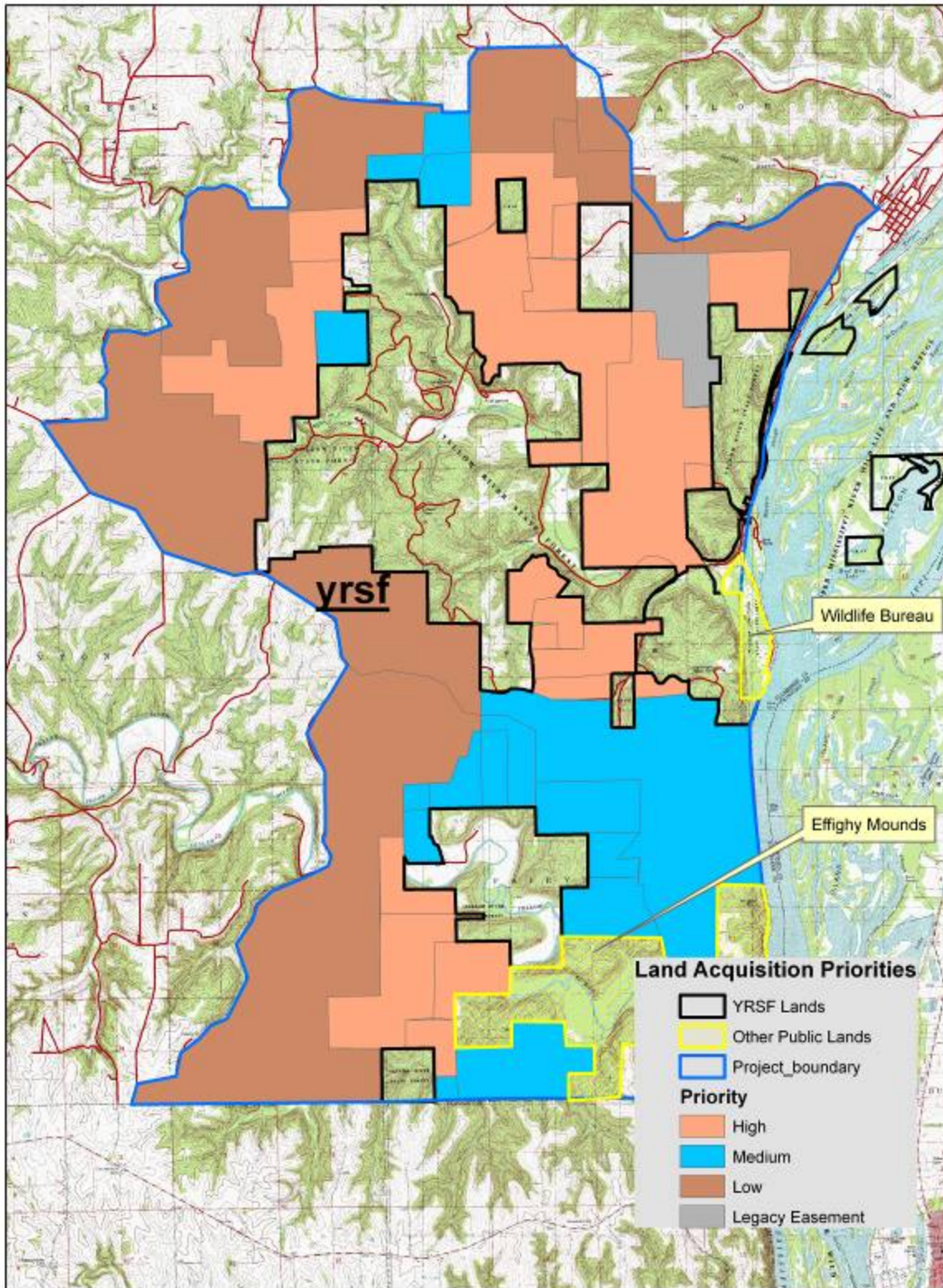
Later acquisitions focused on lands further north in the Paint Creek watershed using state fish & game funding, the Paint Creek Trust Fund, Pittman-Robertson and Dingell-Johnson federal wildlife funding, as well as some land forfeitures from tax delinquency. By 1940, Yellow River Forest had grown to almost 4,000 acres. There was another large push to acquire more land for the outdoor recreation boom in the 1960's. In the last 4 decades, several small acquisitions have been made from willing sellers. These purchases have extended the boundaries of YRSF and brought the acreage up to almost 8600, more than 13 square miles.

### Land Acquisition by Decade, Yellow River State Forest

<b>Unit</b>	<b>1930 -39</b>	<b>1940 - 49</b>	<b>1950 - 59</b>	<b>1960 - 69</b>	<b>1970 - 79</b>	<b>1980 - 89</b>	<b>1990 - 99</b>	<b>2000 +</b>	<b>Total</b>
Lost 40	160								160
Luster Heights	686.78			-48.48	9.81	61.5	60		769.61
Mudhen	196.35								196.35
Paint Creek	2077.06	10	40	1902.8	479.68	133.5	743.74	77.00	5463.78
Paint Rock	575.25	98.67	40				13.62	6.00	733.54
Waukon Jct.	172.85		0.29	21.63					194.77
Yellow River	35			156.65		608	267		1066.65
<b>Total per Decade</b>	<b>3903.29</b>	<b>108.67</b>	<b>80.29</b>	<b>2032.6</b>	<b>489.49</b>	<b>803</b>	<b>1084.36</b>	<b>83.00</b>	<b>8584.7</b>
<b>Forest Area Total</b>	<b>3903.29</b>	<b>4011.96</b>	<b>4092.25</b>	<b>6124.85</b>	<b>6614.34</b>	<b>7417.34</b>	<b>8501.70</b>	<b>8584.7</b>	<b>8584.7</b>

More details of early acquisition are available in “Forests and Forestry in the American States”, National Association of State Foresters, 1968.

Over the years, several strategic plans have called for additional state forest acreage, and to that end, a map of project boundaries has been established. Within the project boundary, land will be purchased from willing sellers provided that funding for these purchases is available. Priority for purchase is given to parcels which will consolidate existing ownership, eliminate in-holdings, and expand current forest boundaries.



**Primary project boundaries for land acquisition.** The primary project boundary represents approximately 28,300 acres.

## Recent Changes and Trends in Forest Composition

Much of the upland hardwood forest at Yellow River State Forest is overmature oak-hickory forest dating back to just after the time of settlement. Many stands are overwhelmingly stocked with red and white oak, a result of the long history of burning and heavy cutting during the settlement period. Many of these woodlands are beyond the age of vitality, and are subject to windthrow, breakage, and disease, primarily oak wilt. As these stands senesce and individual trees die, they are replaced by more shade tolerant hardwoods which have been growing in the shade of the oaks for many decades, notably hard maple, basswood, and ash. Without major disturbance which would allow the oaks to regenerate, these stands will eventually succeed into the Maple-Basswood community, which is the climax community in this area. Climax community is not undesirable necessarily, but it is less valuable for wildlife in general, because it lacks the plant diversity and mast production of the oak-hickory community which supports a wider array of wildlife species. This natural succession to Maple-Basswood community is inevitable on much of the acreage which is too steep to sustain mechanized logging. Forest management at Yellow River State Forest in the past 4 decades has been primarily aimed at figuring out how to regenerate forests which contain a substantial oak component as well as a more diverse mix of hardwood species.

In the earliest years of state forest management, it was thought that growing pine was preferable to growing hardwoods. After all, red and white pine rafted down the Mississippi River from Minnesota and Wisconsin was the bread and butter for the booming lumber industry in many Iowa river towns. To that end, many of the crop fields that existed during the earliest land acquisitions were planted to various species of pine. The boom of the hardwood lumber industry coupled with the fact that, with the exception of white pine, most pines did not compete and grow well in our comparatively heavy soils made the cultivation of pine an idea of the past. Many of the early pine plantings have fallen into stagnation, especially in the red pine, from failure to keep them thinned. These stagnant stands of pine are gradually being replaced by hardwoods through encroachment, most notably by walnut, which is allelopathic to most pines, but also by oaks and other more shade tolerant hardwoods. Current management strategies call for gradual elimination of most of these pine monocultures.

Many forest health issues loom on the horizon. Some of these have the potential to change the composition of our forests by eliminating certain native species, or reducing the vigor of older trees and making them vulnerable to attack by other agents. The best defense against forest insect pests and pathogens is to create a situation of as much species diversity as possible, and a forest that is growing efficiently and vigorously. We can expect high mortality in woodlands which are overmature and senescent as forest pests become established.

The proliferation of invasive plants on the landscape and an over abundant deer population is beginning to have a major impact on forest composition by stifling natural regeneration of native species, both woody and herbaceous. These obstacles to establishment of a desired mix of tree species are becoming a major challenge to foresters in the Midwest.

## Forest Health Issues

**Oak wilt:** Without a doubt, oak wilt has been and continues to be our biggest endemic forest health problem. Oak wilt has been killing red oak trees since the earliest days of timber harvesting on YRSF, and has, in fact, been the cause of much harvesting. Since it is a native disease of oak, it is not epidemic, but it does cause mortality of several thousand board feet of red oak annually. We continue to monitor oak wilt activity to the best of our ability and try to eliminate its inoculum whenever practical to do so. It is a bigger problem in over-mature stands where trees are not growing efficiently enough to ward it off, and insect vectors are more abundant. Most commercial harvest areas on YRSF are in stands of oak where mortality from oak wilt is occurring.

**Gypsy Moth:** Gypsy moth monitoring has been conducted on YRSF for many years. While we have trapped several male gypsy moths over the years, a population has yet to become established here. As of 2005, we are just on the edge of the advancing gypsy moth spread, and plans are underway to intensify trapping in an effort to slow the spread of this long time exotic forest pest. Most experts agree that it is only a matter of time before this pest crosses the Mississippi River. Its effect will be most pronounced in our over-mature oak timbers since oak is the preferred host for gypsy moth. We expect some mortality from repeated defoliation over the next decade.

**Butternut decline:** This deforming disease of butternut has been ravaging this species here for many years. Some young butternuts still pop up in harvest areas, but it is only a matter of time before they appear cankered and deformed. Some still survive to the age of nut production but it has been many years since we have harvested a good sawlog butternut tree. Researchers continue to search for resistant trees, but so far, no specimens have been shown to be immune to this disease

**Senescence and decline of red oak forests:** Many of our red oak timbers on YRSF are in a state of senescence due primarily to age. Midwest foresters generally agree that red oak forests reach this state of decline at about 140 to 150 years. At this point, these stands have surpassed the age of biological maturity and are actually losing more biomass than they are producing, mostly through breakage, rot, and disease. Much of our management on YRSF is aimed at regeneration of these stands to a more diverse mixture of species, with a smaller oak component.

**Emerald ash borer and ash yellows:** Ash yellows is a general decline of white and green ash which produces witches brooms, top dieback, and eventual mortality of ash. Since ash is a small component of our upland timbers, this has not been a huge problem on YRSF, but it does occur. White ash is fairly shade tolerant and was destined to become a larger component of the next generation of forests here, but ash yellows may prevent that from happening. Ash was once a preferred species to plant as a component in tree plantings, but is not relied on too heavily now.

Emerald ash borer is a relative newcomer to the forests of the north central US. This introduced insect has the potential to completely wipe out ash trees in our forests by boring into the trees and girdling them just under the bark, cutting off nutrient exchange between the roots and the tops of the trees. This dangerous insect has ravaged the ash forests of Michigan and is moving into Ohio and Indiana. It can be transported by unwary campers carrying ash firewood, and also in ash nursery stock. Efforts are underway to monitor the spread of emerald ash borer in Wisconsin and Iowa. So far, none have been detected in Iowa.

**Dutch elm disease:** It has been many years since the first wave of Dutch Elm Disease passed through this area with devastating effects. The large American Elms which were a major component of our lowland forests are now gone. It is still possible to find isolated sawlog sized red elms in the uplands, but for the most part the elms we see are small diameter red, white, and rock elms on the edges of forest openings. Elm is a very prolific seeding tree and produces seed at a very young age. This is probably the reason we continue to see lots of young elms in our harvest areas and other places. Most of these trees eventually become infected with this vascular disease and succumb. It is doubtful that elms will disappear from our landscape completely, but we no longer depend on elms to produce sawlog sized trees.

**White Pine Blister Rust:** YRSF is on the edge of the southern range of Eastern White Pine, and although white pine stands are not abundant here, there are still a few native stands, mostly relegated to steep north facing slopes. The largest white pine stands have been planted on old farm fields and are not native stands, but they grow well here and are a nice addition to our landscape. White pine blister rust is a canker causing disease that we find in many of our pine stands. Cankers develop on the main stem of these trees and can eventually kill the tree or cause breakage. In general, when white pine stands are thinned, every attempt to remove cankered trees is made to reduce the amount of inoculum in the area.

**Aspen Mortality:** The last several years have brought an increasing awareness that aspen clones are becoming weakened and killed, most likely by *Armillaria* root rot and a host of secondary insect pests. Aspen is a major component of our early successional forests in northeast Iowa and plays a major role in woodlands encroaching into non-wooded areas. Aspen also helps to create high stem densities in harvest areas and is essential to the habitat needs of ruffed grouse and woodcock. This problem is apparently widespread in the Tri-state area of Wisconsin, Minnesota, and Iowa and has probably been exacerbated by uncommonly wet weather of the last couple years.

### **Invasive species**

**Garlic mustard (*Alliaria petiolata*):** This invasive herbaceous plant is causing much concern in the forests of northeast Iowa. Although it is not yet ubiquitous, it can be found in most of our units and is spreading especially along trails and in drainages. Garlic mustard seems to thrive on trail edges where light is more available, but it doesn't compete well in full sunlight conditions, where grasses and other herbs crowd it out. The abundant seed is picked up by deer, horses, and unsuspecting hikers, and transported to other more remote locations where it starts new population centers and crowds out other native plants, especially the spring wildflowers. Some suspect that it will be a strong deterrent to forest regeneration, although we have not had that problem to date in our harvest areas. Some steps are being taken to slow it down by spraying along roads and trails, but there is little doubt that garlic mustard will spread since eradication on a large scale is virtually impossible.

**Japanese knotweed (*Polygonum cuspidatum*),** also known as Japanese Bamboo: this plant, frequently sold in nurseries as a landscape screen, is an aggressive invader of riparian areas and can become a problem in the uplands as well. It can be found on YRSF all along the banks of Big Paint Creek. It grows to about 10 feet in height and has large oval shaped leaves on stems that resemble bamboo. This plant gets a very early start in spring, growing to about 3 feet in height by June and shading out all other low growing plants. It reproduces by rhizomes and the broken off parts of other plants that take root. Each year, the patches get larger, eventually growing together to form large colonies beneath which no other plants grow. Control is difficult, especially in riparian corridors where conventional herbicides cannot be sprayed. Some control has been attempted using Rodeo herbicide at the time of flowering, but applications in several consecutive years will be needed.

**Asiatic Bittersweet (*Celastrus orbiculatus*):** This invasive plant is a vine similar to the native bittersweet plant, except that it bears flowers at the tips of the shoot instead of in the leaf axils. It is often found around farmsteads where it was initially planted as an ornamental plant for its attractive orange berries that persist into the winter months. It is a vining plant that can grow along the ground or climb into anything vertical, including trees. It is a severe problem at Backbone State Forest where it climbs the long clear stems of pine trees by coiling around them, and can actually girdle the trees if not cut. Asiatic bittersweet can build up a large seed bank making long term control difficult. Any young hardwood trees trying to break through the herbaceous layer will be overcome by the aggressive vine. The most effective control is by cut stem treatment with herbicides. In a heavily infested area, this is a very labor intensive strategy.

**Buckthorn (*Rhamnus cathartica*)** This invasive shrub is a serious problem throughout Illinois, Wisconsin, and Minnesota. Buckthorn leafs out early and forms thickets in the understory of native forests, shading out all other plants. Although buckthorn has been identified on YRSF, it is not yet a serious problem. Buckthorn is eliminated whenever it is encountered.

**Honeysuckle (*Lonicera spp*)** bush honeysuckle has been planted extensively in tree and wildlife plantings all over Iowa, including at YRSF. It was not recognized as an invasive plant until the last 10 years or so. Although it has the capability of taking over the understory of native hardwood forests, it has not done so, at least not extensively, in northeast Iowa. We no longer plant honeysuckle at YRSF, and are taking steps to eliminate it



from our forests whenever we encounter it. One problem with honeysuckles is that there is a native species which is fairly common here, and we need to take care not to eliminate the wrong plant.

## **Recreation**

YRSF has over 150 primitive campsites which will accommodate tents, camping trailers, and RV's. Equestrian camping is available in separate camp areas with a total of 34 sites. One group campsite is available to youth groups by reservation only. Camping is still primitive with no running water or electrical hookups. Picnic tables and fire rings are provided. A fee is charged for overnight camping in these areas. In addition to the organized drive-in campgrounds, backpack camping is also provided. There are 4 backpack camp areas located at various points along the 25 mile Backpack Trail. Camping in these areas is free of charge. Day users can picnic at either of 2 picnic areas located adjacent to Paint Creek.

While camping is a popular activity at YRSF, it is probably second to hunting and trout fishing. YRSF is one of the largest public hunting areas in northeast Iowa and is a popular spot for hunting deer, wild turkey, rabbit, squirrel, and upland birds, including grouse and woodcock. Hunting is allowed in all units of the state forest with the exception of the camp and developed areas, where minimum shooting distance regulations apply.

Trout fishing is our most popular year-round activity at YRSF. Our two trout streams, Little Paint and Big Paint Creeks, are stocked regularly by Iowa DNR Fish Hatchery personnel from Big Springs Hatchery near Elkader. Recent trout stream habitat projects as well as watershed protection projects continue to satisfy trout anglers throughout the year. Recent creel surveys have concluded that there are now naturally reproducing populations of Brown Trout in Little Paint Creek, and rainbow trout are overwintering in Big Paint Creek.

Trail use at YRSF is another popular outdoor activity. Our Backpack Trail was nominated "Best Trail in Iowa" by Backpacker Magazine in 2002. This 25 mile trail was designed to be a weekend trek with 2 overnight stays in the YRSF wilderness. Two additional remote campsites have been set up in recent years by popular demand, and plans are to add to this number. Backpackers must share about 20 miles of trail with horseback riders and mountain bikers. Even so, the trails never seem to be crowded so the experience is good for everyone looking for a little solitude.

In winter months most of our gravel surfaced roads are closed to wheeled vehicles, and serve as part of the Allamakee County snowmobile trail system. Portions of our hiking and equestrian trail systems become groomed cross country ski trails. Additional XC-ski trails are available in the Luster Heights Unit.

Bird watching is another popular activity at YRSF. By virtue of the amount of contiguous forest cover in the area, we are part of the Effigy Mounds/Yellow River State Forest Bird Conservation Area. Many species of migratory birds are attracted to the forest from the Mississippi River Flyway and provide hours of bird watching enjoyment for forest visitors. Some of the rare species will be covered in the "Wildlife" portion of this document.

Finally, nature study rounds out the list of popular activities. Many college, high school, and elementary students visit Yellow River each year to get a first hand look at our forests, trout streams, and other habitats. Yellow River serves as an outdoor classroom for many scout and other youth groups each year. Studying plants, trees, insects, and flowers are all activities that are encouraged.

## **Wildlife**

YRSF is one of the best wildlife viewing areas in Iowa and attracts hundreds of bird watchers, hunters, trappers, and researchers each year. The abundant habitat at YRSF allows us to enjoy most species of wildlife common to this part of the country. Large tracts of unbroken forest which include forest cover from early succession to old growth support an incredible array of niches suitable for most species of wildlife. The development of wildlife habitat is always a consideration in making silvicultural decisions.

In addition to forested habitats, tree planting on open fields, and management of open lands such as hill prairies and agricultural lands adds to the potential for attracting wildlife. Shrubs and mast producing trees are always included in our tree planting on open lands to help support birds, small mammals, and browsers. Wildlife food plots are built into crop lease programs to provide winter food and cover for deer and turkey, raccoons, and other species. In addition, marshes, ponds, and cold water streams add to our habitat potential.

Game species are the most frequently sought wildlife at YRSF. These include white tailed deer, Eastern wild turkey, fox squirrel, cottontail rabbit, ruffed grouse and other upland birds. Furbearers include mink, river otter, beaver, badger, muskrat, raccoon, opossum, weasel, coyote, ground hog, and fox.

One of our most important resources is our bird population. YRSF is part of the Yellow River Forest/Effigy Mounds Bird Conservation Area which was dedicated in 2004. Being close to the Mississippi River Flyway, our large forest area attracts many rare migratory song birds including the cerulean warbler, red shouldered hawk, and scarlet tanager. Forest personnel work with DNR non-game wildlife biologists to improve habitat and fund research into this important group of birds.

Many common snakes, snails, frogs, and other amphibians are common at YRSF. Of particular interest is the timber rattlesnake, which although rare, can still be found here. Also found on our algific slopes is the endangered Iowa Pleistocene Snail.

Several species of fish can be found at YRSF. Most notably, brown and rainbow trout are taken frequently from 2 trout streams that flow through the forest area. Although pond fishing is not very popular here, our 2 marsh areas can provide some fishing for bluegill and bullheads. Outside of the Paint Creek Unit, some of our units border the Mississippi which contains some of the best fisheries around.

### **T & E Species:**

YRSF is home to several plants and animals listed on the state threatened and endangered list. This list is comprised of species whose population is protected by administrative rule. Habitats for species on the T & E list have been placed into our no management zone. Research into the occurrence and protection of these species is encouraged.

Many of the listed species are associated with algific talus slopes which occur primarily on north facing slopes with limestone outcrops. These slopes are characterized by cold air flows which keep the local climate moderated. Some species associated with these slopes include Iowa Pleistocene Snail and northern monkshood.

Other listed species occurring on YRSF include Frigid ambersnail, shining clubmoss, spotted coralroot, northern long-eared bat, puttyroot, dull gloss, broad-winged hawk, coopers hawk, red-shouldered hawk, dwarf raspberry, rock sandwort, hooded warbler, salt & pepper skipper, prince's pine, jeweled shooting star, and nodding pogonia.

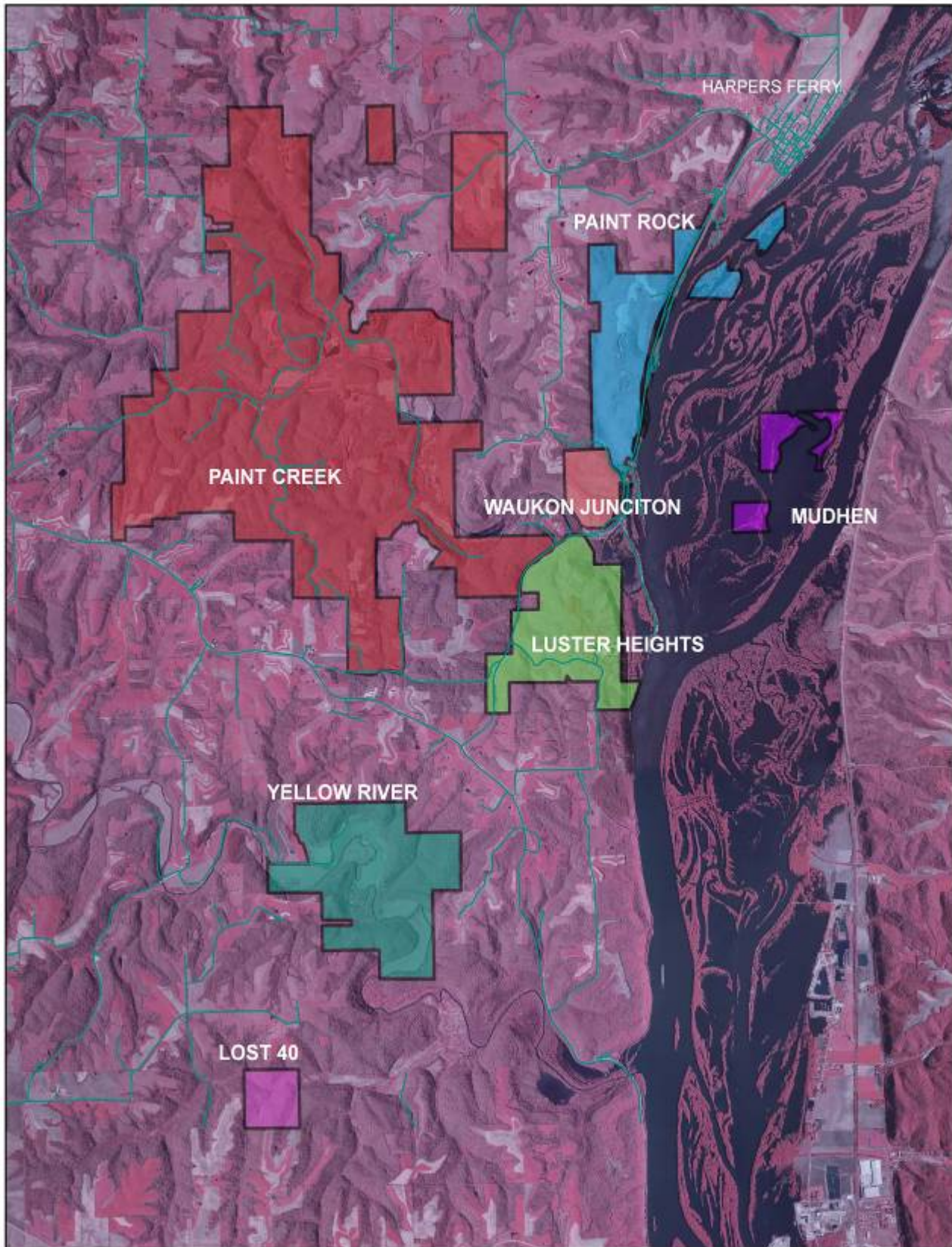


## **Forest Units**

Forest areas are divided into Units, which are generally designated in terms of their locations. Yellow River State Forest is divided into 7 different units. Listed in order of decreasing size, the units of YRSF are: Paint Creek, Yellow River, Luster Heights, Paint Rock, Mudhen, Waukon Junction, and Lost 40.

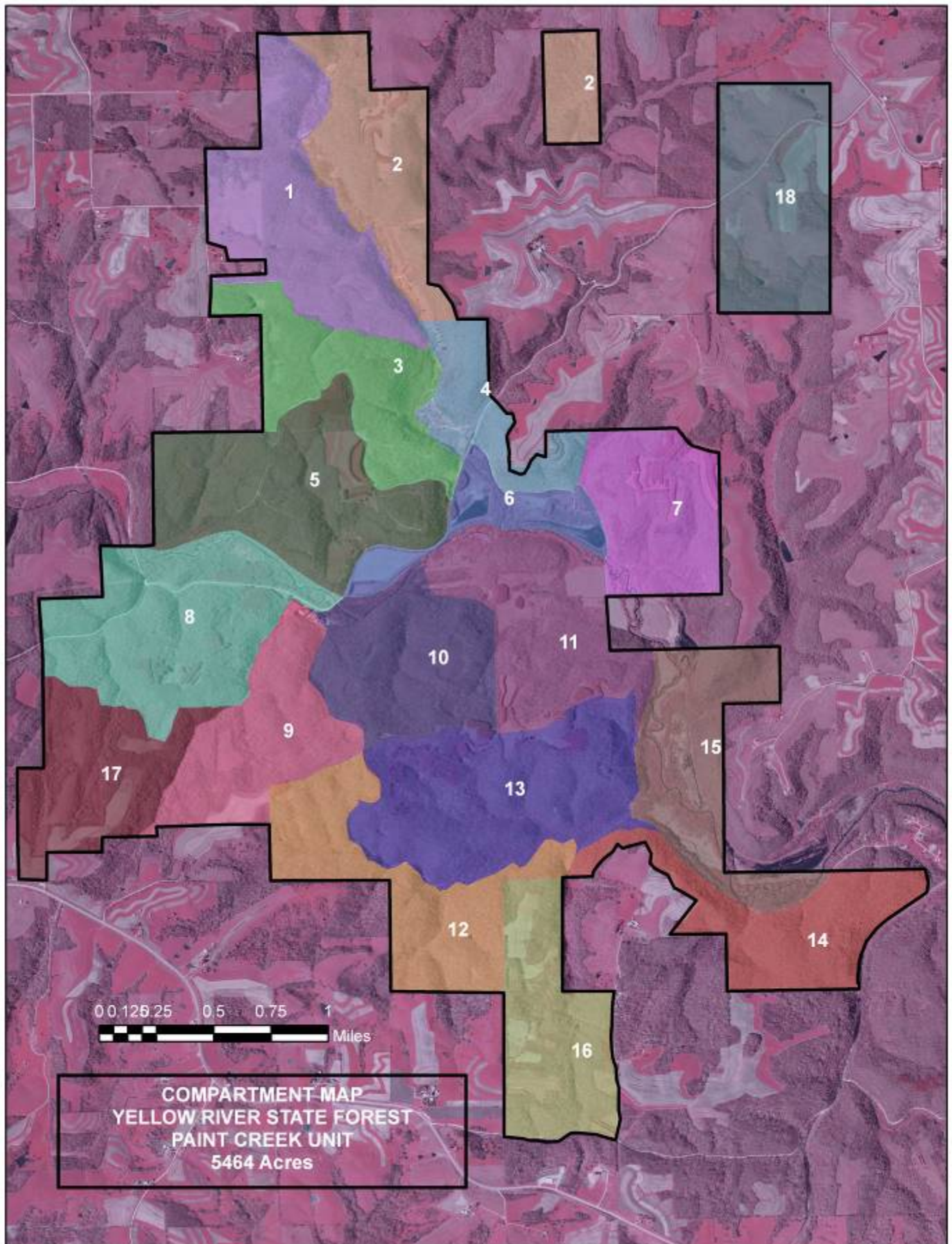
Units of the forest are further divided into compartments, generally designated by size and delineated by natural terrain features. The designation of compartments allows better organization for scheduling management activities on the state forest. Records of management within the plan are referenced by unit and compartment for the entire forest.

<b>UNIT</b>	<b>ACREAGE</b>
PAINT CREEK	5464
YELLOW RIVER	1067
LUSTER HEIGHTS	910
PAINT ROCK	734
MUDHEN	196
WAUKON JUNCTION	195
LOST 40	160
<b>TOTAL ACREAGE</b>	<b>8726</b>

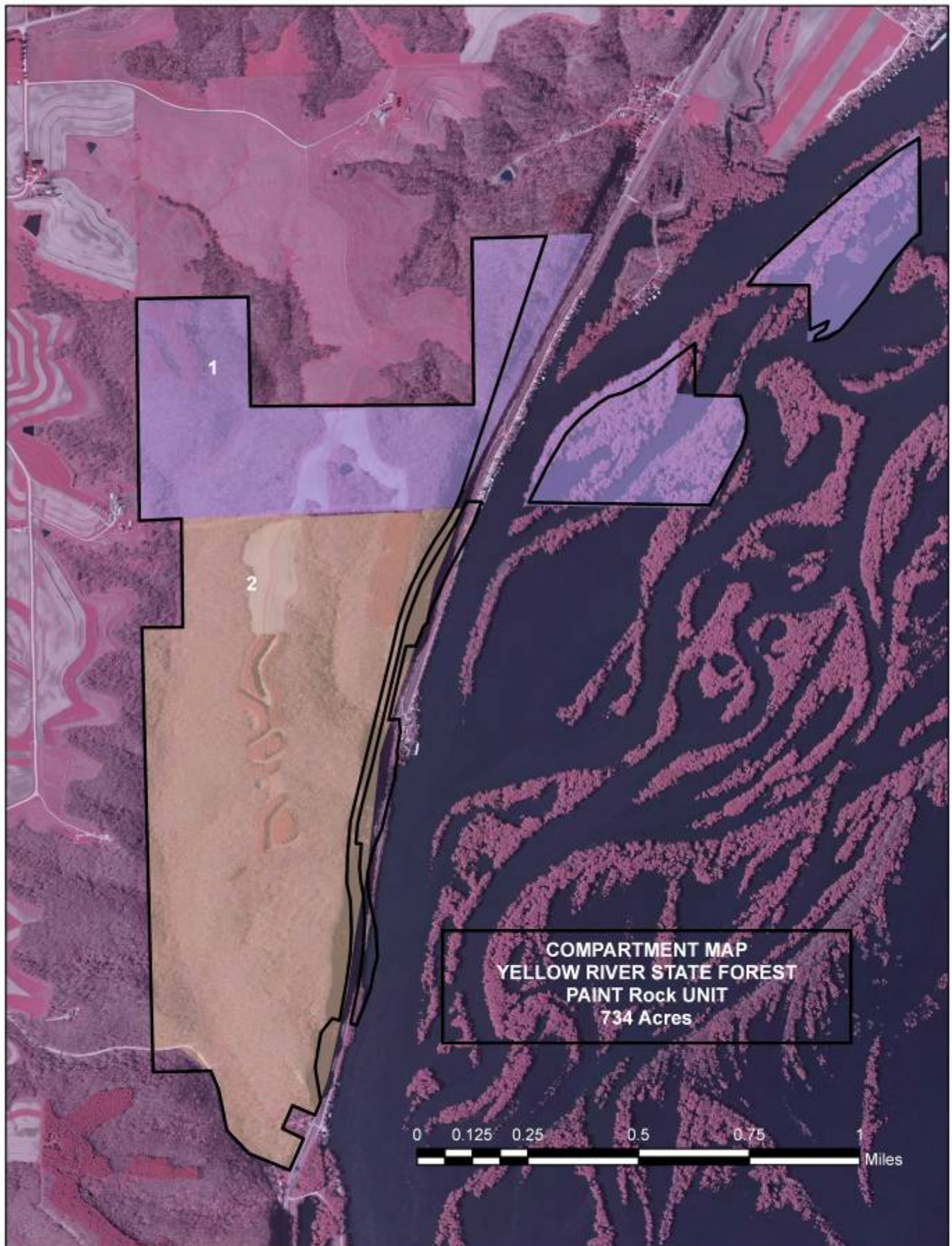


## UNITS OF YELLOW RIVER STATE FOREST

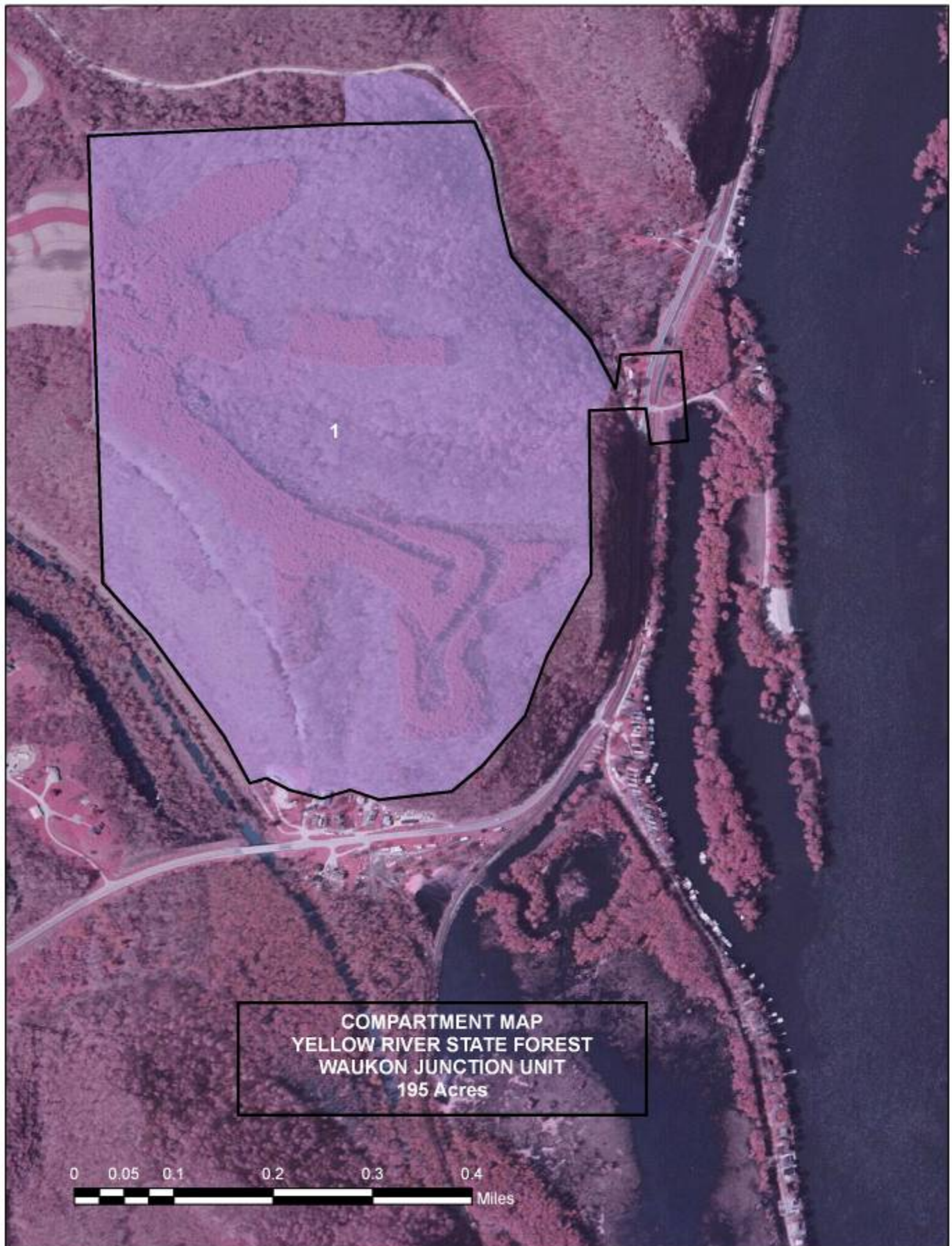








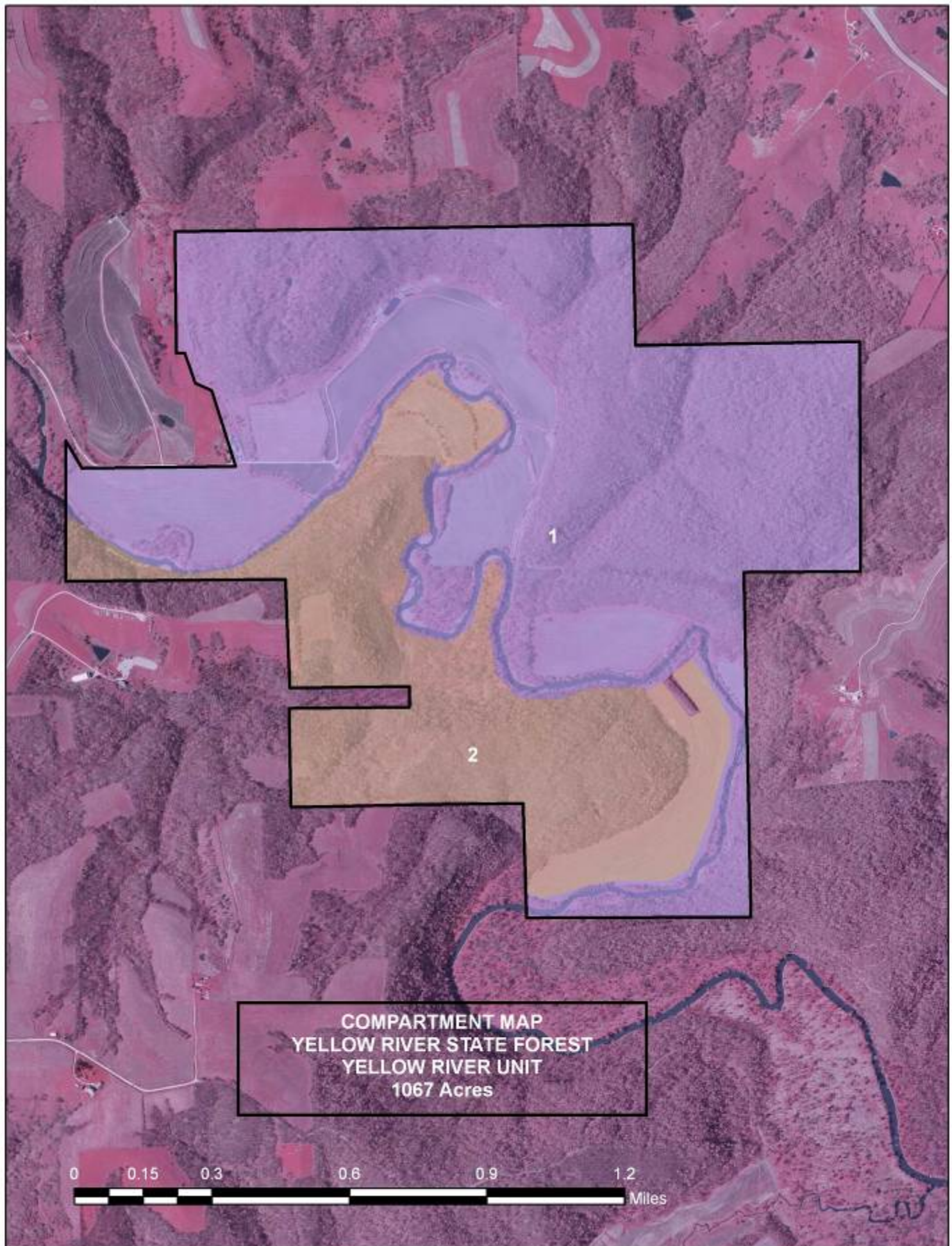




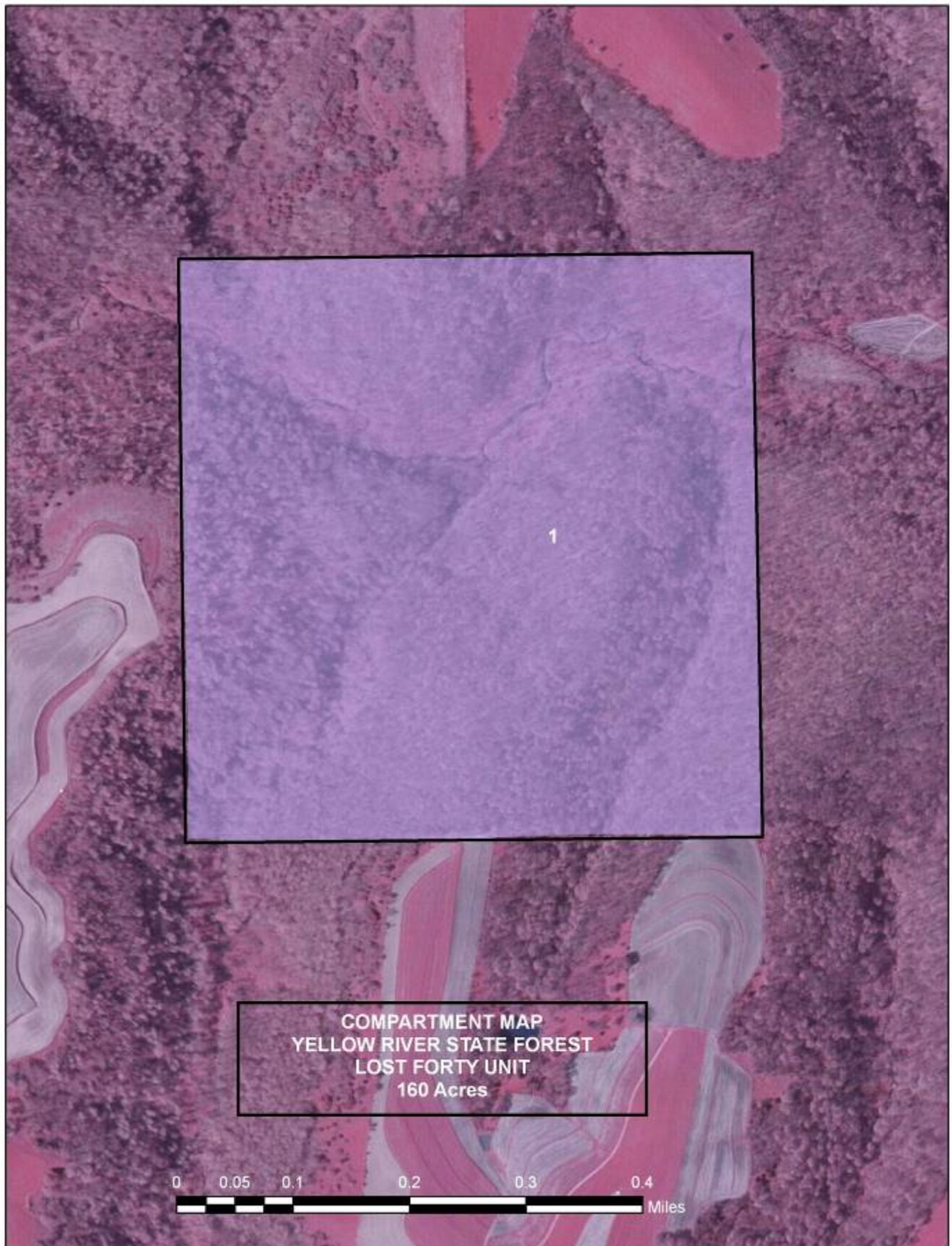




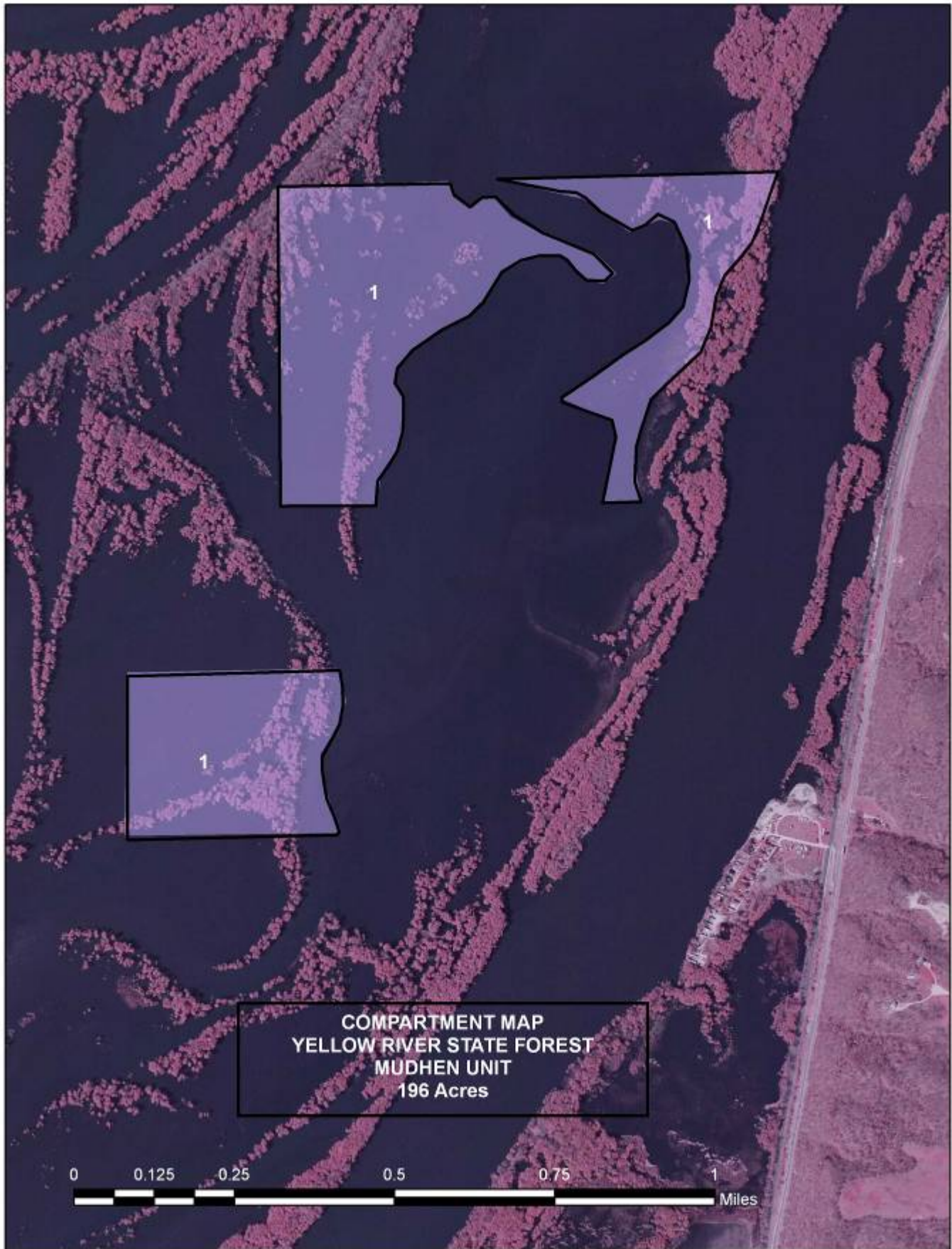












## **Forest Management Classes and Descriptions**

YRSF is divided into 3 distinct management classes, based on vegetation type and level of intensity of forest management. These management classes are 1. Active Forest Management, 2. Limited Forest Management, and 3. Non-forest areas.

**Class 1 - Active Forest Management** (4887 acres, 56%): Active forest management areas have no restrictions on level of forest management. Stand prescriptions are determined by the area forester after analysis of the existing forest and the desired future condition of the stand. In most cases, active forest management at YRSF will apply to one of 3 major forest types. Further, these different forest types are managed under 2 very different management schemes designed to regenerate a desired mix of forest species.

**A. Upland hardwoods:** Typical upland hardwood stands at YRSF are comprised of even aged Oak-hickory forest in various stages of succession. In addition to oak and hickory, associations generally contain varying numbers of big tooth aspen, sugar and black maple, white ash, basswood, cherry, elm, and other minor components. Where a shade tolerant hardwood understory is not too advanced, these stands are typically managed under an **even-aged management system** which favors the re-establishment of forests with early to mid successional species, most importantly including an oak component. Harvest techniques which will allow for the establishment of oak and other shade intolerant species include clear cutting, shelterwood, and seed tree harvesting systems.

Stands which occur on good soils and contain a mix of undesirable species with poor form have been acquired over time. These poor quality forestlands many times contain high numbers of understory species like boxelder, ironwood, muscledwood, and bitternut hickory, and are not generally good for wildlife habitat or growing high quality trees. These stands will typically be managed by even aged systems as well, with an emphasis on regeneration of forestlands with an oak component.

In older, senescent stands, and stands which have had the oaks “high graded” out, succession into the maple basswood climax community is rapidly taking place. These stands typically have a better distribution of size and age classes and will normally be managed on an **uneven-aged** basis with selective harvesting. Selective harvest systems involve cutting some trees across all size classes to maintain a good mixture of trees from seedlings and saplings to large mature trees. Selective systems insure that there is always forest cover, but regeneration of oak and other early successional species is not normally feasible using selective harvesting techniques, and stands managed in this way will inevitably succeed into climax communities of shade tolerant species.

**B. Bottomland hardwoods:** Bottomland hardwoods are generally managed under even aged systems, except where the stand conditions are conducive to growing walnut. Most bottomland species are shade intolerant “pioneers” and grow best under even aged conditions. Typical examples of bottomland hardwoods in this area include mixtures of silver maple and cottonwood, with smaller amounts of river birch, rock elm, and willow. It is possible to include swamp white oak in regeneration efforts on bottomlands, but the high fertility on most bottomland sites makes regenerating swamp white oak difficult.

Where walnut is present and manageable on bottomland sites, selective harvesting to favor the walnut is typically the management prescription. Due to the high value of walnut and its value as a wildlife tree, it can be managed on a single tree selective basis.

**C. Conifers:** Conifer stands at YRSF have mostly been introduced, although some remnant white pine stands exist on steep slopes with shallow soils. In most cases, the naturally occurring white pine falls into the limited

management area and will not be reestablished using a harvest system. These are special stands which can be encouraged on a single tree basis. Larger conifer plantations have been established mostly on former crop fields at YRSF. These stands are managed strictly on an even-aged basis, due to the shade intolerant growth requirements of most pines. Some red pine stands which have not been thinned in many years are in a severe state of decline and will be clearcut at some point and regenerated with upland hardwoods.

**Class 2 - Limited Forest Management (2770 acres, 32%):** Limited forest management areas are those in which intensive forest management may potentially have negative impacts. In most cases, harvesting in these areas will be limited to salvage of high value trees, or reducing the negative impact that trees might have on the integrity of a unique site such as an archaeological site. Limited forest management areas include all slopes over 35%, riparian zones, archaeological sites, viewshed areas, T & E species habitats and unique areas.

**Class 3 - Non Forest (1047 acres, 12%):** State forests are large land holdings which are mostly forested, but they also contain acreage devoted to other uses. The map at the left shows areas that are considered for management purposes to be “non-forested” acreage. Within the boundaries of YRSF are approximately 1047 acres which are in this category. This comprises about 12% of the total acreage contained within the state forest boundary.

Non-forest acreage is further broken down into other categories:

Grasslands includes any areas where the primary ground cover is grass, and may include such areas as roadsides, pond dikes and buffers, and retired crop fields which have not yet been converted to trees.

Prairies and savannas are areas managed specifically for these cover types. They differ from grasslands, in that they contain a diverse mix of native plants, including grasses, forbs, and shrubs.

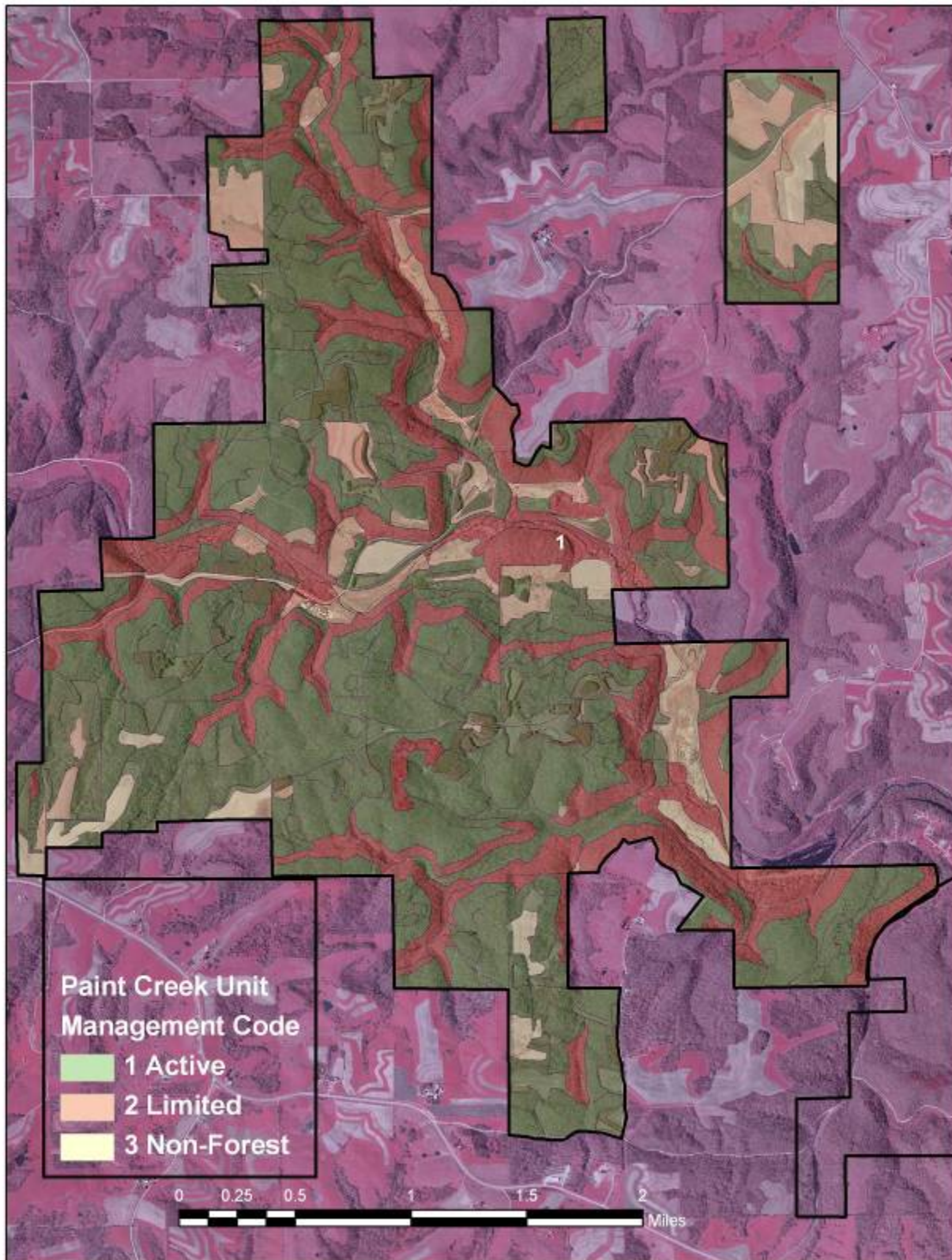
Agricultural fields are managed by farm managers under contract with the Iowa DNR. These areas are farmed similar to the way private agricultural lands are managed, and may contain covers of row crops and/or alfalfa under a soil conservation plan designed for no net soil loss. Many of our crop lands are no-tilled and some fields at YRSF have even been cultivated to grow prairie plant seed for retail distribution to the public. The management of agricultural fields adds income to the budget of the state forest, and also allows us to make field access improvements, and to plant wildlife food plots as well. No more than 10% of the forest acreage will be in agricultural use at any one time.

Developed Areas are acreages where buildings and grounds are maintained. These include the YRSF Headquarters/Sawmill complex and Luster Heights Correctional facility, as well as a few old farmsteads around the area.

Recreational Areas are acreages devoted to campgrounds and picnic areas.

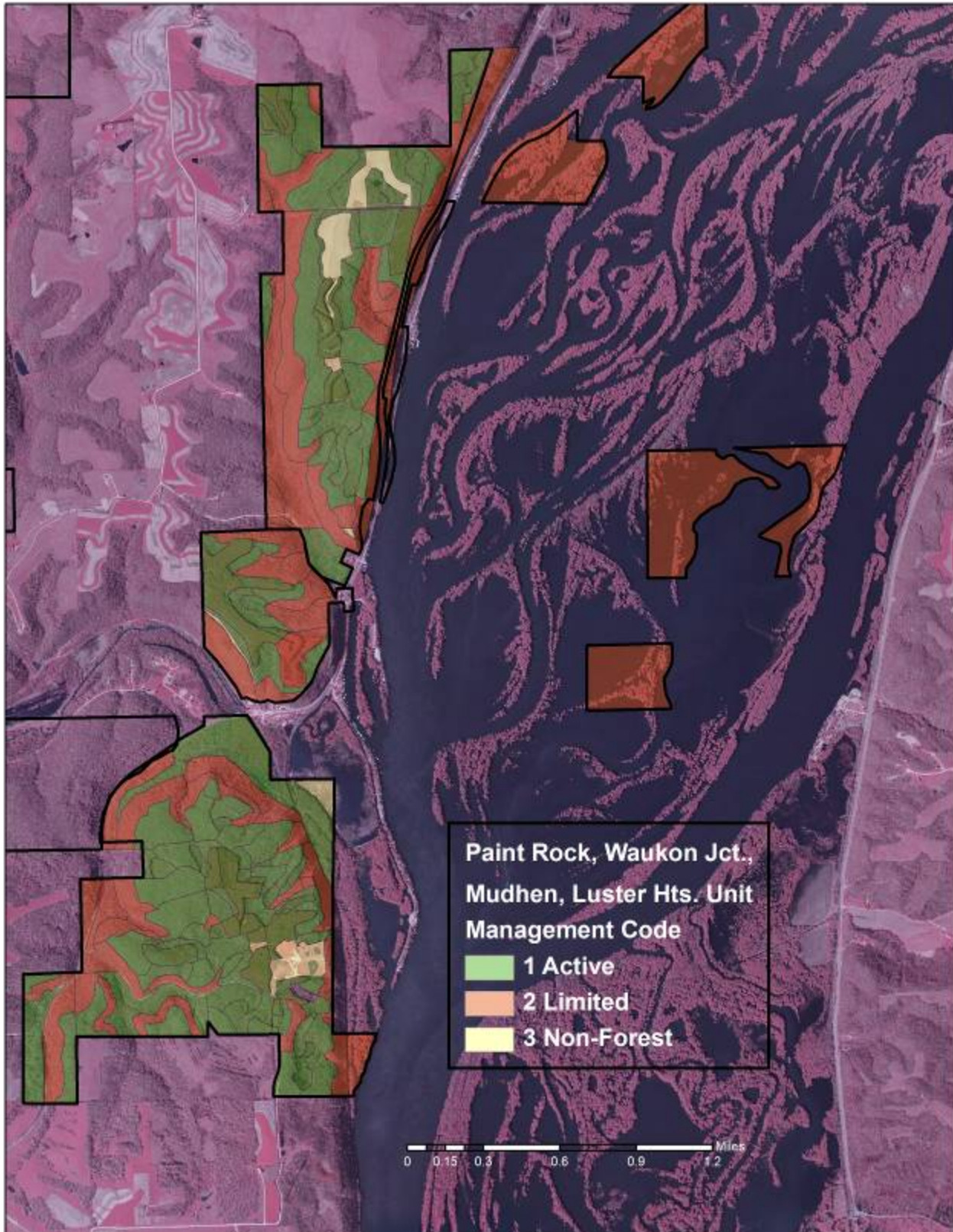
MANAGEMENT CLASS	ACREAGE	PERCENT OF TOTAL
Class I: Active Forest Management	4887	56 %
Class II: Limited Forest Mgt.	2792	32 %
Class III: Non-forest	1047	12 %
TOTAL	8726	100%





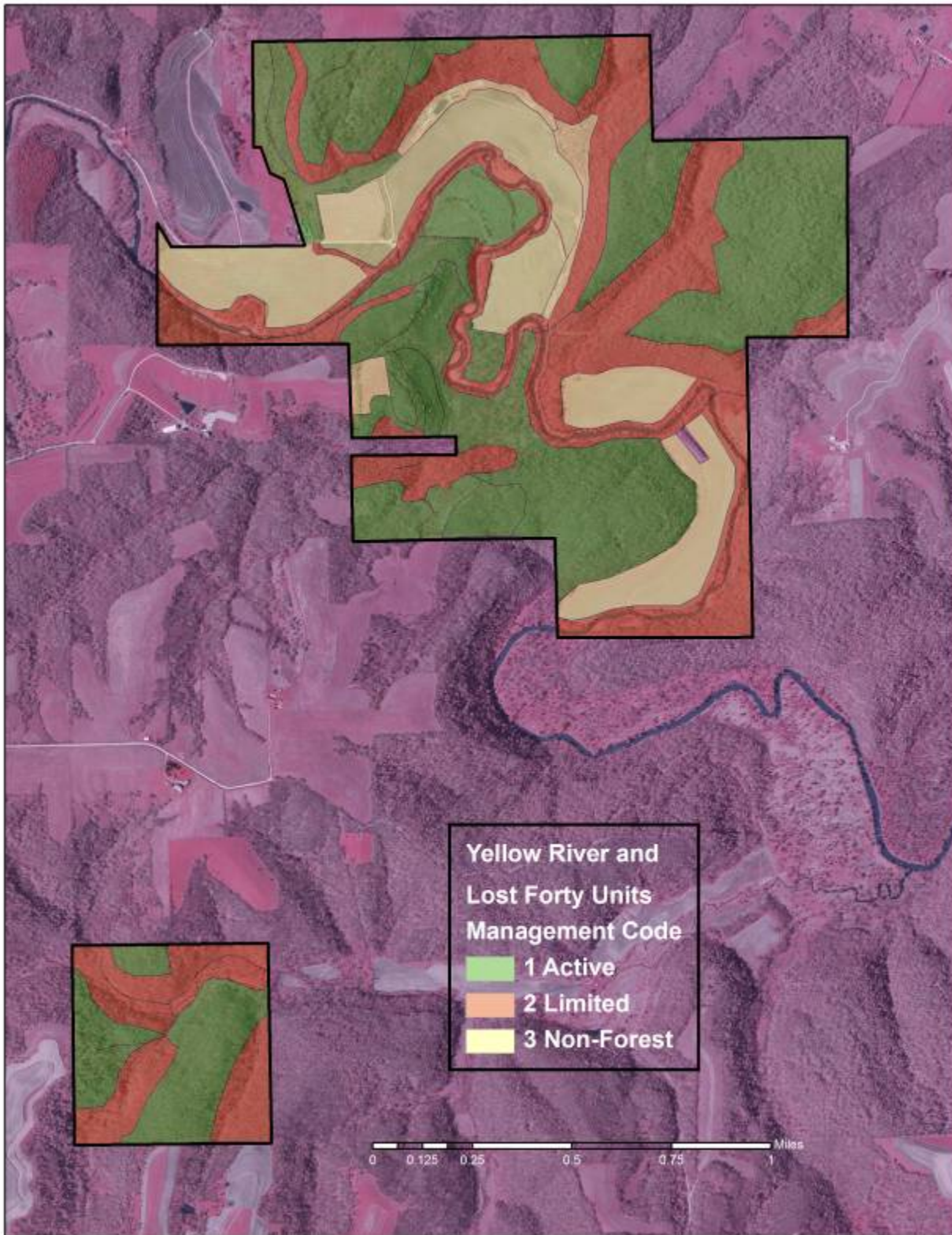
Paint Creek Mgt Class Code	Acreage	% of Unit
Class 1, Active Forest Mgt	3273	59.9%
Class 2, Limited Mgt	1470	26.9%
Class 3, Non Forest	721	13.2%





<b>PR, WJ, MH, and LH Units Mgt Class</b>	<b>Acreage</b>	<b>Percentage of Units</b>
Class 1, Active Forest Mgt	1012	49.7%
Class 2, Limited Mgt	952	46.8%
Class 3, Non Forest	71	3.5%





<b>Yellow River and Lost 40 Units Management Class</b>	<b>Acreage</b>	<b>Percentage of Units</b>
Class 1, Active Forest Mgt	562	45.8%
Class 2, Limited Mgt	421	34.3%
Class 3, Non Forest	244	19.9%

## Sustainable Harvest Targets

Sustainable forestry aims to manage a forest for maximum distribution of age and size classes and gives an indication of the amount of acreage or volume that can be harvested from a given geographical area periodically, without ever running out of volume or growing stock. Generally speaking, with even aged management the sustainable harvest is the total acreage of the forest divided by the rotation age (the period over which trees grow to maturity). Rotation ages for stands vary by the dominant species in each stand. Bottomland species and aspen generally mature much faster than oak or maple. Our rotation ages are generally set at a point that foresters call biological maturity. That is the point at which loss of volume through mortality and/or disease and breakage equals volume growth, so there is no net increase in volume in the stand. We feel this gives a good balance of benefits to wildlife and aesthetics, and takes into consideration the production of wood fiber as well. Rotation ages for stands at YRSF vary from 60 to 200 years depending mostly on site quality and cover type, although the majority of actively managed stands have a 100 to 120 year rotation. Only stands in the active management category are used in sustainable harvest calculations.

<b>ROTATION AGE</b>	<b>COVER TYPE</b>	<b>ACRES</b>	<b>ANNUAL ALLOWABLE HARVEST ACREAGE (even aged mgt)</b>
50	Aspen, bottomland hardwoods	12	0.24
60	Aspen, bottomland hardwoods/walnut	17	0.28
80	Pines, locust, elm/ash/cottonwood, silver maple, bottomland HW, walnut, aspen	100	1.25
100	Conifers, cedar, oak/pine, red/white/black oak hickory, oak/elm/ash, oak/basswood, upland HW/walnut, maple/basswood, walnut, bottomland HW/walnut.	2679	26.79
120	White pine, bur oak, red/white oak/hickory, oak/elm/ash, upland HW/walnut, maple/basswood, aspen/birch	1121	9.34
140	Red/white oak/hickory	15	0.11
150	White pine, red/white oak/hickory, oak/elm/ash, upland HW/walnut, maple/basswood	374	2.49
200	White oak, oak/elm/ash	15	0.075
		<b>TOTAL ANNUAL ALLOWABLE HARVEST</b>	<b>40.6</b>

The above acreage reflects only the calculation of the annual allowable harvest. In actual practice, these figures will fluctuate over and under the allowable harvest periodically. This acreage figure amounts to less than ½ of 1% of the total forested acreage at YRSF, and 0.8% of the acreage included in the active forest management area, on an annual basis. Using this harvest rate, our hope is to regenerate all the stands in the active management areas in the next 125 years.

Stands managed under an uneven aged harvest schedule have no rotation age. Sustainable harvest volume is estimated by calculating the growth in volume over a period of time, generally 20 years. At the current time, there are about 585 acres scheduled for uneven aged management at YRSF. This would add another 29 acres to the allowable harvest acreage, but the volume harvest from this acreage would be substantially less than under even aged management, because only a fraction of the trees are removed from the stand.

# Appendix



## **Appendix A**

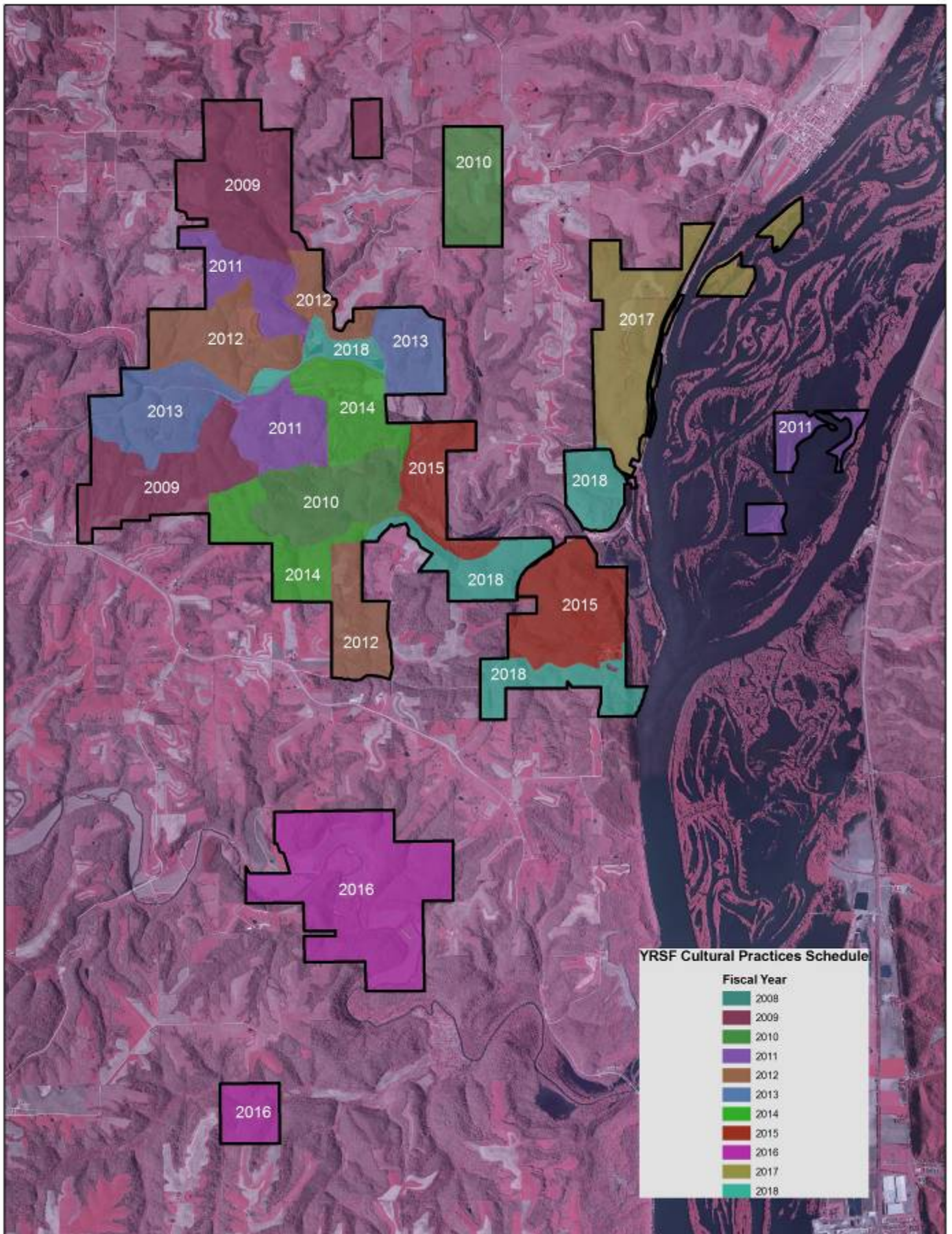
# **Forest Work Plan**

## **Cultural Practices Schedule**

Cultural practices include tree planting, harvesting, and timber stand improvement. Naturally, it is difficult to perform work of this type over the entire forest area annually, so work is scheduled on 2 or 3 compartments each year, which comprise a group in the Cultural Practices Schedule. Using a repeating rotation of groups in the schedule ensures all areas of the forest are reviewed in a 10 year period, and no single compartment gets an inordinate amount of attention.

### CULTURAL PRACTICES SCHEDULE

YEAR	COMPARTMENTS	ACREAGE
2009 & 19	Paint Creek 1, 2, 9, & 17	1505
2010 & 20	Paint Creek 13 & 18	761
2011 & 21	Paint Creek 3 & 10; Mudhen	735
2012 & 22	Paint Creek 4, 5, & 16	839
2013 & 23	Paint Creek 7 & 8	665
2014 & 24	Paint Creek 11 & 12	631
2015 & 25	Luster Hts. 1; Paint Creek 15	804
2016 & 26	Yellow River 1 & 2; Lost 40	1202
2017 & 27	Paint Rock 1 & 2	761
2018 & 28	Paint Creek 6, 14; Waukon Junction; Luster Hts. 2	752



## Work Plan Summary

The following work plan summary table reflects silvicultural work that is needed on the state forest. Some cultural practice groups may have an inordinate amount of mature forest in need of harvest. Actual harvest acreage will be selected from stands which meet the size and age criteria for harvest, not to exceed the annual allowable harvest acreage. Forest stand improvement will be concentrated on younger stands with the most potential for long term growth and diversity. Costs and income projections based on current available data.

<b>Fiscal Year</b>	<b>Unit/Compartment</b>	<b>Cultural Practice</b>	<b>Acres</b>	<b>Cost</b>	<b>Income</b>
<b>2009</b>	<b>Paint Creek 1, 2, 9, 17</b> (783 acres in active mgt) (3,116,614 bf in stands over 12" dbh)	Forest Stand Improvement	225	\$24,750.00	
		Tree Planting	34.5	\$17,250.00	
		Seedling release	6.5	\$390.00	
		Pre Harvest Treatment	4.8	\$768.00	
		Even aged harvest(255 Ac)	13.5		\$61,518.00
		Uneven aged harvest	7.2		\$7,500.00
		Stand Inventory	77		
		Post Harvest Treatment	13.5	\$4,185.00	
<b>2010</b>	<b>Paint Creek 13, 18</b> (509 acres in active mgt) (1,809,402 bf in stands over 12" dbh)	Forest Stand Improvement	196	\$21,560.00	
		Tree Planting	51.8	\$25,900.00	
		Seedling release	43.3	\$2,598.00	
		Even aged harvest(8.4 Ac)	40		\$140,000.00
		Uneven aged harvest(37.4)	20.5		\$14,350.00
		Stand Inventory	252.9		
		Post Harvest Treatment	40	\$12,400.00	
<b>2011</b>	<b>Paint Creek 3, 10</b> <b>Mudhen 1</b> (408 acres in active mgt) (2,637,694 bf in stands over 12" dbh)	Forest Stand Improvement	124	\$13,640.00	
		Commercial thinning	9.6		\$3,600.00
		Even aged harvest(122 Ac)	40		\$140,000.00
		Uneven aged harvest	13.5		\$9,450.00
		Stand Inventory	138		
		Post Harvest Treatment	40	\$12,400.00	
<b>2012</b>	<b>Paint Creek 4, 5, 16</b> (544 acres in active mgt) (2,657,090 bf in stands over 12" dbh)	Forest Stand Improvement	291	\$32,010.00	
		Tree Planting	28.2	\$14,100.00	
		Seedling release	21.8	\$1,308.00	
		Pre Harvest Treatment	8.3	\$913.00	
		Even aged harvest(50.7 Ac)	40.0		\$140,000.00
		Post Harvest Treatment	40.0	\$12,400.00	
		Stand Inventory	179		
<b>2013</b>	<b>Paint Creek 7, 8</b> (396 acres in active mgt) (3,101,545 bf in stands over 12" dbh)	Forest Stand Improvement	167	\$18,370.00	
		Even Aged Harvest(136 Ac)	40		\$140,000.00
		Uneven aged harvest(55 Ac)	29		\$20,300.00
		Post Harvest Treatment	40	\$12,400.00	
		Stand Inventory	38.1		

<b>2014</b>	<b>Paint Creek 11, 12</b> (371 acres in active mgt) (2,064,063 bf in stands over 12" dbh)	Forest Stand Improvement	146	\$16,060.00	
		Seedling release	24	\$1,440.00	
		Even aged harvest(71 Ac)	40		\$140,000.00
		Uneven aged harvest(25 Ac)	25		\$17,500.00
		Post Harvest Treatment	40	\$12,400.00	
		Stand Inventory	106		
<b>2015</b>	<b>Luster Heights 1</b> <b>Paint Creek 15</b> (393 acres in active mgt) (2,773,114 bf in stands over 12" dbh)	Forest Stand Improvement	170	\$18,700.00	
		Even aged harvest(118.6 Ac)	40		\$140,000.00
		Uneven aged harvest(11.4 Ac)	3.1		\$2,170.00
		Post Harvest Treatment	40	\$12,400.00	
		Stand Inventory	88.8		
<b>2016</b>	<b>Yellow River 1, 2</b> <b>Lost 40</b> (555 acres in active mgt) (577,910 bf in stands over 12" dbh)	Forest Stand Improvement	117	\$12,870.00	
		Even aged harvest (8.5 Ac.)	8.5		\$29,750.00
		Post Harvest Treatment	8.5	\$2,635.00	
		Stand Inventory	370		
<b>2017</b>	<b>Paint Rock 1, 2</b> (346 acres in active mgt) (2,186,531 bf in stands over 12" dbh)	Forest Stand Improvement	208	\$22,880.00	
		Seedling release	12	\$1,308.00	
		Even aged harvest(98 Ac)	40		\$140,000.00
		Uneven aged harvest(3.7)	3.7		\$2,590.00
		Post Harvest Treatment	40	\$12,400.00	
		Stand Inventory	24		
<b>2018</b>	<b>Paint Creek 6, 14</b> <b>Luster Heights 2</b> <b>Waukon Junction</b> <b>(445 acres in active</b> <b>mgt)</b> (2,697,326 bf in stands over 12" dbh)	Forest Stand Improvement	198	\$21,780.00	
		Tree Planting	4.9	2450	
		Seedling release	5.9	\$1,308.00	
		Even aged harvest(109 Ac)	40		\$140,000.00
		Uneven aged harvest(14.8)	14.8		\$10,360.00
		Post Harvest Treatment	40	\$12,400.00	
		Stand Inventory	112		
<b>2019</b>	<b>Paint Creek 1, 2, 9, 17</b> (783 acres in active mgt)	Forest Stand Improvement	216	\$23,760.00	
		Tree Planting	35	\$17,500.00	
		Seedling Release	48	\$2,880.00	
		Even aged harvest(255 Ac)	40		\$140,000.00
		Uneven aged harvest	29		\$20,300.00
		Post Harvest Treatment	40	\$12,400.00	
<b>2020</b>	<b>Paint Creek 13, 18</b> (509 acres in active mgt)	Forest Stand Improvement	110	\$12,100.00	
		Seedling release	91.8	\$5,508.00	
		Even aged harvest	40		\$140,000.00
		Uneven aged harvest(37.4)	17		\$11,900.00
		Post Harvest Treatment	40	\$12,400.00	
<b>2021</b>	<b>Paint Creek 3, 10</b> <b>Mudhen 1</b> (408 acres in active mgt)	Forest Stand Improvement	80.5	\$8,855.00	
		Seedling release	40	\$2,400.00	
		Even aged harvest(122.3)	40		\$140,000.00

		Post Harvest Treatment	40	\$12,400.00	
<b>2022</b>	<b>Paint Creek 4, 5, 16</b> (544 acres in active mgt)	Forest Stand Improvement	148.4	\$16,324.00	
		Seedling release	68.2	\$4,092.00	
		Even aged harvest(52.7 Ac)	40		\$140,000.00
		Uneven aged harvest(8.2 Ac)	8.2		\$5,740.00
		Post Harvest Treatment	40	\$12,400.00	
<b>2023</b>	<b>Paint Creek 7, 8</b> (396 acres in active mgt)	Forest Stand Improvement	99.7	\$10,967.00	
		Seedling release	40	\$2,400.00	
		Even Aged Harvest(136 Ac)	40		\$140,000.00
		Uneven aged harvest(55 Ac)	26		\$18,200.00
		Post Harvest Treatment	40	\$12,400.00	
<b>2024</b>	<b>Paint Creek 11, 12</b> (371 acres in active mgt)	Forest Stand Improvement	88	\$9,680.00	
		Seedling release	40	\$2,400.00	
		Even aged harvest(98 Ac)	40		\$140,000.00
		Post Harvest Treatment	40	\$12,400.00	
<b>2025</b>	<b>Luster Heights 1</b> <b>Paint Creek 15</b> (393 acres in active mgt)	Forest Stand Improvement	111.3	\$12,243.00	
		Seedling release	40	\$2,400.00	
		Even aged harvest(118.6 Ac)	40		\$140,000.00
		Uneven aged harvest(11.4 Ac)	8.3		\$5,810.00
		Post Harvest Treatment	40	\$12,400.00	
<b>2026</b>	<b>Yellow River 1, 2</b> <b>Lost 40</b>  (555 acres in active mgt)	Forest Stand Improvement	54.1	\$5,951.00	
		Seedling release	8.5	\$510.00	
		Even aged harvest	to be determin ed		
<b>2027</b>	<b>Paint Rock 1, 2</b> (346 acres in active mgt)	Forest Stand Improvement	78.5	\$8,635.00	
		Seedling release	40	\$2,400.00	
		Even aged harvest(98 Ac)	40		\$140,000.00
		Post Harvest Treatment	40	\$12,400.00	
<b>2028</b>	<b>Paint Creek 6, 14</b> <b>Luster Heights 2</b> <b>Waukon Junction</b> (445 acres in active mgt)	Forest Stand Improvement	102	\$11,220.00	
		Seedling release	44.9	\$2,694.00	
		Even aged harvest(109 Ac)	40		\$140,000.00
		Post Harvest Treatment	40	\$12,400.00	

## **Stand Descriptions and Cultural Practices Maps**

### **FY 2009:**

Paint Creek Unit, Compartment 1:

#### **Stand 1:**

**Site Description** – 7.24 acres

Fairly flat area between Kelly Road and a small private land parcel. This stand is long and narrow with easy road access. There is a trail on the east end of the stand as well. Some of this acreage may be devoted to road ditches.

**Woodland Description** - *Type 063, Dbh 17, BA 60, 7020 bf/Ac, active forest management: even aged.*

Sparsely stocked stand of oak-hickory with an all aged character. Larger trees are red oak with intermediate sized white oak and white ash. Proximity to road may affect management decisions. Slightly eroded Fayette soils.

**Management Recommendations** – Regeneration harvest, 2019. Probably a good site for oak regeneration, but this stand is a little small and shows no signs of oak wilt or other disease. Monitor for decline and disease.

#### **Stand 2:**

**Site Description** – 2.2 acres

Upland site with slight north facing slope on Fayette soils, slightly eroded.

**Woodland Description** – *Type 063, Dbh 2, BA 0, active forest management: even aged.*

Formerly well stocked red oak stand with an oak wilt problem, this stand was harvested in fall of 1989. Tops were cut up and pushed into piles to scarify the site before planting. (notes indicate that there was a good red oak acorn crop in '89 as well.) Planted with red oak seedlings in spring of 1990. A few walnuts were also planted on the north side. A small amount of release work was conducted on this site in the mid 90's to favor the oaks. At this time, the stand appears to be doing well, stem density is good and red oak is fairly well represented. A crop tree release was conducted here in 2005. Oak wilt had expanded on the edge of this stand and was salvaged in 2004 for the YRSF sawmill.

**Management recommendations** – Forest stand improvement. Monitor for CTR in 2019.

#### **Stand 3:**

**Site Description** – 7.7 Ac

Moderate northeast slope on an upland site. Stand includes a small pond in the drainage. Soils are Fayette. Grading into Paint Creek in the drainage.

**Woodland description** – *Type 063, Dbh 18, BA 95, 11,210 bf/Ac, active forest management: even aged.*



Pretty well stocked red oak stand with some white oak, ash, and basswood for good measure. Some red oaks were harvested from the edge of this stand in '89 along with the nearby clearcut. Notes indicate oak wilt was present here so the assumption is they were salvaged. This is a harvest age stand but still in fair condition in '99. Had a good acorn crop in 1998.

**Management recommendation – regeneration harvest.** Monitor for oak wilt, evaluate for harvest in 2019.

#### **Stand 4:**

**Site Description** – 4.8 acres

Northeast facing slope with Fayette soil, 9 – 14% slope, and mid slope Paint Creek soils up to 30% slope. Some rocky outcroppings near the slope break.

**Woodland description** – *Type 063, Dbh 18, BA 95, 11,210 bf/Ac, active forest management: even aged.*

Well stocked red oak stand with some white oak, ash, and basswood for good measure. This stand was the same as pc0103 until 1998 when a shelterwood harvest was conducted. Approximately 1/2 the canopy was removed, mostly in understory and intermediate sized trees and a decent red oak acorn crop was coming down. Tops were pushed into piles to work in any acorns.

In 1999, some red oak seedlings were noted, but not a bumper crop. The south edge of the shelterwood was invaded by a weed known as "clearweed" (or Canadian clearweed) aka *Pilea pumila*. It is a native plant in the nettle family. It seems to have crowded out everything in the area it is invading and is very prolific especially on our skid trails.

Fall of 1999, about 100 white oak seedlings were planted into this stand, because of lack of white oak acorns during the shelterwood op.

Fall of 2006, another attempt to scatter red oak acorns was made. The acorns were spread and worked in with a small crawler tractor, which removed much of the growth of understory elms and bitternut hickories as well.

**Management recommendations** – Monitor to check for oaks seedlings, and schedule for even aged harvest in 2019. Also monitor for oak wilt and possible salvage operation.

#### **Stand 5:**

**Site description:** 4.6 acres

Steep, rocky ravine with LaCrescent soils on 25 – 70% slope.

**Woodland description:** *Type 063, Dbh 16, BA 100, 6700 bf/Ac, Limited management: slope.*

Red and white oak mixed with aspen and maple-basswood on a north facing slope. Site is too steep for equipment and very rocky, but still a good stand for tree growth.

**Management recommendations:** Monitor for disease and salvage, otherwise, limited.



## **Stand 6:**

### **Site description** - 32.0 Ac

Upland site with forest derived village and Fayette soils on 9 to 18% slopes.

### **Woodland description** – *Type 063, Dbh 19, BA 100, 12,400 bf/Ac, Active forest management: even aged.*

Fairly large stand of mature red oak with small amounts of aspen, basswood, etc. This is a very good site with several pockets of oak wilt. Some of this original stand was harvested in 1999 (see stand #32).

At that time, at least 1000 bf/ac had been lost to oak wilt. An old access road runs east along the ridge of this stand.

**Management recommendations:** Regeneration harvest 2009. Check for oak wilt pockets during reconnaissance for this harvest and target the most vulnerable areas. Salvage OW where possible.

## **Stand 7:**

### **Site description** – 15.5 acres

Upland site which gets rocky with shallow soil towards the east end. Fayette and Paint Creek soils up to 18% slope.

### **Woodland description** – *Type 064, Dbh 16, BA 80, 9360 bf/Ac, Active forest management: even aged.*

This stand of predominantly white oak is in pretty good shape. The transition from red to white oak dominance on this site is striking, the east end of the ridge almost all white oak. Size decreases as you approach the rocky outcrop areas and a few walnuts occur here. This may be a timber which has the longevity to make it through another century. I saw no evidence of harvesting on this stand. East slope drops off into Little Paint campground.

**Management recommendation:** Forest stand improvement, 2009. This stand should be give a crop tree release to keep it growing at its maximum potential and avoid disease and decadence.

## **Stand 8:**

### **Site description** – 9.2 acres

Creek side bottomland, mostly flat but within the floodplain of Little Paint Creek. Arenzvil-Volney soils up to 2% slope.

### **Woodland description** – *Type 87, Dbh 10, BA 50, Limited management: riparian zone.*

Creek side bottom with walnuts of all sizes dying out. Remainder of stand is a few large cottonwoods, 6 - 10" boxelder and hard maple, and grass.

Many of the walnuts in Little Paint Creek area started dying back after an early wet spring followed by an extreme cold snap in 1993. Symptoms were top dieback and bole sprouting, especially on intermediate sized trees. Almost all the sycamore trees in Little Paint campground died in the same year.

Some walnuts were removed from this stand for our mill in '94. More walnuts were salvaged in a commercial harvest in 2005 (?). There were at least a dozen trees, several veneer quality, with top dieback and sprouting. Some trees were completely dead but salvageable. This stand was placed in limited management in 2008 due to its proximity to Little Paint Creek.

**Management recommendation:** Salvage harvest only.

## **Stand 9:**

**Site Description** – 5.4 acres

Steep, rocky, east facing slope above Little Paint Creek. LaCrescent soils on 25 – 70% slope, slightly eroded.

**Woodland description** – *Type 063, dbh 19, BA 85, 10,370 bf/ac, Limited management: slope restriction, visual.*

Fair quality red oaks on a steep slope above Little Paint Creek. Hard maple/basswood understory. This is a high visibility stand which

should probably be limited mgt area due to camp area below.

**Management recommendation:** Salvage harvest only. This stand will succeed into maple/basswood community.

## **Stand 10:**

**Site Description** – 5.0 acres.

Steep, rocky, NE facing slope above Little Paint Creek. LaCrescent soils on 25 – 70% slope, slightly eroded.

**Woodland description** – *Type 09, dbh 16, BA 60, 4000 bf/ac, Limited management: slope restriction, visual.*

Dead and dying over mature red oak over 20" with small sawtimber basswood, elm, and hard maple.. Very steep and rocky NE slope.

**Management recommendation:** Salvage only. This stand will succeed into maple/basswood community.

## **Stand 11:**

**Site Description** – 5.0 acres.

Moderately steep and rocky site, with southeast aspect. LaCrescent soils on 25 – 70% slope, slightly eroded.

**Woodland description** – *Type 52, dbh 16, BA 60, 4000 bf/ac, Limited management: slope restriction, visual.*

Very rocky point supporting a variety of poor quality red and bur oak, cedar, and walnut, about 16" dbh. This point faces southeast and probably has little soil as it looks dry and trees are relatively short, about 1/2 log average.

**Management recommendation:** Salvage only. No management recommended.

## **Stand 12:**

**Site Description** – 16.0 acres.

Moderately steep and rocky site, with south aspect. LaCrescent soils on 25 – 70% slope, slightly eroded.

**Woodland description** – *Type 089, dbh 18, BA 80, volume undetermined. Limited management: slope restriction.*

Fairly steep rocky, south facing slope, with some over mature red oaks giving way to maple poles and other shade tolerant species. Seems to be an inordinate number of walnuts in this stand, anywhere from 12" up to

20" and above, some pretty good ones. Red oaks towards the top of the hill are better than those on the steeper slope.

Management on this site may be limited by presence of scarce plant or animal which was noted in this valley when we wished to build a road, back in the 60's but nothing shows on the natural areas database. At any rate, the site is too steep for equipment and limited mgt is indicated.

**Management recommendation:** Salvage only. Monitor this site for high value trees in decline.

### **Stand 13:**

**Site Description** – 3.8 acres.

Flat site adjacent to Little Paint Creek. Arenzvil-volney soils on 2% slopes.

**Woodland description** – *Type 079, dbh 4, BA 40, volume undetermined. Active management: uneven aged.*

Elm and ash saplings to small poles on bottom and bench. Some larger poor quality bur oak and walnuts.

Walnuts are showing some signs of decline as in the rest of this bottom. Stem density and species diversity is severely lacking here.

**Management recommendation:** Forest stand improvement, 2009. CTR walnuts.

### **Stand 14:**

**Site Description** – 2.7 acres.

A scoured narrow, rocky draw between steep slopes. LaCrescent soils on 25 % slope, slightly eroded.

**Woodland description** – *Type 073, dbh 6, BA 80, volume undetermined. Limited mgt: ravine area.*

Pole stand of ash, elm, and basswood running up a narrow, deeply scoured, rocky draw. A few poor quality walnuts and also some wolf hard maple toward lower end. BA is high in places and could be TSI'd.

**Management recommendation:** Salvage only.

### **Stand 15:**

**Site Description** – 9.0 acres.

Flat bottomland adjacent to Little Paint Creek. Soils are Arenzvil-volney 0 – 2% slope. Area subject to flooding.

**Woodland description** – *Type 002, Non Forest.*

Grassy area which was once a beaver pond. The dam was washed out in this area many years ago, and beavers were trapped out of this valley, so they have not rebuilt the damn.

**Management recommendation:** None.

### **Stand 16:**

**Site Description** – 2.4 acres.

Upland site with a slight southern exposure, mostly level. Soils are Fayette 9 – 14% slope. There is a snowmobile trail which runs on the edge of this stand, so access is fairly easy.

**Woodland description** – *Type 063, Dbh 16, BA 55, 6215 bf/Ac, active forest management: even aged.*

Red and white oak stand from which about half the volume was removed in '85 & '86. No notes on reason for harvest, but could have been oak wilt. The area was planted with oak seedlings and a subsequent attempt at releasing these was made in '87, but most did not survive, probably due to lack of enough sunlight. Most of the small oaks in here now are from stump spouts. Cherry, basswood, maple, ash, and elm saplings dominate the regen. The larger trees are in the small sawtimber class.

**Management recommendation: Forest Stand Improvement 2009.** Crop trees should be selected from this stand and released to about 30 good trees per acre. Remaining large trees should be harvested. Monitor for possible oak wilt and salvage as necessary.

**Stand 17:**

**Site Description** –1.5 acres

Upland site with Fayette soil on 5 – 9% slopes, moderately eroded.

**Woodland description** – *Type 101, Dbh 6, BA 135, volume undetermined, active forest management: even aged..*

Small stand of aspen which regenerated from harvest operations in the '70s. BA averaging around 130 indicating a thin might be in order. This stand is on a 60 year rotation, because it is virtually all aspen and should be mature at age 60.

**Management recommendation: Forest stand improvement 2009.** Thin to BA 100.

**Stand 18:**

**Site Description** –3.8 acres

Upland site with Fayette soil on 9 - 14% slopes, slightly eroded.

**Woodland description** – *Type 089, Dbh 18, BA 70, 8260 bf/ac, active forest management: even aged.*

Very mixed all aged stand with some large ash, RO, & WO, mostly poor quality. Lots of grazing indicators in understory. Cut stumps toward south end, some oak wilt. Areas of low BA are heavily stocked with ironwood, boxelder, & bitternut hickory. This stand could be regenerated.

**Management recommendation: Regeneration harvest 2019.** Monitor for oak wilt development and further decline.

**Stand 19:**

**Site Description** –13.1 acres

Very steep, rocky, north and northeast facing slope. Soils are LaCrescent on 25 – 70% slopes.

**Woodland description** – *Type 063, Dbh 18, BA 80, 9440 bf/ac, limited mgt., protected species, slope restriction.*

A good stand of oak hickory, mature, not too much damage or mortality. Pretty large stand with a maple-basswood-ash understory. At least 2 real nice walnuts on an east facing slope. A pond constructed in 1970 could use some work. Some selective harvesting was done in the 70's above pond. There is a protected algific slope on the north face of this steep ground. See natural areas inventory data.

**Management recommendation:** **Salvage harvest only.** Monitor stand for high value tree mortality.

### **Stand 20:**

**Site Description** –1.9 acres

Gently sloping upland site with slightly northeast exposure. Village, Fayette, and Paint Creek soil types.

**Woodland description** – *Type 079, Dbh 6, BA 80, volume undetermined, active management: even aged.*

A very small 20 year old clearcut comprised mostly of aspen, maple, and bitternut hickory. A few white oaks in the pole sizes. Some clean up could be done here, but not a lot to work with.

**Management recommendation:** **Forest stand improvement, 2009.** Crop tree selection and release.

### **Stand 21:**

**Site Description** –2.6 acres

Steep rocky mostly south facing slope with LaCrescent soil on 25 – 70% slope.

**Woodland description** – *Type 062, Dbh 16, BA 30, 2010 bf/ac, limited management: slope restriction.*

Bur and black oak on a steep stony south face. This is a two storied stand with elm, ash, and hard maple saplings in the understory. Should be a limited management area due to slope.

**Management recommendation:** No management. Monitor for oak wilt.

### **Stand 22:**

**Site Description** –4.8 acres

Steep rocky mostly east facing slope with LaCrescent soil on 25 – 70% slope.

**Woodland description** – *Type 062, Dbh 16, BA 80, 5360 bf/ac, limited management: slope restriction.*

Over mature red oak with bur, white, and black oak mixed in, on an east facing slope.

**Management recommendation:** No management. Monitor for oak wilt.

### **Stand 23:**

**Site Description** – 13.1 acres

Steep rocky slope with southeast to north exposure above Little Paint Creek bottoms. Slightly eroded LaCrescent soils up to 70% slope.

**Woodland description** – *Type 062, Dbh 16, BA 80, 5360 bf/ac, limited management: protected species, slope restriction.*

Over mature red oak with bur, white, and black oak mixed in on east to north facing slope.

Part of this stand is protected for an algific slope where the slope turns to face north. See natural areas inventory..

**Management recommendation:** No management, monitor for salvage and oak wilt.

### **Stand 24:**

**Site Description** – 4.1 acres

Flat bottomland in Little Paint Creek drainage. Arenzvil-volney soils, 2 – 5% slope.

**Woodland description** – *Type 087, Dbh 4, BA 50, volume undetermined, active management: uneven aged.*  
Little Paint Creek bottoms with sapling to pole sized elm, boxelder, and lots of other stuff including occasional walnuts..

**Management recommendation:** Forest stand improvement. Crop tree release for to favor walnut and oak.

### **Stand 25:**

**Site Description** – 16.1 acres

Fairly level site on edge of ridge top. Access here is only across private land to the west. Soils are Village And Paint Creek up to 18% slope.

**Woodland description** – *Type 063, Dbh 17, BA 80, 9360 bf/ac, active management: even aged.*  
Red and white oak on a gentle slope at the end of a ridge. Most of this is mature to over mature and the site lends itself to a clearcut or shelterwood harvest. Should be regenerated in the next cutting cycle. Mapper cited one large walnut on top of ridge.

**Management recommendation:** Regeneration harvest 2009. Possible sawmill harvest area.

### **Stand 26:**

**Site Description** – 7.6 acres

Fairly level site on edge of ridge top field. Access here is only across private land to the west. Soils are Paint Creek up to 18% slope.

**Woodland description** – *Type 101, Dbh 8, BA 80, volume undetermined, active management: even aged.*  
Aspen moving into an old field. Oak, cherry, and maple also encroaching on brome grass. Mapper suggests this would be a good site to study the role of burning to stimulate oak regen and aspen sprouting since there is still enough grass to carry a fire in this stand.

**Management recommendation:** Forest Stand Improvement. Select crop trees from oak, cherry, and maple.

### **Stand 27:**

**Site Description** – 7.0 acres

Fairly level open field site on ridge top. Fayette soils, 9 – 14% slope.

**Woodland description** – *Type 002, Non-forest.*  
Brome grass on a former crop field area.

**Management recommendation:** Plant or direct seed to increase forest cover, 2009.

### **Stand 28:**

**Site Description** – 3.5 acres

Workable end of ridge with slight east aspect, Fayette and Paint Creek soils up to 14% slope.

**Woodland description** – *Type 079, Dbh 9, BA 90, Active management, uneven aged..*

Large old white oak with maple understory. Consider limiting management to selective harvesting while leaving the large white oak to demonstrate the progression from shade intolerant sawtimber to maple-basswood type. The natural areas inventory sites a "dry prairie" in this stand which will be short-lived in the progression to maple-basswood. If this prairie remnant is significant, we may wish to burn this area and set the stand back to more early successional community.

**Management recommendation:** Further review.

### **Stand 29:**

**Site Description** – 5.7 acres

Flat to northeast slope with village and LaCrescent soils up to 14% slope.

**Woodland description** – *Type 063, Dbh 0, BA 0, Active management, even aged..*

A 1999 clearcut of about 5.5 acres which ran about 6 mbf per acre in red oak. This stand was "selectively" harvested in the early 70's leaving some very good quality red and white oak trees, although volume was somewhat lacking on a very productive site. Site was clearcut and scarified before spring 2000 and planted with white oak seedlings as no red oak was available. Site was planted with red oak in 2001, but much competition already on site.

**Management recommendation:** Forest stand improvement. Weeding and measurements.

### **Stand 30:**

**Site Description** – 3.8 acres

Steep northeast to southeast exposure. Rock with LaCrescent soils up to 70%.

**Woodland description** – *Type 062, Dbh 16, BA 30, Limited mgt: slope restriction.*

A 3 storied stand with large bur oak, mid-story of hickory, and understory of hard maple on steep and rocky south and east facing slopes. Consider limited mgt.

**Management recommendation:** No management. Monitor for high value salvage as trees die.

### **Stand 31:**

**Site Description** – 7.2 acres

Riparian zone adjacent to Little Paint Creek. Flat with Arenzvil-volney soils.

**Woodland description** – *Type 087, Dbh 4, BA 50, Limited mgt: riparian zone.*

Little Paint Creek bottoms with sapling to pole sized elm, boxelder, and lots of other stuff including occasional walnuts.

Management recommendation: Possible FSI, check for high quality walnut.

### **Stand 32:**

**Site Description** – 7.0 acres

Mostly flat ridge top site with Fayette and Village silt loams.

**Woodland description** – *Type 063, Dbh 0, BA 0, Active management, even aged..*

A 1999 clearcut of about 7 acres harvested in same sale as stand #29. Volume in this stand ran about 10 mbf/Ac even though much was lost to chronic oak wilt over the years on this ridge. Stand was clearcut before spring 2000 and replanted with white oak seedlings. (No red oak was available for planting) This is a very productive timber site and should be monitored for satisfactory regeneration.

**Management recommendation:** FSI 2009, weed to favor oak and walnut..

### **Stand 33:**

**Site Description** – 16.8 acres

Mostly flat to south facing slope with Fayette soils on ridge grading into Paint Creek and LaCrescent soils on the slopes..

**Woodland description** – *Type 063, Dbh 18, BA 90, 10620 bf/ac., Active management, even aged..*

Pretty good white oak mixed with a few red. Red oaks stumps indicate past high grading or oak wilt salvage. In some places, the stand looks like second growth as evidenced by the multiple stems on the red oak.

Management recommendation: Partial harvest and regeneration in 2009.

### **Stand 34:**

**Site Description** – 21.0 acres

Mostly flat to northeast facing slope with mostly Fayette soils on ridge grading into Paint Creek and LaCrescent soils on the slopes.

**Woodland description** – *Type 063, Dbh 18, BA 80, 9440 bf/ac, Active management, even aged..*

A good stand of oak hickory, mature, not too much damage or mortality. Pretty large stand with a maple-basswood-ash understory. At least 2 real nice walnuts on an east facing slope. A pond constructed in 1970 could use some work. Some selective harvesting was done in the 70's above pond.

**Management recommendation:** Regeneration harvest 2019. Monitor for oak wilt and breakage.

### **Stand 35:**

**Site Description** – 5.1 acres



Mostly flat bottomland site adjacent to Little Paint Creek. Soils are Arenzvil-volney.

**Woodland description** – *Type 063, Dbh 18, BA 90, 10620 bf/ac, Limited mgt, riparian zone.*

Pretty good white oak mixed with a few red. Red oaks stumps indicate past high grading or oak wilt salvage. In some places, the stand looks like second growth as evidenced by the multiple stems on the red oak.  
( Note: this part of stand 33 was cut from the active mgt area due to proximity to Little Paint Creek)

**Management recommendation:** No Management. Monitor for oak wilt and salvage of high value trees..

### **Stand 36:**

**Site Description** – 14.8 acres

Steep, rocky northeast to south facing slopes. LaCrescent soils up to 70% slopes.

**Woodland description** – *Type 063, Dbh 18, BA 90, 10620 bf/ac, Limited mgt, slope restriction.*

Pretty good white oak mixed with a few red. Red oaks stumps indicate past high grading or oak wilt salvage. In some places, the stand looks like second growth as evidenced by the multiple stems on the red oak.  
( Note: this part of stand 33 was cut from the active mgt area due to proximity to Little Paint Creek)

**Management recommendation:** No Management. Monitor for oak wilt and salvage of high value trees..

### **Stand 37:**

**Site Description** – 4.6 acres

Steep, rocky north facing slope. LaCrescent soils up to 70% slopes.

**Woodland description** – *Type 063, Dbh 16, BA 100, 6700 bf/ac, Limited mgt, slope restriction.*

Red and white oak mixed with aspen and maple-basswood on a north facing slope. Too steep for even aged logging and much of it is rocky, but still a good site for tree growth.

**Management recommendation:** No Management. Monitor for oak wilt and salvage of high value trees..

### **Stand 38:**

**Site Description** – 4.8 acres

Steep, rocky northeast facing slope. LaCrescent soils up to 70% slopes.

**Woodland description** – *Type 063, Dbh 19, BA 102, 12400 bf/ac, Limited mgt, slope restriction.*

Stand of mature red oak with small amounts of aspen, basswood, etc. This is a very good site with several pockets of oak wilt. Some of this original stand was harvested in 1999 (see stand #32). At that time, at least 1000 bf/ac had been lost to oak wilt. An old access road runs east along the ridge of this stand.

**Management recommendation:** No Management. Monitor for oak wilt and salvage of high value trees..

### **Stand 39:**

**Site Description** – 2.8 acres

Steep, rocky north facing slope. LaCrescent soils up to 70% slopes.

**Woodland description** – *This stand is a new acquisition and is not yet mapped. Limited mgt: slope restriction.*

**Management recommendation:** None.

#### **Stand 40:**

**Site Description** – 4.4 acres  
Rocky ravine area with LaCrescent soils on 25 – 30% slopes.

**Woodland description** – *This stand is a new acquisition and is not yet mapped. Limited mgt: ravine.*

**Management recommendation:** None.

#### **Stand 41:**

**Site Description** – 2.6 acres  
North facing slope with LaCrescent soils on 25 – 30% slopes.

**Woodland description** – *This stand is a new acquisition and is not yet mapped. Limited mgt: slope restriction.*

**Management recommendation:** None.

#### **Stand 42:**

**Site Description** – 14.1 acres  
Flat ridge end and slope area with east exposure. Paint Creek soils on 18 – 30% slopes.

**Woodland description** – *This stand is a new acquisition and is not yet mapped. Active management.*

**Management recommendation:** None at this time.

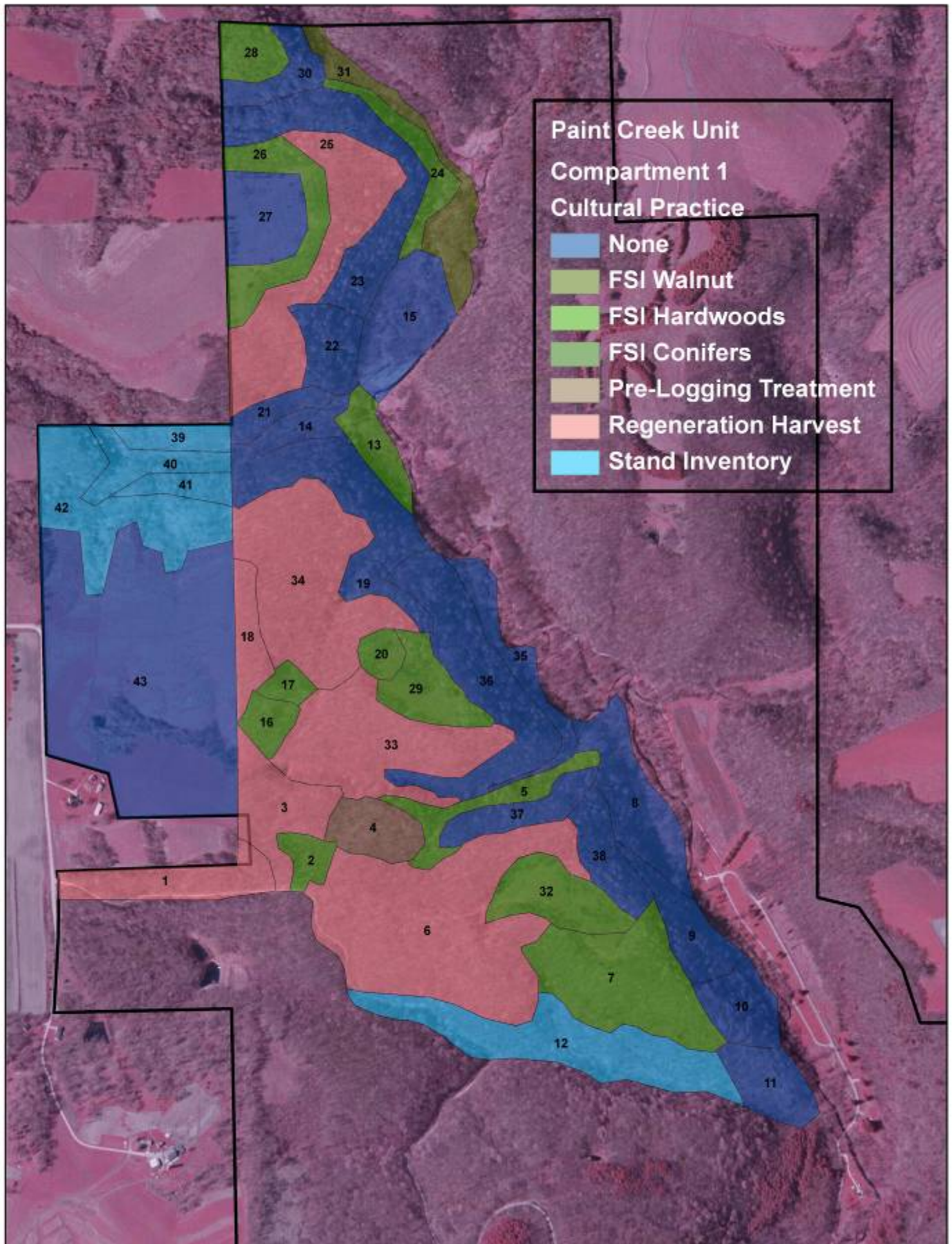
#### **Stand 43:**

**Site Description** – 47.6 acres  
Former crop field area with Fayette soils on 5 – 9% slope.

**Woodland description** – *Type 002, Non-forest.*

This field is currently in the CRP program with maintenance responsibility to the former landowner. Once it comes out of the program, we will evaluate whether to place in the crop lease program or plant it to trees.

**Management recommendation:** None at this time.



## **FY 2009:**

### **Paint Creek Unit, Compartment 2:**

#### **Stand 1:**

**Site description:** 5.8 acres. Bottomland near Little Paint Creek, Arenzvil-volney and volney soils on 2 - 5% slopes.

**Woodland description:** *Type 87, Dbh 6, BA 80, volume undetermined, active mgt: even aged.*

Bottomland hardwood stand with cottonwood and some walnut. Walnuts are not doing well although mature walnut has been harvested from this area in the past. It is possible that the water table is rising in this area due to the disappearance of large elms in last 2 decades.

This stand was reviewed for possible salvage of walnut in 2002 along with declining walnuts in Brown's Hollow. There are quite a few trees, several veneer quality, with top dieback and bole sprouting. Some trees were completely dead but salvageable. Other info available in database records.

**Management recommendations:** Forest stand improvement 2019. Select and release high quality walnut, oak, maple. Supplement with tree planting if necessary.

#### **Stand 2:**

**Site description:** 5.1 acres

Bottomland adjacent to Little Paint Creek, soils are Arenzvil-volney on 0 – 2% slope.

**Woodland description:** *Type 088, Dbh 6, BA 80, volume undetermined, active mgt: even aged.*

Bottomland hardwood pole stand slightly above bottom. Mostly maple, basswood, and white elm. Arenzvil-volney soils.

**Management recommendations:** Forest stand improvement. Select crop trees for species diversity and form.

#### **Stand 3:**

**Site description:** 7.6 acres

Bottomland adjacent to Little Paint Creek and some moderate slopes above creek bottom. Floodplain soils are Arenzvil-volney on 0 – 2% slope, the moderate slope is LaCrescent soil.

**Woodland description:** *Type 088, Dbh 4, BA 40, volume undetermined, active mgt: even aged.*

Stressed bottomland hardwoods, mostly ash, elm, cottonwood, boxelder. This area has a history of being flooded by beaver activity. BA is low and water table is high. Much open area in grass. Arensvil Volney. Natural areas inventory indicates a "sedge meadow" on this site. Don't know if it is protected.

**Management recommendations:** Stand improvement, 2019. Select for diversity of species and form.

#### **Stand 4:**

**Site description:** 7.9 acres

Rocky south facing slope above an intermittent stream. Paint Creek soils 18 – 30% slopes.

**Woodland description:** *Type 062 , Dbh 10, BA 50, volume undetermined, active mgt: even aged.*

Rocky south facing slope with generally poor quality timber. Primarily bur oak and hickory. A large pond was constructed just below this stand in 2006 as a part of the Little Paint Creek Watershed Protection Plan in conjunction with NRCS.

**Management recommendations:** Forest stand improvement, 2019. Select crop trees for form.

### **Stand 5:**

**Site description:** 2.4 acres

Boggy area adjacent to Little Paint Creek.

**Woodland description:** *Type 002 , Non Forest.*

Wet and boggy grass area at the confluence of 2 springs which feed Little Paint Creek.

**Management recommendations:** None

### **Stand 8:**

**Site description:** 2.2 acres

Upland site on ridge top. Paint Creek soils on slopes less than 25%.

**Woodland description:** *Type 064 , Dbh 16 , BA 100, 6700 bf/ac, Active management: even aged.*

Small stand of predominantly white oak with ironwood understory. Stand contains small amounts of red oak, ash, hickory, cherry.

**Management recommendations:** Forest stand improvement, 2009. Select crop trees for form, species.

### **Stand 12:**

**Site description:** 4.2 acres, upland site with village and paint creek soils up to 30% slope.

**Woodland description:** *Type 079 , Dbh 12, BA 60 , 3660 bf/ac, Active management: even aged.*

Primarily elm and hard maple with some RO, WO, cherry, and white pine mixed in. Oaks and pines could be released.

**Management recommendations:** Forest stand improvement favoring oak and pine, 2009.

### **Stand 13:**

**Site description:** 6.3 acres Upland site on village and Fayette soils up to 18% slopes.

**Woodland description:** *Type 064 , Dbh 16, BA 60 , 4020 bf/ac, Active management: even aged.*

White oak stand with some regeneration on an old field site. This is near the old Anfinson home site.

**Management recommendations:** Inventory and forest stand improvement, 2009.

### **Stand 14:**



**Site description:** 6.2 acres Upland site on village, paint creek, and Fayette soils up to 18% slope.

**Woodland description:** *Type 110 , Dbh 12, BA 40 , 2440 bf/ac, Active management: even aged.*

Abandoned home site with many walnuts, some probably with metal in them. should be looked at for possibility of salvage of the older trees.

**Management recommendations:** FSI, walnut crop tree release, 2009.

### **Stand 15:**

**Site description:** 14.4 acres Upland site on village, paint creek, and Fayette soils up to 30% slope.

**Woodland description:** *Type 093 , Dbh 12, BA 70 , 4270 bf/ac, Active management: even aged.*

Old white oak stand which has converted to shade tolerant species due past cutting practices. Maple, basswood, white ash, white oak.

**Management recommendations:** FSI, crop tree release, 2019.

### **Stand 16:**

**Site description:** 11.9 acres Upland site on village, paint creek, and Fayette soils up to 30% slope.

**Woodland description:** *Type 064 , Dbh 16, BA 100 , 11300 bf/ac, Active management: even aged.*

Predominantly white oak stand, small sawtimber. No comments on map notes. This stand should be reviewed for a possible thinning in 2009.

**Management recommendations:** FSI, 2009. Select red and white oak crop trees and increase diversity.

### **Stand 17:**

**Site description:** 3.8 acres Upland site on Fayette soils up to 9 - 14% slope.

**Woodland description:** *Type 007 , Dbh 0, BA 0, Active management: even aged.*

A former farm field, disturbance noted, converting from grass to woody vegetation. Some oak is advancing into the open area, walnuts toward lower portion of slope. Fayette soil 9 - 14%.

**Management recommendations:** seedling release, 2009.

### **Stand 21:**

**Site description:** 1.1 acres. Village, Fayette, Paint Creek soils up to 30% slope.

**Woodland description:** *Type 063 , Dbh 18, BA 85, 5950 bf/ac. Active management: even aged.*

Remnant stand of red(black) & white oak which was spared in a logging sale in 1998. Fair quality with good aspect & soil.

**Management recommendations:** Regeneration harvest, 2019.

### **Stand 24:**

**Site description:** 2.4 acres. Fayette and Paint Creek soils up to 25% slope.

**Woodland description:** *Type 079 , Dbh 2, BA 60, Active management: even aged.*

This is one of 2 stands which were under planted with red & white oak and walnut before a commercial harvest. Trees were planted in the spring of 1988 (10 x 10 spacing) and the harvest was done in Nov. & Dec. of the same year. Tops were broken down by YRSF crew and trees down to 1.5" were felled to help out seedlings.

Sale notes say that both areas were approximately 5 acres in size but the GIS says this one was only about 2.5 acres. Total of 43.2 mbf black and white oak sold to H. Jones for \$4272.00, about 10 cents per bf. Volume ran about 6 mbf/ac.

Stand mapping revealed that the oak survival was very poor on this site, yet a few persist and are now barely in the sapling stage. Most of the stand is ash, elm, hickory, boxelder, with a few oak stump sprouts which could use release.

**Management recommendations:** Forest stand improvement, CTR on oaks, 2019.

### **Stand 26:**

**Site description:** 2.8 acres. Paint Creek soils up to 30% slope.

**Woodland description:** *Type 064 , Dbh 16, BA 80, 5360 bf/ac., Active management: even aged.*  
White oak ridge top stand with hickory, maple, etc.

**Management recommendations:** Forest stand improvement, 2009.

### **Stand 30:**

**Site description:** 10.2 acres. Fayette, Village and paint creek soils up to 30% slope.

**Woodland description:** *Type 064 , Dbh 12, BA 70, 4270 bf/ac Active management: even aged.*  
Small sawtimber white oak described as a "clean" stand with good consistency. East slope to ridge top with mix of soils

**Management recommendations:** Forest stand improvement, 2009 CTR select from best formed trees.

### **Stand 32:**

**Site description:** 9.3 acres. Village and paint creek soils up to 30% slope.

**Woodland description:** *Type 063 , Dbh 4, BA 30, Active management: even aged.*  
Logged at one time, stand is about 4" dbh. Pretty poor quality red & white oak. Stand is understocked at present.

**Management recommendations:** Forest stand improvement, 2009 CTR select from best formed trees and diversity.

### **Stand 34:**

**Site description:** 3.5 acres. Upland site, Village and paint creek soils up to 18% slope.

**Woodland description:** *Type 118 , Dbh 4, BA 70, Active management: even aged.*

Weedy trees with boxelder, cedar, ironwood. Should be a decent site with Paint Creek & village soils.

**Management recommendations:** Regeneration harvest and plant. 2009.

### **Stand 35:**

**Site description:** 1.5 acres. Upland site with village and paint creek soils up to 30% slope.

**Woodland description:** *Type 118 , Dbh 4, BA 70, Active management: even aged.*

Appears to be a plantation with walnut and mixed oak. Walnut is not very straight due to open grown condition. 5/18/99 jb notes...this planting is a mess.

May be an opportunity to interplant with oak, poplar, aspen, etc. should be a good enough site. Walnut might be coppiced.

**Management recommendations:** FSI, crop tree release and weeding, 2009.

### **Stand 36:**

**Site description:** 3.4 acres. Ridge top site with Fayette soils up to 14% slope.

**Woodland description:** *Type 010 , Dbh 14, BA 90, Active management: even aged.*

Red & white pine plantation on former crop field. Stand is about 29 years old (planted around 1970). Now about 50' in ht and dbh of 10".

**Management recommendations:** Thin to keep pines growing aggressively. 2009.

### **Stand 37:**

**Site description:** 7.4 acres. Ridge top site with Fayette and paint creek soils up to 30% slope.

**Woodland description:** *Type 064 , Dbh 10, BA 30, Active management: even aged.*

A very thin stand of small sawtimber white oak from which many larger trees were harvested in 1998 as part of a larger sale area. Some of this stand needs to be cleaned up to remove damaged residual stems and possibly to stump sprout some of them. Parts of the stand still have decent volume in poles and small saw logs.

**Management recommendations:** Forest stand improvement. 2009. CTR

### **Stand 38:**

**Site description:** 8.8 acres. Upland site with Fayette and village soils up to 18% slope.

**Woodland description:** *Type 118 , Dbh 12, BA 60, Active management: even aged.*

Mostly weed trees, boxelder, aspen, elm, some ash, from which

salvageable trees were harvested in 1998 harvest. This stand should be clearcut when seedlings become available to replant to oak.

**Management recommendations:** Regeneration harvest, 2019.

### **Stand 39:**

**Site description:** 4.5 acres. Upland site with Fayette and village soils up to 14% slope.

**Woodland description:** *Type 079 , Dbh 2, BA 60, Active management: even aged.*

This is one of 2 stands which were under planted with red & white oak and walnut before a commercial harvest. Trees were planted in the spring of 1988 (10 x 10 spacing) and the harvest was done in Nov. & Dec. of the same year. Tops were broken down by YRSF crew and trees down to 1.5" were felled to help out seedlings.

Sale notes say that both areas were approximately 5 acres in size but the GIS says this one was only about 2.5 acres. Total of 43.2 mbf black and white oak sold to H. Jones for \$4272.00, about 10 cents per bf. Volume ran about 6 mbf/ac.

Stand mapping revealed that the oak survival was very poor on this site, yet a few persist and are now barely in the sapling stage. Most of the stand is ash, elm, hickory, boxelder, with a few oak stump sprouts which could use release.

**Management recommendations:** Forest stand improvement. 2019

### **Stand 40:**

**Site description:** 10.6 acres. Upland site with Fayette soils up to 14% slope.

**Woodland description:** *Type 005 , Dbh 6, BA ?, Active management: even aged.*

Tree planting area is about 15 years old and is a mix of white pine, larch, RO, WO, red pine, ash. Pines are now about 6" dbh and 20 - 30' tall. Oldest planting date on sign is 1982.

**Management recommendations:** Forest stand improvement, 2009.

### **Stand 41:**

**Site description:** 6.4 acres. Upland site with Fayette and village soils up to 14% slope.

**Woodland description:** *Type 005 , Dbh 0, BA 0, Active management: even aged.*

Tree planting area, formerly a crop field. No species or sizes indicated on data sheet. this is an extension of stand #40, much of it is open. Much of this planting failed and could be opened up to a crop lease area. There are some prairie grasses invading the south end of this field which could also be encouraged with burning.

**Management recommendations:** Tree Planting, 2009.

**Stand 42:**

**Site description:** 10.7 acres. Upland site with paint creek and village soils up to 30% slope.

**Woodland description:** *Type 064 , Dbh 0, BA 0, Active management: even aged.*

A former mature white oak stand, pretty good quality trees. This was harvested as part of a 1988 timber sale along with stand #43 and selected parts of much of this old north 80 tract. Plans are to clearcut and replant this, hopefully in the spring of 2000 if seedlings are available. Otherwise, regeneration of oak is pretty nonexistent at this time. Might be able to direct seed if we get a good seed crop this fall. This is too good of a site to let go to weeds. Soils are Paint Creek/Village on gentle southeast slope. See sale date in text file for stand # 43.

**Management recommendations:** Inventory, 2009.

**Stand 43:**

**Site description:** 26.4 acres. Upland site with paint creek and village,, and Fayette soils up to 30% slope.

**Woodland description:** *Type 063 , Dbh 0, BA 0, Active management: even aged.*

A former over mature stand of red & black and white oak which was sold along with salvage of other stumpage in this compartment in 1998. The marking tally was 168 mbf in 1211 trees but it was significantly under scaled according to loggers. The sale covered a total area of 56 acres but much of it was salvage harvest in a poor quality stand of weed trees, boxelder, elm, aspen. The clearcut of this stand was deferred till 2000 when oak seedlings were available. The site was then clearcut and planted with red and white oak seedlings.

**Management recommendations:** Inventory and forest stand improvement. 2009.

**Stand 44:**

**Site description:** 3.9 acres. Upland site with paint creek and village,, and Fayette soils up to 30% slope.

**Woodland description:** *Type 010 , Dbh 8, BA 200, Active management: even aged.*

Pine planting on former crop field. Red & white pine in rows, only about 4 rows wide. Nice poles at this point. age = 29 years (1970).

**Management recommendations:** Thin...forest stand improvement, 2009.

**Stand 45:**

**Site description:** 2.6 acres. Lowland site with lacrescent and Arenzvil volney soils on lower slope.

**Woodland description:** *Type 089 , Dbh 128, BA 80, Active management: even aged.*

Black oak with a few good walnuts. Mostly east facing slope with



Lacrescent and Paint Creek soils.

**Management recommendations:** forest stand improvement, release walnut and increase diversity.

**Stand 46:**

**Site description:** 3.8 acres. Lowland site and slope with lacrescent and Arenzvil volney soils on lower slope.

**Woodland description:** *Type 060 , Dbh 10, BA 80, Active management: uneven aged.*

Black oak and hard maple with basswood, hickory, white oak, and ash.

South facing slope, but manageable.

**Management recommendations:** Forest stand improvement, inventory 2019.

**Stand 48:**

**Site description:** 3.6 acres. Lowland site and slope with lacrescent and volney soils on lower slope.

**Woodland description:** *Type 065 , Dbh 12, BA 80, 4880 bf/ac. Active management: uneven aged.*

Red oak running up to 16" with scattered smaller white oak.

East facing steep area with

**Management recommendations:** Forest stand improvement 2019.

**Stand 49:**

**Site description:** 1.7 acres. Upland site and slope with Paint creek soil up to 18% slope.

**Woodland description:** *Type 063 , Dbh 8, BA 90, 4880 bf/ac. Active management: uneven aged.*

Red oak and smaller white oak with hickory. Some trashy trees with ironwood understory on a facing slope..

**Management recommendations.** Forest stand improvement, 2019.

**Stands 5, 20, 22, 23:**

**Site description:** totaling 23.0 acres. All bottomland sites, all arenzville-volney soils 2 – 5% slope.

**Woodland description:** *Type 002 and 008, non forest.*

These areas all non-forest, bottomland sites, mostly in grass.

**Management recommendations:** None.

### **Stands 7, 9, 11, 18, 19, 25, 27, 28, 29, 31, 33:**

**Site descriptions:** Upland sites totaling 92 acres, all steep rocky slopes on LaCrescent soils ranging from 25 to 70 % slope, all aspects.

**Woodland descriptions:** All stands with oak components, ranging from red oak (type 065) on east exposures to bur oak (type 62) and black oak (type 60) with eastern red cedar (type 52) on south facing slopes. All stands in **limited forest management with slope restrictions**. Some of these stands have other protections including dry prairie habitats and algific slopes. These stands are also in close proximity to Little Paint Creek and campground and comprise most of the viewshed from this area.

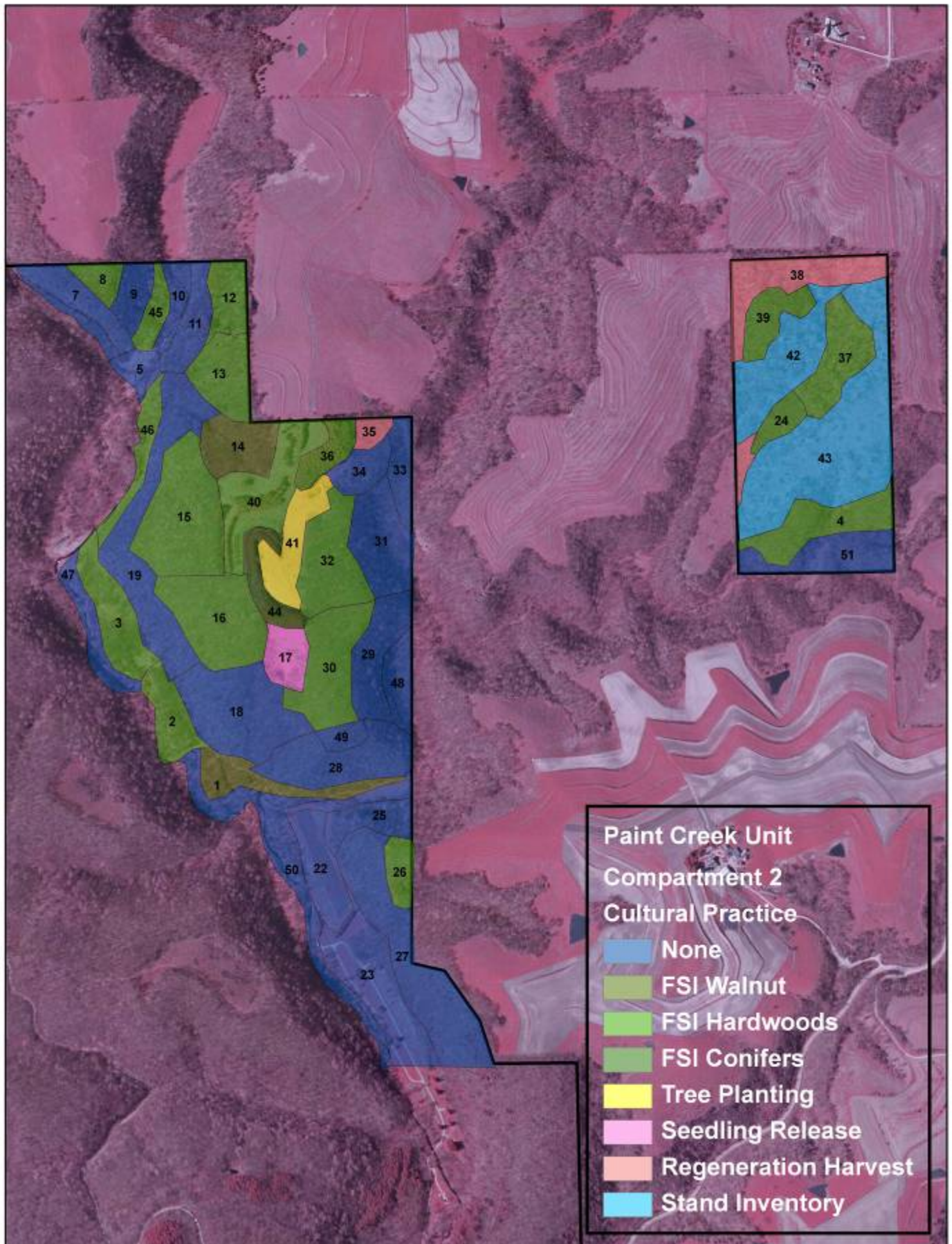
**Management recommendations:** Salvage harvest only. Monitor for mortality and disease in high quality individuals.

### **Stands 6, 10, 47, 50, 51:**

**Site descriptions:** Flood plain sites totaling 27.4 acres. All sites adjacent to Little Paint Creek with mostly flat slopes in the floodplain with Arenzvil-volney soil types, although LaCrescent soils where the slope comes right down to the creek.

**Woodland descriptions:** Mostly bottomland species in the flood plain...elm, cottonwood, green ash, walnut, hard maple. All stands are in the riparian zone of Little Paint Creek and are in the limited management class. Walnut within the floodplain can be managed on an individual tree basis, otherwise, no aggressive management is prescribed for these stands.

**Management recommendations:** Salvage harvest only. Monitor for mortality and disease in high quality individuals.



## **FY 2009:**

Paint Creek Unit, Compartment 9:

### **Stand 1:**

**Site description:** 23.7 acres. Mid slope site on north facing Bertrand soil, 5 – 9% slope.

**Woodland description:** *Type 081, Dbh 12, BA 70, 4270 bf/ac, active mgt: even aged.*

Even aged stand of maple, basswood, red & white oak. Slope not bad, fully stocked under-story of maple and ironwood. Larger trees not yet merchantable size.

**Management recommendations:** Forest Stand Improvement, crop tree release, 2009.

### **Stand 2:**

**Site description:** 46.2 acres. Paint Creek, village, Boone, Yellow River, LaCrescent, Dubuque soils on various aspects up to 40% slopes.

**Woodland description:** *Type 089, Dbh 6, BA 90, volume undetermined, active mgt: even aged.*

An overstocked pole stand with walnut, maple, basswood, aspen, red oak, and others. Oak is losing out and being over topped by ironwood and elm in places. There are some pockets with nice walnut, and other pockets overrun by prickly ash, plum, and Multiflora rose. A couple of areas that are still quite open could be planted with tubes. Site has variable soils which might impact management decisions.

**Management recommendations:** Forest stand improvement. Select crop trees for species diversity and form, and weed out ironwood and prickly ash where it is impeding crop tree growth.

### **Stand 4:**

**Site description:** Dubuque and Boone soils, up to 40% north facing slopes. Upland site adjacent to crop field.

**Woodland description:** *Type 010, Dbh 2, BA 50, volume undetermined, active mgt: even aged.*

Mixed conifers with red pine, white pine, and spruce. These trees are doing poorly and have experienced a lot of deer browse. They were planted into brome on the edge of a crop field with no release or care after planting. We planted these as extra trees from the larger conifer planting to the north. They are still part of an edge planting for the crop field to the south.

**Management recommendations:** Forest Stand improvement, 2019.

### **Stand 5:**

**Site description:** 9.3 acres, upland site on Fayette, Village, and Paint Creek soils, up to 30% slopes. This site is a former crop field.

**Woodland description:** *Type 010 , Dbh 4, BA 100, volume undetermined, active mgt: even aged.*

Mixed conifers with red pine, white pine, and spruce. These trees are doing well and are just about closed canopy at this time. This was planted somewhere around 2000. Site prep was burn, green up & spray roundup, then plant...seemed to work well.

**Management recommendations:** Forest stand improvement. Thin to recommended BA for conifers, 2009.

### **Stand 6:**

Site description: 4.1 acres. Upland site with Yellow river, Paint Creek, and Fayette soils up to 30% slope. Buggy area adjacent to Little Paint Creek.

**Woodland description:** *Type 063, Dbh 4, BA 50, volume undetermined ,Active mgt, even aged..*

Small clearcut which was done around 1989. Good quality pole stand with aspen, red oak, walnut, ash, & bitternut hickory. Could release more red oak and walnut in this stand. Should be volume and harvest information in files. This stand was definitely planted with red and white oak and walnut. Release of crop trees was done in this stand around 2005.

**Management recommendations:** Forest stand improvement, 2009.

### **Stand 7:**

**Site description:** 23.7 acres

Village, lacrescent, and Paint creek soils up to 30% slope on upland sites.

**Woodland description:** *Type 081 , Dbh 12 , BA 70, 4270 bf/ac, Active management: even aged.*

Even aged stand of maple, basswood, red & white oak. Slope not bad, fully stocked under-story of maple and ironwood. Larger trees not yet merchantable size.

**Management recommendations:** Forest stand improvement, 2009. CTR to keep oak component.

### **Stand 8:**

**Site description:** 81.5 acres, upland site with village, Fayette, paint creek, nordness, Boone, and Dubuque soils up to 30% slope.

**Woodland description:** *Type 063 , Dbh 18, BA 50 , 4700 bf/ac, Active management: even aged.*

Upland red and white oak with ash, aspen and maple. Much red oak has been cut from this large stand over the years, so there is not a lot of merchantable volume in any one area. There are scattered 20+ dbh red & white oak and aspen which could be cut in some type of group selection harvest. The understory is fully stocked with 4" maple, ash, basswood, and bitternut hickory. This stand will go to maple basswood without intervention. Dave suggests either selective harvest to go to maple basswood, or group selection with planting for oak. Soil types may affect mgt decisions on this stand.

**Management recommendations:** Regeneration harvest, 2009, followed by scarification and planting. Scout acorn crop.

### **Stand 9, 11, and 13:**

**Site description:** sites totaling 47.9 acres. Upland sites on lacrescent soils up to 70% slopes.

**Woodland description:** *Type 063 , Dbh 18, BA 60 , 4730 bf/ac, Limited Management..*

All 3 sites are red and white oak with some bur, mixed with maple and basswood and ash on steep slopes. Larger trees are not good quality with breakage and senescence. Understory is pretty highly developed 4 – 6”maple/basswood on north and west facing slopes. All sites are limited management due to slope and ravine conditions.

**Management recommendations:** No management, salvage only.

### **Stand 10:**

**Site description:** 24.5 acres Upland site on village, Fayette, and lacrescent soils up to 30% slope.

**Woodland description:** *Type 063 , Dbh 16, BA 70 , 6440 bf/ac, Active management: even aged.*

Upland oak hickory from which much of the red oak has been cut. There are harvestable trees here and a fully stocked understory of maple, basswood, b. hickory, and ash. There is quite a bit of aspen around, probably from the harvest of the red oaks. Dave suggests a group selection harvest. Mature trees include aspen, white oak, ash, maple, and bitternut, not high quality.

**Management recommendations:** Possible regeneration harvest, 2009.

### **Stand 12 and 14:**

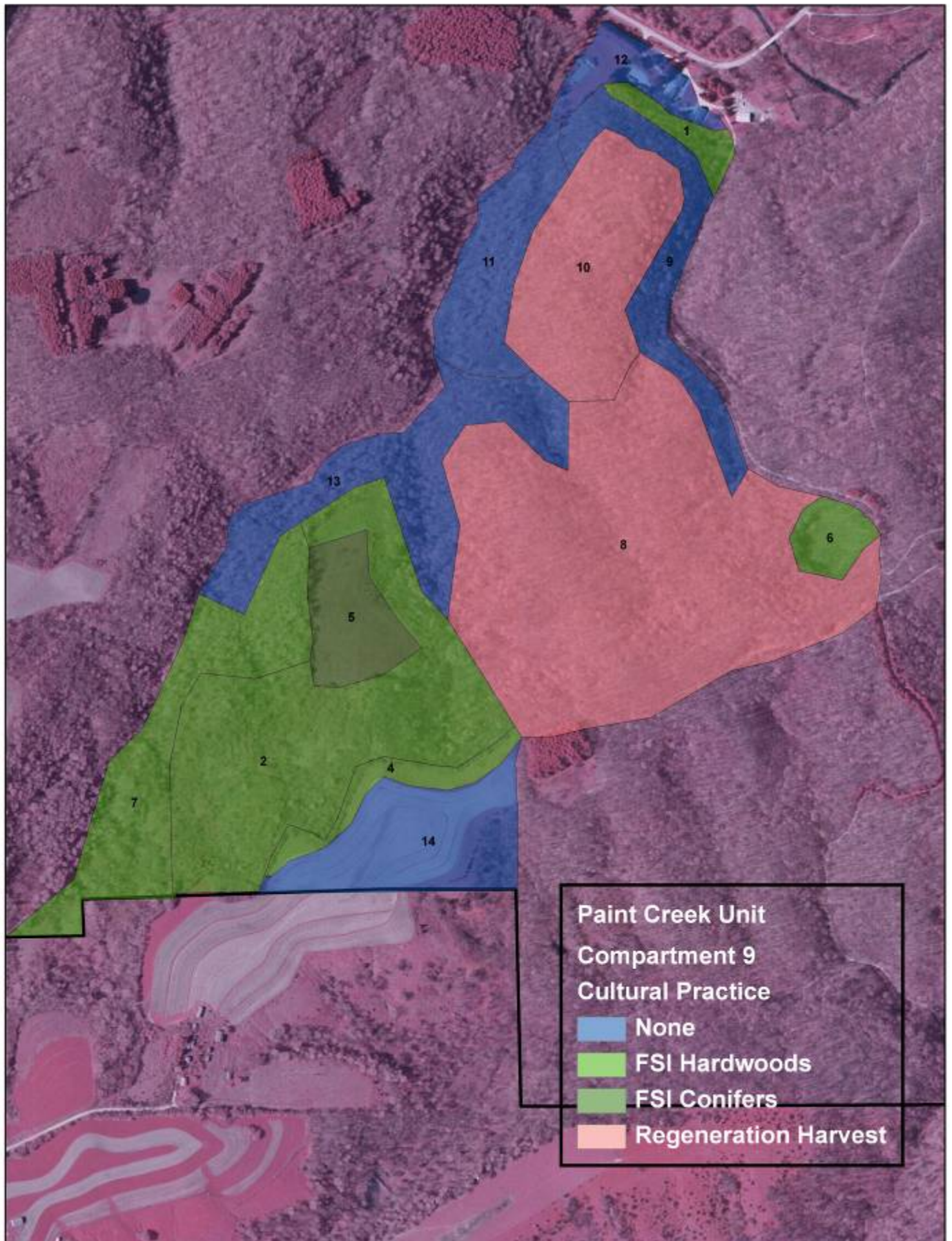
**Site description:** 23.9 acres

**Woodland description:** *Non forest areas.*

Stand 12 is the HQ and Sawmill complex, stand 14 is in the crop lease program.

**Management recommendations:** None.





**FY 2009:**

Paint Creek Unit, Compartment 17:

**Stands 1, 2, 8, 17, 21, 26:**

**Site description:** sites comprising 58.9 acres on upland sites. Dubuque, Fayette, and Paint creek soils up to 18% slopes.

**Woodland description:** *Type 002, Non Forest mgt: None*

These sites all non forest areas ranging from grassy/transitional areas to ag fields. No forest management is scheduled for these areas at this time.

**Management recommendations:** None

**Stand 3:**

**Site description:** 3.1 acres. Upland site with Dubuque soils on 14 – 18% slopes.

**Woodland description:** *Type 089, Dbh 4, BA20, active mgt: even aged.*

Field edge stand of mostly walnut mixed with field apple, plum, elm, and cottonwood along an old fence and into the pasture. Walnut could be worked on to improve quality and increase growth.

**Management recommendations:** Forest stand improvement, CTR walnut 2009.

**Stand 4:**

**Site description:** 6.7 acres Upland site with Dubuque soils up to 18% slope.

**Woodland description:** *Type 007, Dbh 4, BA 20, active mgt: even aged.*

Similar to all the other former pasture land on this acquisition, there are lots of apple trees mixed with cedar and an occasional oak, walnut, or cherry. Everything gets thicker toward the timbered edges. This stand should be planted with oak in the more open areas before encroachment is too heavy.

**Management recommendations:** Review for tree planting, 2009.

**Stand 5:**

**Site description:** 5 acres Upland site with Boone & Dubuque soils 14 – 18 % slopes

**Woodland description:** *Type 089, Dbh 4, BA 60, active mgt: uneven aged*

Parts of this stand are too steep to work with, but some of it drops off into a sort of "bottomland" filled with 4" walnut poles in spots. There is an occasional large bitternut or cherry with a few maple saplings, the rest is filled up with field apple. Towards the

north end there is some recruitment from the timbered edge by oaks.

**Management recommendations:** Forest Stand Improvement, 2009.

### **Stand 6:**

**Site description:** 2.5 acres Upland site Nordness & Boone soils slopes up to 40%

**Woodland description:** *Type 080, Dbh 6, BA 90, limited mgt: no management*

Very poor mix of trees here, mostly elm, cottonwood, and a few scraggly walnut with ancient white oaks on a steep slope. Limited mgt because of the slope.

**Management recommendations:** Salvage only

### **Stand 7:**

**Site description:** 6.3 acres Upland site Dubuque, Boone, Nordness, Village soils 14 – 40% slopes

**Woodland description:** *Type 080, Dbh 6, BA 90, active mgt: uneven aged*

Field edge stand of mostly walnut mixed with field apple, plum, elm, and cottonwood along an old fence and into the pasture. Walnut could be worked on to improve quality and increase growth.

**Management recommendations:** Forest Stand Improvement, 2009

### **Stand 9:**

**Site description:** 1 acre Upland site Dubuque soils 9 – 14% slopes

**Woodland description:** *Type 110, Dbh 12, BA 90, 3240 bf/ac, active mgt: uneven aged*

Small stand of walnut & elm, most not good quality. Some 4 - 8" trees with potential. Under-story is prickly ash, bitternut hickory, and elm. Larger trees in this stand should be harvested from this stand and the smaller growing stock could be worked on.

**Management recommendations:** Forest Stand Improvement, 2009

### **Stand 10:**

**Site description:** 2.7 acres Dubuque & Fayette soils 5 – 18 % slopes

**Woodland description:** *Type 110, Dbh 16, BA 80, 5360 bf/ac, active mgt: uneven aged*

Walnut, elm, boxelder, cherry, ash, maple, and basswood on a field edge. Walnuts up to 20" dbh here, most are branchy and not great quality. There are some smaller walnuts here which could be released from PQ basswood and ash.

**Management recommendations:** Forest Stand Improvement and walnut sale, 2009.

### **Stand 11:**

**Site description:** 4.6 acres Boone, Dubuque & Fayette soils 5 – 40 % slopes

**Woodland description:** *Type 110, Dbh 14, BA 100, 6500 bf/ac, active mgt: uneven aged*

Walnut, cherry, ash, maple on a field edge. Some large walnuts here could be harvested to release smaller walnuts with potential. Understory is maple & ash with prickly ash. There are some open areas in this stand being recruited to walnut.

**Management recommendations:** Forest Stand Improvement, salvage harvest, 2009

### **Stand 12:**

**Site description:** 17.5 acres Paint Creek, Village, Boone, Dubuque & Fayette soils 9 - 40 % slopes

**Woodland description:** *Type 093, Dbh 18, BA 90, 6300 bf/ac, active mgt: uneven aged*

Maple basswood on an east facing slope. There are a few oaks left in this stand, but it looks like most of the red oak was removed shortly before state ownership of this property. There are a few pockets of 2 - 3" ironwood where the harvest was heavier. There is some maple understory in places. Oak regeneration is probably not feasible on this stand so it could be selectively harvested with an attempt to reduce the amount of ironwood in the understory. The stand is mostly even aged now, but there are some places with a diameter distribution. Towards the field edge above, there are aspen and elm with other less shade tolerant species. There are some basswood and hackberry in the stand also.

**Management recommendations:** Regeneration of desirable species reduce iron wood understory, 2009

### **Stand 13:**

**Site description:** 3 acres Paint Creek & Village soils 18 – 25% slopes

**Woodland description:** *Type 089, Dbh 4, BA 150, active mgt: even aged*

Aspen, elm, walnut, basswood, bitternut hickory, cherry, and a few red oaks. This is a small pole stand which was open at one time, so most of this stuff has been recruited from the timber edges above. There are occasional decent quality walnuts and scattered red oaks which should be released ASAP. This stand is in bad need of TSI to eliminate ironwood, musclewood, and put growth on the oaks and other mast producers.

**Management recommendations:** Forest Stand Improvement, 2009

### **Stand 14:**

**Site description:** 3 acres Dubuque soils 9 – 14 % slopes

**Woodland description:** *Type 005, active mgt: even aged*

Grassy weedy area which was retired from the crop lease program several years ago. We used to have the lease holder put wildlife food plots in this area because the soil was not very conducive to producing much crop. This should get planted to hardwood seedlings spring of 2008.

10:02 AM 8/27/2008

This stand was mowed and sprayed with roundup and planted to red & white oak with a few walnuts in spring of 2008. On the edges where trees were bulldozed out of the field, all elms and boxelders were cut and stump treated, leaving the plum and other decent wildlife trees and shrubs. This should be checked for release spring of 2009.

**Management recommendations:** Seedling release, 2009.

### **Stand 15:**

**Site description:** 29.2 acres Boone, Fayette, Paint Creek, Lacrescent & Village soils 9 – 70% slopes

**Woodland description:** *Type 63, Dbh 14, BA 150, 9750 bf/ac, active mgt: even aged*

Second growth red oak and aspen small sawtimber with a few white oak, maple, ash. Larger red oaks have been taken out of here and some of those areas were recruited by aspen. Some of the aspen should be removed here and some is large enough to salvage for sawing. This stand should be TSI'd to put growth on the remaining oaks.

**Management recommendations:** Forest Stand Improvement, release red & white oak, 2009

### **Stand 16:**

**Site description:** 5 acres Fayette, Boone, Dubuque soils 9 – 40% slopes

**Woodland description:** *Type 089, Dbh 10, BA 100, active mgt: even aged*

Crappy stand of bitternut hickory, elm, walnut & cherry with a few scattered poor quality basswood and ash. There are a few decent walnut poles, but for the most part, this stuff is not good for much and should probably be wiped out in a firewood harvest. Vines are a problem here and much of this would have to be stump treated to regenerate anything of value.

**Management recommendations:** Regeneration cut, 2009

### **Stand 18:**

**Site description:** 7.6 acres Village, Fayette, Lacrescent soils 9 – 70% slopes

**Woodland description:** *Type 079, Dbh 18, BA 70, 4900 bf/ac, active mgt: even aged*

Heavily cutover stand of large shagbark hickory, aspen, elm, and a few PQ white oaks. Most of the large aspen in this stand is dying, especially close to the field edges. I have seen this in many places close to a crop lease area and attribute it to possible herbicide stress? The understory here is ironwood and elm. White oak & aspen should be salvage harvested from this stand and the rest clearcut and regenerated.

**Management recommendations:** Regeneration Cut, 2009

### **Stand 19:**

**Site description:** 25.8 acres Lacrescent, Village, Paint creek, Fayette, Boone, Dubuque 9 – 70% slopes

**Woodland description:** *Type 093, Dbh 18, BA 60, 4200 bf/ac, active mgt: uneven aged*



Classic maple basswood with low basal area and not a lot of volume. All red oak has been removed from this stand, leaving a mix of maple, basswood, a few average quality white oaks, with aspen and elm. The aspen here is not very good and mostly near the field edges. There are also a few walnuts near the field edge which could be worked on. The understory here is very heavily ironwood and elm making up the smaller size classes. Some of the maple is good quality but there is not very high volume in this stand.

**Management recommendations:** Regeneration Cut, 2019

### **Stand 20:**

**Site description:** 22 acres Paint Creek, Village, Boone, Dubuque, Fayette soils 5 – 40% slopes

**Woodland description:** *Type 007, Dbh 6, BA 80, active mgt: even aged*

This is a transitional stand which used to be pastured heavily and was mostly grass. The stand is full of field apple which I suppose is great for wildlife, although it doesn't look like it produces well due to crowding of the trees. There are pockets of maple saplings with a few walnut and ash, especially towards the edges. There is really no seed source for oak around here, so the only place there are any oaks is on the east facing hill near a very old white oak tree. I have thrown in one area of larger trees in the draw, these are mostly maple and are declining. This area should be planted with oak in the open areas. Some of the apple will have to be killed, which may make the residuals produce better.

**Management recommendations:** Plant Hardwoods in open areas, thin apple trees, 2009

### **Stand 22:**

**Site description:** 3.4 acres Village, Boone, Nordness soils 18 – 40% slopes

**Woodland description:** *Type 093, Dbh 16, BA 70, 4690 bf/ac, active mgt: uneven aged*

Primarily sawtimber maple on a side hill. Some of this could be in limited mgt due to the slope, but the stand is narrow enough that logs could be skidded from either side. Salvage would be feasible here. Some of these maple are not too bad, but being a former pasture site, may have basal defects. There are also a few white oak in here, but not great.

**Management recommendations:** Regeneration Cut, 2019

### **Stand 23:**

**Site description:** 17.8 acres Lacrescent, Village, Fayette, Boone & Nordness soils 14 – 70% slopes

**Woodland description:** *Type 089, Dbh 6, BA 70, active mgt: even aged*

Transitional stand converting from pasture. This area is loaded with field apple and a mixture of just about everything else, but is surprisingly devoid of oak. Species include elm, bitternut hickory, walnut, maple, basswood, ash, aspen, prickly ash, and lots of apple. There are a few openings that could be colonized by oak if it were introduced through planting. Otherwise, some of this stuff would have to be killed to allow for tree planting. There is one aspen clone in the middle of this that could be used to colonize part of the area. Several scattered large trees are also scattered around this site.

**Management recommendations:** Tree planting of hardwoods, 2009

## **Stand 24:**

**Site description:** 2 acres Lacrescent & Village soils 18 – 70% slope

**Woodland description:** *Type 063, Dbh 2, BA 30, active mgt: even aged*

Field edge stand of mostly walnut mixed with field apple, plum, elm, and cottonwood along an old fence and into the pasture. Walnut could be worked on to improve quality and increase growth.

**Management recommendations:** Forest Stand Improvement, 2009

## **Stand 25:**

**Site description:** 15.6 acres. Bottomland site Lacrescent, Village & Fayette soils 9 – 70% slopes

**Woodland description:** *Type 079, Dbh 12, BA 80, 4880 bf/ac, active mgt: even aged*

A large stand of some of the most abused timber I have seen. This stand is full of ironwood up to 12" dbh which makes up a fair amount of the basal area here. For some reason, maple has not made any impact in this stand, it was probably harvested young and maple had not yet colonized the understory. anyway, there are some harvestable trees here, but there is no future for this stand if something drastic isn't done. A firewood/sawmill harvest might work if it were done in stages, followed by tree planting and release. Ironwood will definitely need to be killed for this to work. I suspect there is a large seed bank also.

**Management recommendations:** Regeneration Cut, 2009

## **Stand 27:**

**Site description:** 16.7 acres. Upland site with Village, Fayette, Lacrescent & Paint Creek soils 9 – 18% slopes

**Woodland description:** *Type 007, Dbh 4, BA 60, active mgt: even aged*

Another pasture area converted to field apple orchard. There is not much else here but apple. This is great habitat for grouse, rabbit, and deer, but could be better if oak were introduced here. The apple will phase out eventually and the older trees will stop producing. Suggest developing some openings by either cutting or basal bark treatment of apples followed by tree planting. This should be done ASAP.

**Management recommendations:** Tree planting of hardwoods

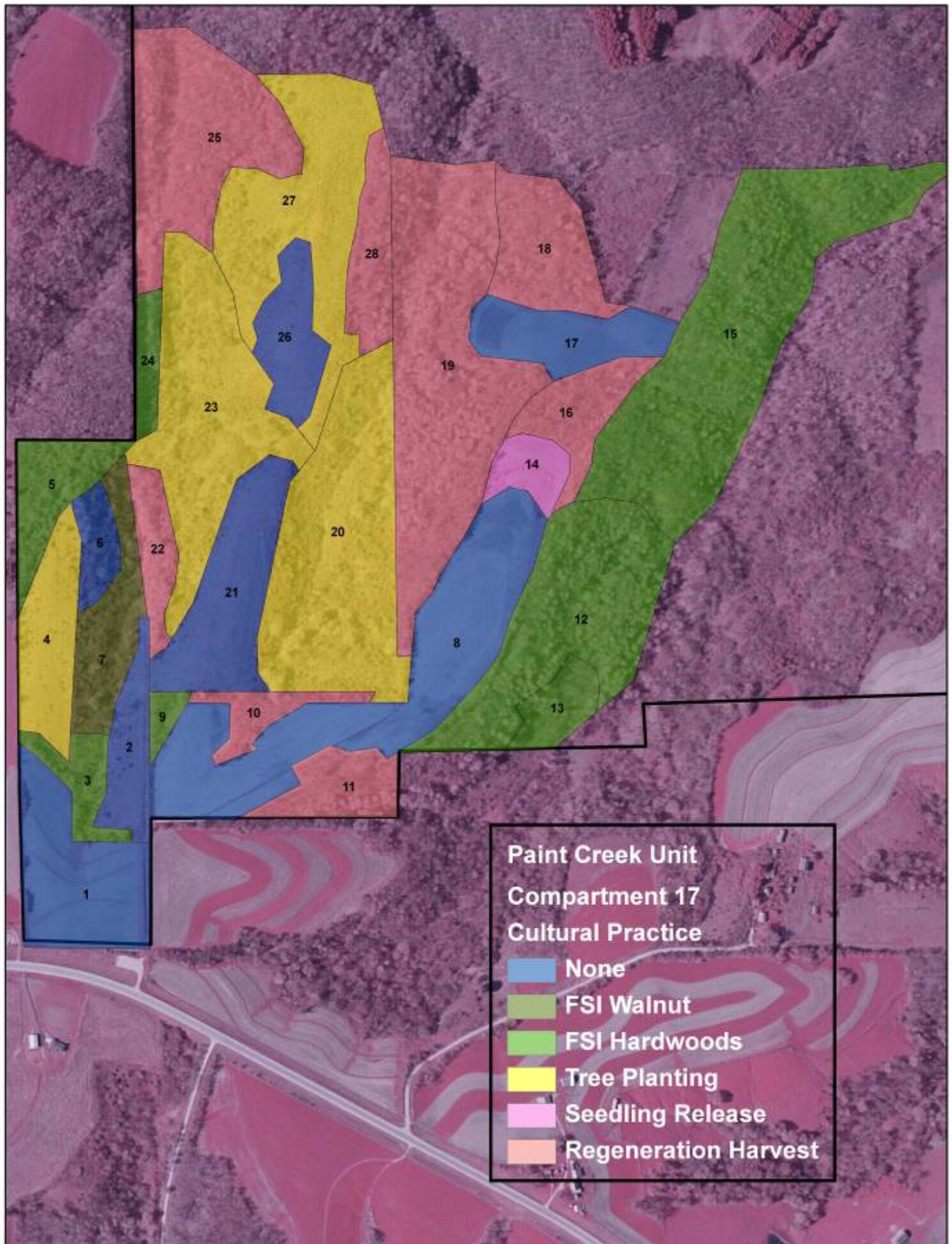
## **Stand 28:**

**Site description:** 4.7 acres. Upland site with Village, Lacrescent & Paint creek soils 14 – 70% slopes

**Woodland description:** *Type 093, Dbh 16, BA 85, 5695bf/ac, active mgt: even aged*

This is a stand of poor quality maple basswood with some white oaks thrown in. Most of these trees were left-over from the last commercial harvest of the Wilkins farm. There is a gob of ironwood and elm in the understory. Other species include aspen and basswood. Some oak on the edges. Salvage and clearcut.

**Management recommendations:** regeneration Cut, 2019



## **FY 2010:**

Paint Creek Unit, Compartment 13:

### **Stands 1, 2, 6, 27, and 33:**

**Site description:** Stands comprising 73.5 acres on upland sites. Soils are mid-slope Lacrescent soils up to 70% slopes, mostly south and southeast aspects.

**Woodland description:** *All limited mgt: slope restriction.*

These 5 stands all containing mixed hardwood stands up to 16" dbh, some with oak component. Most sites with south aspects have poor quality trees, some walnut exists in these slopes and may be worthy of salvage if mortality is imminent.

**Management recommendations:** Salvage only.

### **Stand 3:**

**Site description:** 8.2 acres, upland site with Fayette, Paint Creek, and Lacrescent soils, mostly under 30% slope.

**Woodland description:** *Type 089, Dbh 16, BA 70, 6440 bf/ac, active mgt: even aged.*

Southwest facing hollow with workable slope and pretty good soils.

Typed as upland hardwood, has good RO, WO, maple, ash, basswood and some pretty nice walnuts on upper slope, over 20" dbh. Maple and ironwood understory. Area below pond has lots of pole sized maple and ash.

**Management recommendations:** Forest stand improvement, 2010. Crop tree release.

### **Stand 4:**

**Site description:** 1.6 acres, ridge top site on Fayette soils, 9 – 14% slope.

**Woodland description:** *Type 005, Dbh 1, BA 0, Active mgt: even aged.*

This open grass field was sprayed with 1.5% glyphosate followed by plowing and disking in preparation for a direct seeding of red and white oak, and walnut in fall of 2000. A good crop of seedlings started in the growing season of 2001, but weed pressure became intense toward the end of the growing season. Early bud break in spring 2002 prevented herbicide treatment and the site was mowed in late summer exposing the remaining oak and walnut. Main weed problem was goldenrod and grass encroachment. November of 2002 the following herbicides were applied:  
1/2 ounce Oust, 2 qt Simazine, 2 qt Stomp (Prowl)....per acre.

Note: mowing seems to be a good rescue treatment during year 2 on direct seeding if it is timed correctly. Many of the oaks showed late season growth after this was mowed in mid August.

**Management recommendations:** Monitor and release, 2010.

### **Stand 5:**

**Site description:** 2.0 acres, ridge top site. Fayette soils, 9 – 14% slope.

**Woodland description:** *Type 058, Dbh 4, BA 40, active mgt: even aged*

Former crop area planted to walnut, oak, and red cedar initially.

Planting was done in 1990 but cedar didn't do well and was replaced with white pine in 1991. Planting was sprayed with Stomp and Princep over the top in '91 and has done very well to this point. It is now at the stage where some of the pine should be thinned to promote the growth of hardwoods.

**Management recommendations:** Forest stand improvement, thin pine and release hardwoods with good form., 2010.

### **Stand 7:**

**Site description:** 6.6 acres, ridge top site with Fayette, Paint Creek, and LaCrescent soils on slopes up to 30%.

**Woodland description:** *Type 089, Dbh 14, BA 70, 4550 bf/ac, active mgt: uneven aged.*

Upland mix with lot of 12" maple. About 1/4 volume in harvestable oak in good health. Evidence of small amount of high grading. Maple may make regeneration of oak difficult on this site, and uneven aged mgt is suggested although this stand may be too small for commercial harvest on selective basis. Larger trees tend to be on the edges of the stand.

**Management recommendations:** Forest stand improvement, check for harvest volume in 2010.

### **Stand 8:**

**Site description:** 17 acres, upland site on Fayette, Village, and Paint Creek soils up to 35% slope.

**Woodland description:** *Type 089, Dbh 16, BA 70, 6440 bf/ac, active mgt: uneven aged.*

Harvestable red oak and white oak, but not well stocked for a site this good. There has been some cutting in this stand in the last 30 years, could be oak wilt or "selective" cutting. Should probably look at this for a harvest in 2010.

4/19/2000 This stand was marked for a partial "selective" harvest in winter 99/00. Trees were selected for size and salvage, most of the remaining large red oaks were marked, as well as several maple and ash. At least one small opening will be created when this is cut in fall/winter of 2000, with a possibility for some oak regeneration. Sold to Nelson Hardwoods along with another cut area to the west. 21 mbf marked: 9720 RO, 2920 WO, 3760 Ash, 3000 hard maple +misc.

**Management recommendations:** Selective harvest, 2020.



## **Stand 9:**

**Site description:** 4.6 acres, ridge top site on Fayette soils 9 – 18% slopes.

**Woodland description:** *Type 013, Dbh 10, BA 210, active mgt: even aged.*

Good looking stand of white pine, with little hardwood encroachment. Could use thinning, some blister rust. McSweeny's notes are sketchy on this, but it appears that this stand was planted in 1969-70, and thinned in 1977.

**Management recommendations:** Thin to recommended BA, 2010.

## **Stand 10:**

**Site description:** 1 acre, ridge top site, Fayette soils 9 – 18% slope.

**Woodland description:** *Type 012, Dbh 8, BA 210, active mgt: even aged.*

Somewhat of a field edge planting of red pine attached to a larger stand of white pine. Planted in '65, but it doesn't look like it was thinned. BA is hard to measure due to narrowness of the stand, but is around 210 with diameters around 8". Stand has poor vigor, not sure why but could be related to soils or hardwood shading. It looks like these could have been planted on soil which was left after building a terrace on the field edge, so could have been planted on subsoil.

**Management recommendations:** Thin to rec. BA for red pine, 2010.

## **Stand 11:**

**Site description:** 1.6 acres, ridge top site on Fayette soils.

**Woodland description:** *Type 012, Dbh 8, BA 210, active mgt: even aged.*

Red pine planted in '69-70 and thinned in late 80's. BA's around 210 needs work. There are a number of elms encroaching on the stand and some young walnuts near the swale above pond.

**Management recommendations:** Thin to rec. BA for red pine.

## **Stand 1220:**

**Site description:** stand comprising 2.7 acres, upland sites, Fayette soils.

**Woodland description:** *Type 002, Dbh      , BA      ,      bf/Ac, Non-forest: none*

Brome grass areas with silt holding ponds.

**Management recommendations:** No management.

### **Stand 13:**

**Site description:** 1 acre, ridge top site with Fayette soil.

**Woodland description:** *Type 089, Dbh 4, BA 40, active mgt: even aged.*

Small stand with some rogue trees and some small walnut and oak which should be released. Need more info on this stand.

**Management recommendations:** salvage or kill rogues and assess regeneration, 2010. Forest stand improvement.

### **Stand 14:**

**Site description:** 1.7 acres ridge top site with Fayette soils.

**Woodland description:** *Type 005, Dbh 0, BA 0, active mgt: even aged.*

Small patch of native grass, looks like big (or little) blue stem.

This grass has not been well maintained and sumac is encroaching into the southeast corner. Last burned in 1991. Sumac was cut around 1994, but with little effect. This site was planted to seedlings in the spring of 2007 with oak, walnut, and pine, in an effort to reduce open acreage on this ridge.

**Management recommendations:** Seedling release, 2010.

### **Stand 15:**

**Site description:** 7.1 acres, ridge top site on Fayette soils.

**Woodland description:** *Type 005, Dbh 0, BA 0, active mgt: even aged.*

Open brome grass with a few scattered trees, mostly elm. This area was periodically leased through the 70's and 80's for hay, and an occasional wildlife food plot was put in. With the concern about fragmentation, this area should be direct seeded or planted up with seedlings to create a larger area of continuous forest cover on this ridge.

Parts of this open field have been planted to oak and walnut. A small area on the west was direct seeded in 2002, but nearly failed and was supplemented with excess nursery stock later. The north part of the stand was planted with white pine, red oak, white oak, and walnut with shrubs in 2005. The south part was planted in 2007.

**Management recommendations:** Seedling release, 2010.

## **Stand 16:**

**Site description:** 1 acre, ridge top site with Fayette soils.

**Woodland description:** *Type 012, Dbh 6, BA 150, active mgt: even aged.*

Small planting of red pine. Planted in 1978, thinned in 1989.

BA is 150 with a dbh of 6, needs thinning again.

**Management recommendations:** Thin to recommended BA for red pine, 2010.

## **Stand 17:**

**Site description:** 4.8 acres, ridgtop site on Fayette soils.

**Woodland description:** *Type 005, Dbh 2, BA 30, Active management: even aged*

4/19/00

Former crop field tree planting, some done in late 80's and some in 1990. These trees are doing very poorly, possibly due to the goldenrod population. Goldenrod may be allelopathic to trees and this field may provide the evidence of that. Weed control has been tried here with apparently little effect.

4:02 PM 2/20/2008

The periphery of the original tree planting has been supplemented with later plantings, as well as encroachment from the adjacent forest stands. There are volunteer white pines on the lower edge. White pine and white oak have also been planted here, but appear to be suffering from soil problems....this is a moderately eroded Fayette soil.

**Management recommendations:** Crop tree release, 2010.

## **Stand 18:**

**Site description:** 21.2 acres, upland site on moderately south and east slope, Boone soils 25 - 40% slope.

**Woodland description:** *Type 63, Dbh 16, BA 70, 4690bf/Ac, Active management: even aged*

Mapped by Bulman. Small sawtimber stand with occasional large red oak to salvage log. Could be set up for advanced regeneration. Need more data on this stand. .

**Management recommendations:** Inventory and salvage harvest, 2010.

## **Stand 19:**

**Site description:** 10.5 acres, upland site with village and Fayette soils, 0 - 9% slope.

**Woodland description:** *Type 12, Dbh 8, BA 120,       bf/Ac, Active management: even aged*

Mapped by Bulman. Red pine, planted around late 60's. McSweeney's notes indicate that much of this may have been thinned in '74,

but exact location of thinning is difficult to ascertain.

Reconnaissance of the area in '97 indicated that it was row thinned and that quite a bit of oak had seeded into the understory. The stand was row thinned again in winter '97/'98, every third row. Before the thinning, BA was 200 and dbh was 8". Volume removed was not calculated, but final BA = 120. It is hoped that the late thinning will help to stimulate oak in the understory and the pine could be harvested in about 20 years to give way to hardwoods. Much of the oak and other hardwoods showed increased growth since the thinning. Also noted quite a bit of garlic mustard coming in amongst the raspberries. .

**Management recommendations:** Inventory and release oaks, 2010.

### **Stand 21:**

**Site description:** 1.5 acres, upland site on Fayette soil, 5 - 9% slope.

**Woodland description:** *Type 13, Dbh 10, BA 200, bf/Ac, Active management: even aged*  
4/20/00

White Pine stand which could use some thinning. Some blister rust but in pretty good shape for the most part. No planting or thinning data on this stand. Aged by whorls, this seems to have been planted around 1965, which is probably right because most of the pine on this ridge was planted mid 60's to early 70's.

**Management recommendations:** Thin to recommended BA for white pine, 2010.

### **Stand 22:**

**Site description:** 3.3 acres, ridgetop site with fayette soil up to 14% slope.

**Woodland description:** *Type 005, Dbh 4, BA 30, bf/Ac, Active management: even aged*  
4/20/00

White Pine, ash, and walnut plantings in strips. These were done in 1980 & 81, planted into brome and possibly sprayed with Princep or another post plant herbicide. Pretty much neglected over the following 20 years. The upper row of walnut looks like it must have been healed in or planted from seed as it is very close spacing. The grassy areas between plantings are getting brushy in places and there is quite a bit of pine seeding into these strips which should be released with a little roundup. Also large area of sumac on the lower part of this, with a few aspen and oak getting started. This area was probably mowed to death prior to 1990 and the brush is beginning to take over.

Walnut does not look very good but the pine is beginning to

do well, except where the walnut is beginning to have an allelopathic effect.

**Management recommendations:** Inventory and crop tree release, 2010.

### **Stand 23:**

**Site description:** 2.2 acres on upland site, Fayette soils up to 9% slope.

**Woodland description:** *Type 13, Dbh 8, BA 200, bf/Ac, Active management: even aged*

White Pine about a 1968 planting. Doesn't look like this has ever been thinned and should be one of our next thinning priorities in this area.

**Management recommendations:** Thin to recommended BA for white pine, 2010.

### **Stand 24:**

**Site description:** 7.8 acres, upland site, mid-slope, Fayette & yellow river soils 9% slope.

**Woodland description:** *Type 119, Dbh 8, BA 200, bf/Ac, Limited management: even aged*

4/20/00

Species adaptation plots which were planted in 1950?

Can't find the file on this but there is some info available on species and replications.

I had a volunteer go through and release much of this from hardwood encroachment in preparation to thin some of it. This is, by now, a historical tree planting since it is one of the first on this area and I intend to take some steps to restore and protect it.

**Management recommendations:** Inventory, Crop tree release and weeding, 2010.

### **Stand 25:**

**Site description:** 11.5 acres, upland site with Fayette soils, up to 9% slope.

**Woodland description:** *Type 119, Dbh 12, BA 70, 6930bf/Ac, Limited management: even aged*

4/20/00

Another replication of the species adaptation plots (stand 24) which were planted in 1950?

Can't find the file on this but there is some info

available on species and replications. Some of the species did not make it at all and these small areas have been invaded by native hardwoods...ahs, elm, and basswood.

I had a volunteer go through and release much of this from hardwood encroachment in preparation to thin some of it. This is, by now, a historical tree planting since



it is one of the first on this area and I intend to take some steps to restore and protect it.

**Management recommendations:** Inventory, forest stand improvement, weeding, 2010.

### **Stand 26:**

**Site description:** 65.2 acres, upland site with some south slopes. Village, paint creek, and Fayette soils up to 25% slope.

**Woodland description:** *Type 063, Dbh 18, BA 80, 7520bf/Ac, Active management: even aged*

Typical upland ridge top stand of red and white oak, with ahs, maple, aspen, hickory, and elm. Most of the red oak is mature and should be harvested. understory is pole sized maple, bittersnut hickory, basswood, and ironwood, with maple and bittersnut seedlings. This stand should be looked at for harvest in the next cutting cycle. Regeneration might be a problem here with the shade tolerant understory already pretty developed. This stand was involved in a wildfire in the late 80's so some of the larger trees may be scarred. The fire was mostly contained in the western part of the stand, and had an effect on understory composition. Many small maple and ironwood were killed. A commercial harvest could be set up anywhere in this stand.

**Management recommendations:** Regeneration harvest and inventory.

### **Stand 28:**

**Site description:** 63.6 acres lower slope and bottom, Lacrescent and arenzvil-volney soils on lower slopes up to 35%.

**Woodland description:** *Type 89, Dbh 16, BA 50, 3350bf/Ac, Active management: even aged*

10:26 AM 4/11/2008 Dave Asche

Maple and walnut, not good quality trees. This stand is not well stocked, but there is a heavy understory of maple, hackberry, walnut, and elm here. Some 12 - 16" dbh walnuts were sold from this stand in '03/'04. Volume of 12,250 bf. These were small sawtimber trees which were cankered and bole sprouting from a weather event some years earlier. This info will be in the PC-1 file as we sold walnuts from Little Paint Camp area the same year.

**Management recommendations:** Inventory and Forest stand improvement, 2020.

### **Stand 29:**

**Site description:** 51.5 acres, upland site with village, paint creek, and lacrescent soils up to 70% slopes.

**Woodland description:** *Type 79, Dbh 6, BA 80, bf/Ac, Active management: even aged*

10:26 AM 4/11/2008 Dave Asche

This is a pole stand averaging 6" dbh with aspen, ahs, elm, boxelder, maple, basswood, and oak. This stand should be thinned to get rid of boxelder and elm and release the oak component. Growing well. A selection harvest was done on a portion of this stand back in 2000....37mbf was sold here.

**Management recommendations:** Forest stand improvement, inventory, 2010.

### **Stand 30:**

**Site description:** 39.4 acres, upland to mid-slope site with Fayette, village, paint creek, and lacrescent soils up to 70% slope.

**Woodland description:** *Type 079, Dbh 16, BA 75, 5980bf/Ac, Active management: even aged*

10:26 AM 4/11/2008 Dave Asche

Good looking trees here, red oak, maple, basswood, shagbark hickory, white oak, aspen. There are some areas here with a lot of 6" maple poles. Understory has a lot of ironwood. Clearcut & plant or manage for maple.

**Management recommendations:** Inventory for harvest areas, 2010.

### **Stand 31:**

**Site description:** 41.4 acres, upland site, Fayette, village, lacrescent soils up to 70% slopes.

**Woodland description:** *Type 093, Dbh 16, BA 60, 5520bf/Ac, Active management: even aged*

10:26 AM 4/11/2008 Dave Asche

maple basswood with some white oak, around 16" dbh. These are pretty good looking trees on a workable slope. This area could be clearcut or selectively managed. A selective sale was done here in 2000 to remove large and declining red oak and a few white oak. An attempt was made to save white oaks that appeared healthy. Understory is maple, bitternut, ironwood.

**Management recommendations:** Inventory for regeneration harvest 2010.

### **Stand 32:**

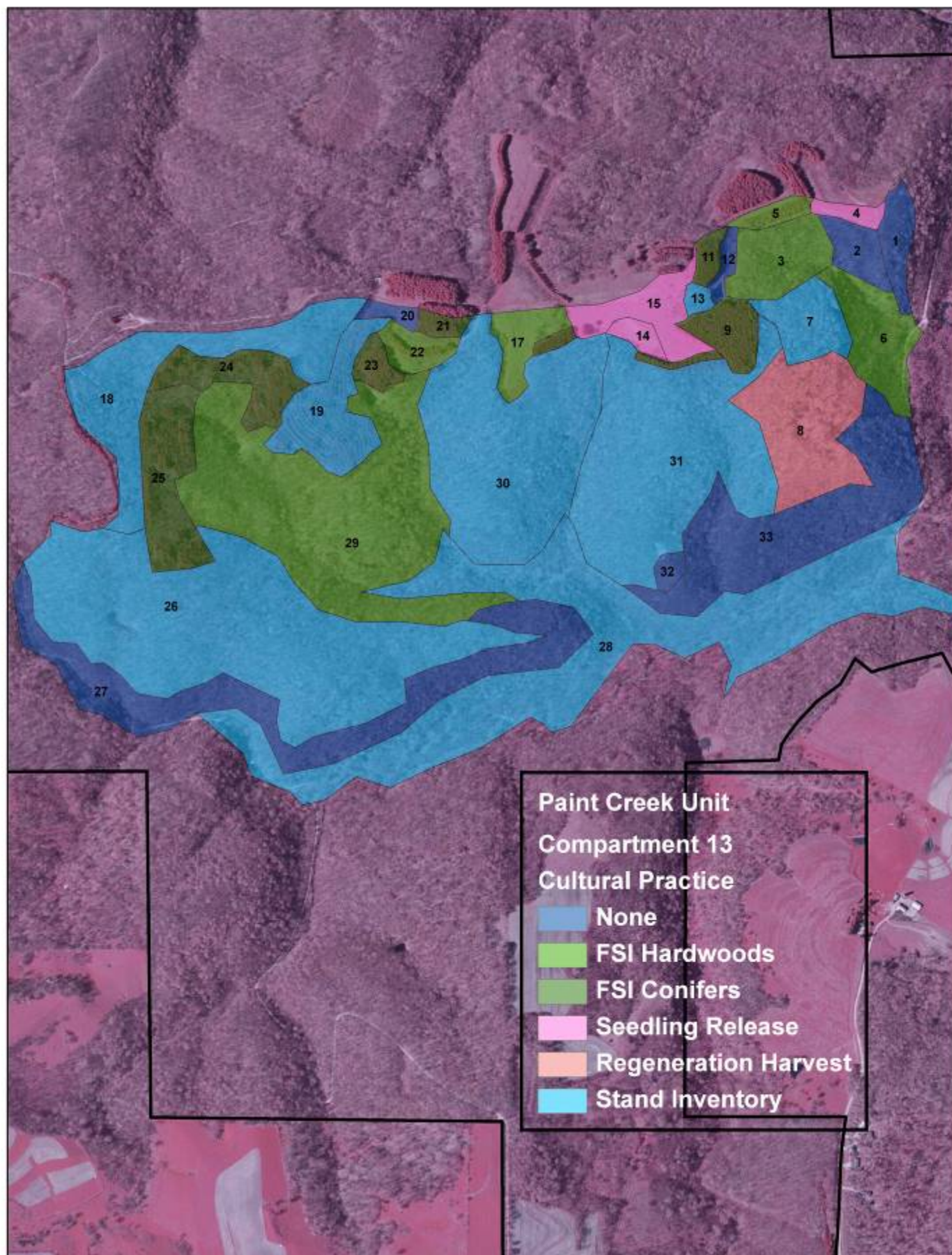
**Site description:** 1.2 acres, upland site, Lacrescent soil 25 - 70% slope.

**Woodland description:** *Type , Dbh , BA , bf/Ac, Active management: even aged*

10:26 AM 4/11/2008 Dave Asche

This is a very small goat prairie above Brown's Hollow. I has been burned at least once in the last 5 years, and some encroaching trees were removed at that time. It should be looked at again as there are some good quality prairie species here.

**Management recommendations:** Prairie management.



## **FY 2010:**

Paint Creek Unit, Compartment 18:

### **Stand 1, 7, 10, 14:**

**Site description:** Stands comprising 145.1 acres, all upland sites with Fayette, village, paint creek, nordness, and dubuque soils on moderate slopes.

**Woodland description:** *Type* , *Dbh* , *BA* , *bf/Ac*, *Non-forest: none*

All sites in grass or agricultural lease program. Stands 7 and 14 will be listed for tree planting as time permits.

**Management recommendations:** No forest management at this time.

### **Stand 2:**

**Site description:** 12.3 acres, upland site with Fayette, village, and paint creek soils, moderate slope.

**Woodland description:** *Type 005, Dbh 4, BA 80, bf/Ac, Active management: even aged*

This approximately 15 acre tree planting was done by contractors by machine. A mix of red, bur, and white oak, hybrid poplar, walnut, and shrubs was machine planted followed by spraying herbicides (Pendulum and Princep) over the top. This has been a pretty good growing stand of trees so far, with no other follow-up except for removal of encroaching boxelder from the south end. Some honeysuckle has also been removed.

**Management recommendations:** forest stand improvement, weeding, crop tree release, 2010.

### **Stand 3:**

**Site description:** 4.5 acres, upland site on nordness and yellow river soils up to 40% slope.

**Woodland description:** *Type 079, Dbh 20, BA 30, 1230bf/Ac, Limited management: salvage only*

2:19 PM 2/21/2008

A small stand of mostly "wolf" trees with some oak included. Aspen and gooseberry in the understory, this stand was probably grazed over. The stand is situated on a fairly steep north facing slope which is rocky, and is in the limited mgt area.

**Management recommendations:** Monitor and salvage only.

### **Stand 4:**

**Site description:** 9.1 acres, upland site on dubuque and nordness soils, moderate slopes.

**Woodland description:** *Type 010, Dbh 3, BA 70, bf/Ac, Active management: even aged*

2:19 PM 2/21/2008

A mixed pine planting with scotch, white, and red pine. This planting was done in 2002 during a year when there was no oak available from the state nursery. Several attempts have been made to interplant oak in subsequent years, finally resorting to tree shelters.

So far, most of the hardwoods have not done well due to the quality of the soils here.

**Management recommendations:** Forest stand improvement, crop tree release.

### **Stand 5:**

**Site description:** 12.9 acres, upland site with nordness, dubuque, and small amount of Fayette soils on moderate slopes.

**Woodland description:** *Type 010, Dbh 4, BA 50, bf/Ac, Active management: even aged*

2:19 PM 2/21/2008

A mixed pine planting with scotch, white, and red pine. This planting was done in 2002 during a year when there was no oak available from the state nursery. Several attempts have been made to interplant oak in subsequent years, finally resorting to tree shelters.

So far, most of the hardwoods have not done well due to the quality of the soils here.

**Management recommendations:** Forest stand improvement, encourage oaks in tree shelters, 2010.

### **Stand 6:**

**Site description:** 5.1 acres on an upland site with north slope, Boone soil up to 40% slope.

**Woodland description:** *Type 089, Dbh 16, BA 80, 5360bf/Ac, Active management: even aged*

2:19 PM 2/21/2008 Stewart Farnum

Upland hardwoods with walnut and a lot of hickory. There are some cherry in here as well. Trees get larger towards the bottom of the slope. He lists aspen in the understory, it may be maple.

**Management recommendations:** Forest stand improvement, 2010.

### **Stand 8:**

**Site description:** 4.1 acres, upland site, paint creek and village soils up to 30% slope.

**Woodland description:** *Type 062, Dbh 16, BA 50, 3350bf/Ac, Active management: even aged*

2:19 PM 2/21/2008 Stewart Farnum



Low BA with PQ bur oak and hickory. This stand has been pastured for many years and trees are not in good shape. Boxelder and aspen encroachment with gooseberry on the ground.

**Management recommendations:** Inventory and salvage, 2010.

### **Stand 9:**

**Site description:** 10.5 acres, upland site with village and paint creek soils 14 - 18% slope.

**Woodland description:** *Type 005, Dbh 0, BA 0, 0bf/Ac, Active management: even aged*

2:19 PM 2/21/2008 Stewart Farnum

Tree plantings over several years. About 5 acres of this was done as part of a nursery program to promote tree sales called the Forest Legacy Program whereby people gave money to plant an acre of trees on state forests, generally in someone's name. There is a plaque in the visitor center bearing the names of people these were planted for. These were mostly mixed plantings with a few conifers, red & white oak, walnut, etc. They are doing OK at this point except boxelder encroachment is becoming a problem and will have to be dealt with.

**Management recommendations:** Forest stand improvement, weeding 2010.

### **Stand 11:**

**Site description:** 8.0 acres upland site in a drainage area, paint creek soils up to 18% slope.

**Woodland description:** *Type 079, Dbh 12, BA 70, 4270bf/Ac, Active management: even aged*

2:19 PM 2/21/2008 Stewart Farnum

Kind of a crappy stand of ash, cherry, elm, and bur oak with a ravine down the center. The understory is pretty thick with Multiflora rose which should be removed.

**Management recommendations:** Forest stand improvement, inventory, 2010.

### **Stand 12:**

**Site description:** 2.7 acres upland site with Fayette, paint creek soils up to 30% slope.

**Woodland description:** *Type 079, Dbh 16, BA 70, 4960bf/Ac, Active management: even aged*

2:19 PM 2/21/2008 Stewart Farnum

Oak, elm ash, with aspen. Some decent aspen and a couple good RO here. Rose in the understory needs removal, past grazing history.

**Management recommendations:** Forest stand improvement, 2020.

### **Stand 13:**

**Site description:** 9.7 acres upland site with Fayette, paint creek, and Boone soils up to 40% slope.

**Woodland description:** *Type 079, Dbh 14, BA 60, 3900bf/Ac, Active management: even aged*

9:26 AM 2/22/2008 Stewart Farnum

Oak, elm ash, with aspen. Much of this stand is in transition with apple and plum trees on the field edges and a lot of Multiflora rose which should be eradicated. There are trees up to 18 inches dbh with red oak and aspen, hickory, cherry and elm understory. Some white oak is regenerating on the edges of the stand. This should probably be cleaned up to promote good seedlings and apple/plum/hawthorn on edges.

**Management recommendations:** Forest stand improvement 2010.

### **Stand 15:**

**Site description:** 6.6 acres upland site on village and Fayette soils 9 - 18% slopes.

**Woodland description:** *Type 005, Dbh 0, BA 0, 0bf/Ac, Active management: even aged*

9:26 AM 2/22/2008 Stewart Farnum

This is a tree planting area in a former pasture. There are 2 different things going on here, one is a direct seeding which was done around 2004 in the fall. Most seed applied was red oak, but there was some white oak as well. These didn't do all that well, I suspect we might have gotten the seed too deep. There are some red oaks coming up and some hard maple volunteers, but this may need supplementing at some point.

The other project in this stand is a walnut progeny project which was started by Aron Flickinger. Seed from superior walnut trees were augured into rows and catalogued according to the parent trees, apparently in an effort to find vigorous, high quality seedlings that can be marketed as superior Iowa walnuts. More info about this project is forthcoming from Aron.

**Management recommendations:** Seedling release, weeding, 2010.

### **Stand 16:**

**Site description:** 11.8 acres, south facing upland site with paint creek soils up to 30% slope.

**Woodland description:** *Type 079, Dbh 16, BA 60, 4020bf/Ac, Active management: even aged*

9:26 AM 2/22/2008 Stewart Farnum

White and red oak mixed with elm, hickory, ash, cherry on a south facing slope. Some of

these trees have potential. BA is low in places. There is an understory including maple and elm with goose berry and Multiflora rose.

**Management recommendations:** Forest stand improvement, inventory 2010.

### **Stand 17:**

**Site description:** 10.8 acres upland site, north facing slope, paint creek soils, 30% slope.

**Woodland description:** *Type 079, Dbh 18, BA 60, 4200bf/Ac, Active management: even aged*

9:26 AM 2/22/2008 Stewart Farnum

White and red oak mixed with elm, hickory, ash, cherry on a south facing slope. Some of these trees have potential. BA is low in places. There is an understory including maple and elm with goose berry and Multiflora rose. Could be some oak wilt in this stand which bears checking out. Some of this stand grades into a ravine which will affect logging activity.

**Management recommendations:** Regeneration harvest, salvage, replant. Inventory 2010.

### **Stand 18:**

**Site description:** 13.8 acre ravine site with paint creek and lacrescent soils up to 70% slope.

**Woodland description:** *Type 079, Dbh 14, BA 60, 3900bf/Ac, Limited management: salvage only*

9:26 AM 2/22/2008 Stewart Farnum

all aged stand with elm, ash, basswood, bur oak, and aspen. Looks like it was selectively logged. Understory is elm and maple. There is a nice pond in this stand which is in dire need of some work to the spillway. This pond is spring fed and has some fish in it. Would be nice to get someone from fisheries to come in and check it out, but so far, I have not been able to get anyone to do this.

**Management recommendations:** salvage only.

### **Stand 19:**

**Site description:** 3.2 acres, upland site, lacrescent soils, 30% slope.

**Woodland description:** *Type 079, Dbh 18, BA 60, 4200bf/Ac, Active management: even aged*

9:26 AM 2/22/2008 Stewart Farnum

A high graded stand with most of the good red and white oak removed. What remains are poor quality bur oak, white oak, and elm, with elm and aspen encroaching into the more open areas.

**Management recommendations:** Regeneration harvest, 2010.

## **Stand 20:**

**Site description:** 5.2 acres upland site, paint creek soils 18 - 30% slopes.

**Woodland description:** *Type 063, Dbh 18, BA 70, 4900bf/Ac, Active management: even aged*

9:26 AM 2/22/2008 Stewart Farnum

Oak stand with aspen, elm, hickory, and cherry. This may be a harvestable stand by the numbers although the BA is rather low, so probably not very high volume and given the history of the tract, probably not good quality either.

**Management recommendations:** Regeneration harvest, 2010.

## **Stand 21:**

**Site description:** 9.7 acres, upland site on Fayette and village soils up to 18% slope.

**Woodland description:** *Type 079, Dbh 18, BA 60, 4200bf/Ac, Active management: uneven aged*

9:26 AM 2/22/2008 Stewart Farnum

White and red oak mixed with elm, hickory, ash, cherry on a south facing slope. Some of these trees have potential. BA is low in places. There is an understory including maple and elm with gooseberry and Multiflora rose. Could be some oak wilt in this stand which bears checking out. Some of this stand grades into a ravine which will affect logging activity.

**Management recommendations:** Selective harvest, 2010.

## **Stand 22:**

**Site description:** 14.6 acres upland site with Fayette and village soils up to 18% slope.

**Woodland description:** *Type 063, Dbh 14, BA 55, 3575bf/Ac, Active management: even aged*

9:26 AM 2/22/2008 Stewart Farnum

This is listed as an oak hickory stand, but the emphasis is on the hickory in this case. Also includes some red oak, elm, cherry, and aspen. A lot of gooseberry in the understory, this may be a dry site suitable for regenerating oak.

**Management recommendations:** Forest stand improvement, inventory 2010.

## **Stand 23:**

**Site description:** 15.9 acres upland site with village paint creek, and Fayette soils, moderate slope.

**Woodland description:** *Type 005, Dbh 0, BA 0, 0bf/Ac, Active management: even aged*

9:26 AM 2/22/2008 Stewart Farnum

Two direct seeding areas. the westernmost area was done in the fall of 2001 and the other the year after. The first area had an herbicide trial done on it and is doing well. The second area was seeded over with different cover crops of grasses including winter rye, oats, and a couple others. This seeding did not do that well but has some oak and walnut coming on at this time. There are details in the Corrigan Unit file.

**Management recommendations:** Forest stand improvement, weeding, release, 2010.

**FY 2011:**

Paint Creek Unit, Compartment 3:

**Stand 18, 32, 33, 34, 35:**

**Site description:** total of 15.9 acres, uplands to creek bottoms, various soils.

**Woodland description:** *Type 002, Dbh 0, BA 0, 0 bf/Ac, Non-forest:*

All open grassy areas, some transitioning to successional woody vegetation. These all need Woodland descriptions.

**Management recommendations:** Inventory and reclassify, 2011.

**Stand 3, 17, 22, 27, 30, 36:**

**Site description:** Stands comprising 57.1 acres, 6 upland sites all on Lacrescent soils up to 70% slopes.

**Woodland description:** *Type 063/093, Dbh 14 - 18, BA 60 - 110, 40000-8000 bf/Ac, Limited management: salvage only*

All upland sites on very steep and rocky slopes. All sites are limited management with slope restrictions, one stand is a protected site.

**Management recommendations:** Salvage only.

**Stand 1:**

**Site description:** 33.7 acres, upland site with mostly Fayette soils and village and paint creek soils on the more sloped ground to the north. Slopes up to 30%.

**Woodland description:** *Type 063, Dbh 16, BA 105, 7035 bf/Ac, Active management: even aged*

Very good, fertile forest site with typical upland oak-hickory composition and good stocking level. Some forestry work including 2 shelterwood operations are underway in this stand, but these have not been mapped out of the original stand at this time.

**Management recommendations:** Inventory and reclassify, 2011.



## **Stand 2:**

**Site description:** 35.2 acres, upland site with Fayette, village and Paint Creek soils up to about 24% slope.

**Woodland description:** *Type 063, Dbh 16, BA 100, 6700 bf/Ac, Active management: even aged*  
No comment file available. This site is typical oak hickory forest reaching maturity.

**Management recommendations:** Inventory for Woodland description, recon for FSI.

## **Stand 4:**

**Site description:** 2.8 acres. upland site with Fayette soils up to 18% slope.

**Woodland description:** *Type 063, Dbh 16, BA 80, 5360 bf/Ac, Active management: even aged*  
Oak hickory with a history of logging, possibly oak wilt salvage.

**Management recommendations:** Inventory and Woodland description, 2011.

## **Stand 5:**

**Site description:** 5.5 acres creek bottom with arenzvil-volney soils, no slope.

**Woodland description:** *Type 110, Dbh 6, BA 40, 0 bf/Ac, Limited management: salvage only*  
Sparsely stocked walnut stand. Some trees were salvage in this stand in the last 10 years. Need more info on this stand.

**Management recommendations:** Salvage only, possible forest stand improvement, 2011.

## **Stand 6:**

**Site description:** 9.0 acres, creek bottom site with arenzvil-volney soils 0 - 2% slope.

**Woodland description:** *Type 069, Dbh 12, BA 80, 4880 bf/Ac, Active management: even aged*  
One of several black locust plantings done back in the 50's or 60's. There was once an old farmstead in this valley and this stand was once probably in row crops. Much of the locust here is breaking up and is being replaced with boxelder and elm with a few walnuts. This stand should be transitioned into a better mix of trees, but it is close to Little Paint Campground, so aesthetics may be a concern in a logging operation.

**Management recommendations:** Forest stand improvement, 2011.

## **Stand 7:**

**Site description:** 4.1 acres mid-slope site with Bertrand soils 2 - 5% slope.

**Woodland description:** *Type 17, Dbh ?, BA ?,                   bf/Ac, Active management: even aged*

Scotch pine stand on gentle slope near Little paint campground. There is no comment file or Dbh or BA information on this stand. Needs inventory and map work.

**Management recommendations:** Inventory and data collection, 2011.

### **Stand 8:**

**Site description:** 11.0 acres upland site with Fayette, village, and paint creek soils up to 18% slope.

**Woodland description:** *Type 005 , Dbh 0 , BA 0 , 0 bf/Ac, Active management: even aged*

This stand listed as a type 005 should be reclassified. There was a commercial harvest here in the early 90's and this stand was subsequently planted with red and white oak seedlings. Subsequently, a pond was built through an NRCS watershed plan, and some of the original planting was wiped out when the area was used for fill on the dike of the newly constructed pond. This stand will need seedling/sapling release and inventory for more data.

**Management recommendations:** Forest stand improvement, seedling release, inventory, 2011.

### **Stand 9:**

**Site description:** 9.5 acres, upland site with village, paint creek, and lacrescent soils up to 30% slope.

**Woodland description:** *Type 063 , Dbh 18 , BA 110 , 7700 bf/Ac, Active management: even aged*

Typical mature oak hickory forest with some blow down on the steeper slopes. There are some large walnut in this stand which bear watching.

**Management recommendations:** Recon for regeneration harvest, 2011.

### **Stand 10:**

**Site description:** 8.6 acres, upland site with Fayette, village, paint creek, and lacrescent soils up to 30% slopes.

**Woodland description:** *Type 063 , Dbh 18 , BA 110 , 7700 bf/Ac, Active management: even aged*

Typical mature oak hickory, no oak wilt noted.

**Management recommendations:** Recon for regeneration harvest, 2011.

### **Stand 11:**

**Site description:** 5.2 acres, upland site with paint creek and lacrescent soils up to 30% slope.

**Woodland description:** *Type 110 , Dbh 0 , BA 0 , 0 bf/Ac, Active management: uneven aged*

Upland hardwoods with a number of mature walnut trees. This stand needs inventory data and monitoring for damage to these walnuts and possible salvage.

**Management recommendations:** Inventory, forest stand improvement, 2011.

### **Stand 12:**

**Site description:** 5.3 acres, upland site with paint creek soils up to 30% slope.

**Woodland description:** *Type 063 , Dbh 18 , BA 110 , 7700 bf/Ac, Active management: even aged*  
Typical upland oak hickory. This stand is mature and should be evaluated for harvest areas.

**Management recommendations:** Regeneration harvest, 2011.

### **Stand 13:**

**Site description:** 2.9 acres, upland site on village soils, gentle slope.

**Woodland description:** *Type 010 , Dbh 10 , BA 190 , 0 bf/Ac, Active management: even aged*  
Red pine planted on what was probably a crop field at one time. Much of this is in a severe state of decline and is being replaced by hardwoods. A few of these trees were harvested near some walnuts which were encroaching on the stand. The red pine should be salvaged here and this stand should be allowed to convert to hardwoods with emphasis on the walnut component.

**Management recommendations:** Stand conversion, 2011.

### **Stand 14:**

**Site description:** 1.7 acres upland site with Fayette and village soils, gentle slope.

**Woodland description:** *Type 110 , Dbh 6 , BA 60 , 0 bf/Ac, Active management: even aged*  
Small stand of walnuts which volunteered into the edge of the adjacent red pine stand. The walnuts successfully killed many of the red pine here, and were released from further competing pines and other hardwoods in the mid 90's.

**Management recommendations:** Forest Stand improvement, walnut, 2011.

### **Stand 15:**

**Site description:** 1.9 acres upland site with Fayette and village soils up to 18% slope.

**Woodland description:** *Type 063 , Dbh 4 , BA 150 , 0 bf/Ac, Active management: even aged*  
Small former harvest area which was cut sometime in the 80's. This may have been one of the first attempted clearcuts on YRSF. The area was planted with oak seedlings and there are some that survived. The clearcut was a little small for adequate regeneration and these trees have been released on several occasions. This site has been the subject of several forestry field days. There may be more info in hard copy files. At the least, this information needs updating.

**Management recommendations:** Forest stand improvement, inventory, 2011.

### **Stand 16:**

**Site description:** 3.3 acres on an upland site with Fayette soils 9 - 14% slope.

**Woodland description:** *Type 093 , Dbh 8 , BA 100 , 0 bf/Ac, Active management: even aged*

This stand is designated as maple/basswood but there are some oaks remaining here. Not much other info contained in the comment file. This stand needs inventory information.

**Management recommendations:** Inventory and classification, 2011.

### **Stand 20:**

**Site description:** 4.0 acres, lower slope above creek bottom on lacrescent soils 25% slope.

**Woodland description:** *Type 110 , Dbh 6 , BA 120 , 0 bf/Ac, Active management: even aged*

Narrow stand at the toe of a steep slope containing walnut and associated hardwoods. Not much info on this stand and should be inventoried. Good intermediate sized walnuts and other hardwoods should be released here.

**Management recommendations:** Forest stand improvement, walnut, 2011.

### **Stand 23:**

**Site description:** 4.3 acres upland site with Fayette and paint creek soils up to 30% slope.

**Woodland description:** *Type 063 , Dbh 8 , BA 140 , 0 bf/Ac, Active management: even aged*

Oak-hickory forest, small sawtimber sized. Should be looked at for forest stand improvement.

**Management recommendations:** Inventory and forest stand improvement, 2011.

### **Stand 24:**

**Site description:** 2.9 acres upland site with paint creek soils up to 18% slope.

**Woodland description:** *Type 063 , Dbh 8 , BA 100 , 0 bf/Ac, Active management: even aged*

Oak-hickory forest, small sawtimber sized. Should be looked at for forest stand improvement.

**Management recommendations:** Inventory and forest stand improvement, 2011.

### **Stand 25:**

**Site description:** 4.3 acres upland site with Fayette, village, paint creek soils up to 30% slope.

**Woodland description:** *Type 005 , Dbh 0 , BA 0 , 0 bf/Ac, Active management: even aged*

This info needs to be updated. This stand was harvested in the late 80's and is still listed as a tree planting site. The site was clearcut and planted with oak and walnut seedlings. There was initially an active oak wilt pocket

here so it is assumed that was the reason for the harvest area. More active oak wilt was found adjacent to the harvest in the early 90's and this was salvaged as well. This stand needs reclassification

**Management recommendations:** Inventory, forest stand improvement, 2011.

### **Stand 26:**

**Site description:** 4.7 acres upland forest on Fayette soils up to 14% slope.

**Woodland description:** *Type 063 , Dbh 12 , BA 85 , 5185 bf/Ac, Active management: even aged*

Small sawtimber oak hickory forest on good soils. There was quite a bit of large aspen on the edge of this stand till around 2006 when most of it died out from an unknown reason. Not much other information on this stand. Inventory and data needed.

**Management recommendations:** Inventory, forest stand improvement, 2011.

### **Stand 28:**

**Site description:** 4.4 acres upland site on village soils up to 14% slope.

**Woodland description:** *Type 063 , Dbh 16 , BA 120 , 8040 bf/Ac, Active management: even aged*

Typical upland oak hickory timber with associated species. Judging by BA, this stand is in need of a crop tree release and/or salvage harvest. More info needed on this stand.

**Management recommendations:** Inventory and forest stand improvement, 2011.

### **Stand 29:**

**Site description:** 12.8 acres upland site with Fayette, village, and some lacrescent soils up to 25% slope.

**Woodland description:** *Type 063 , Dbh 14 , BA 110 , 7150 bf/Ac, Active management: even aged*

Upland oak-hickory with aspen pockets. Need more info on this stand. Possible crop tree release.

**Management recommendations:** Inventory and forest stand improvement, 2011.

### **Stand 31:**

**Site description:** 15.1 acres upland site with Fayette, paint creek, and village soils up to 30% slope.

**Woodland description:** *Type 060 , Dbh 14 , BA 110 , ? bf/Ac, Active management: even aged*

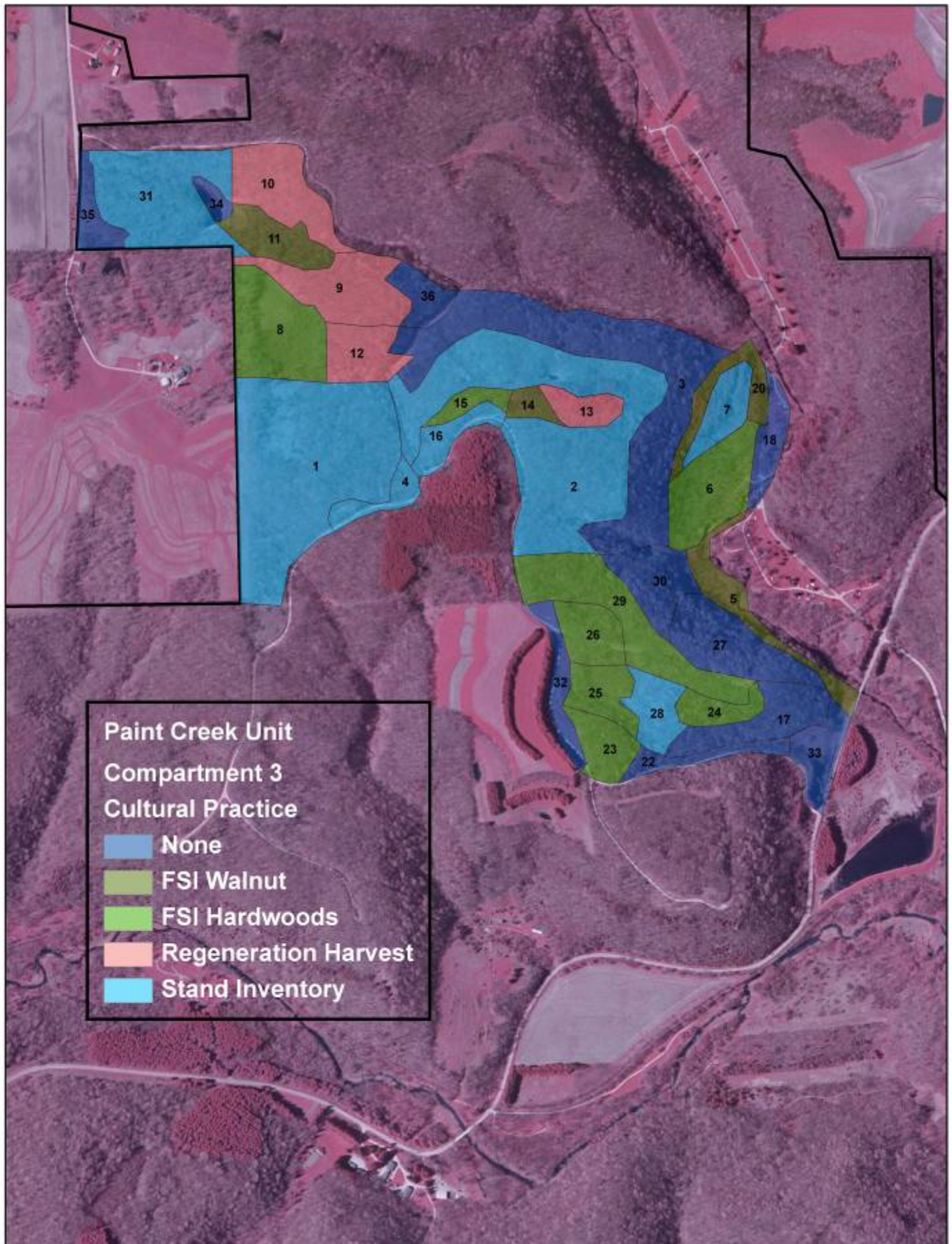
Black oak and hickory stand with associated species. This site is on a good soil type and should contain a better mix of trees. Not much other info here, need inventory data.

**Management recommendations:** Inventory and forest stand improvement, 2011.

### **Stand 19, 21:**



**These stands are missing from the data because they have been incorporated into other stands.**



**FY 2011:**

Paint Creek Unit, Compartment 10:

**Stand 1, 2:**

**Site description:** stands comprising 24.9 acres, creek bottom sites with arenzvil-volney and Huntsville soils with little slope.

**Woodland description:** *Type 03 , Dbh 0 , BA 0 , 0 bf/Ac, Non-forest:*

These 2 stands classified as non-forest. One is the building site of the sawmill complex, the other a 17 acre picnic and day-use area for equestrians.

**Management recommendations:** None

**Stand 3:**

**Site description:** 5.2 acres, upland rocky north facing slope with Lacrescent soils up to 70% slope.

**Woodland description:** *Type 058 , Dbh 18 , BA 50 , 3500 bf/Ac, Limited management: salvage only*

3/12/98. This is a typical mature oak stand except that native white pine is succeeding the hardwoods on the steeper slopes where the site index is lower due to shallow soils. some pines are up to 30" dbh, some are relegated to the understory where they are in need of release from overtopping hardwoods. Prickly ash understory. Canada yew and dwarf juniper also present in this stand. Hardwoods, notably red and white oak, are in various stages of decay and are not of very good quality, probably due to nature of the site, which is very steep and rocky with a NW face.

My recommendation for this stand is that the younger pine be released through commercial logging. Native pines are a disappearing resource in this area and the species is worth keeping around, especially on poorer sites where growing native hardwoods is not really productive.

**Management recommendations:** Forest stand improvement, encourage native pines.

**Stand 8, 21, 29, 32, 33, 34:**

**Site description:** stands comprising 52.1 acres, all upland sites, all sites are lacrescent soils on 25 - 70% slopes.

**Woodland description:** *Type var , Dbh 16 - 19 , BA 50 - 180 , 8828 bf/Ac, Limited management: salvage only*

All mature stands of upland hardwoods with an oak component, most on steep rocky north facing slopes, with a couple of ravine areas. These stands are all in limited management due to slope restrictions. Some good quality trees are contained in these stands and may be reached for salvage from above and below. Walnuts in these stands bear periodic review for breakage and/or decline.

**Management recommendations:** Monitor.

#### **Stand 4:**

**Site description:** 9.9 acres, upland ridge top site with Fayette and village soils up to 18% slope.

**Woodland description:** *Type 063 , Dbh 19 , BA 90 , 8640 bf/Ac, Active management: even aged*  
3/16/98

This is largely over mature mixed oak stand with significant volume. This stand is showing some degradation in the white oaks near the Cedar Point overlook and also some blow down in the large red oak. There are a few walnuts worthy of mention and some very good quality red oaks. Should be looked at for the next harvest cycle. McSweeney's notes indicate that some salvage may have taken place in the southern parts of this stand from a windstorm in 1978 and '79.

**Management recommendations:** Regeneration harvest, 2011.

#### **Stand 5:**

**Site description:** 5.5 acres, bench site with Yellow River soils up to 25% slope

**Woodland description:** *Type 058 , Dbh 6 , BA 70 , 0 bf/Ac, Active management: even aged*  
3/12/98. This is a small white pine planting on a bench area above equestrian trail. Lots of hardwood encroachment including red oak, walnut, and aspen.

**Management recommendations:** Forest stand improvement, 2021.

#### **Stand 6:**

**Site description:** 4.0 acres, bench site, Zwilgle soils on 0 - 9% slopes.

**Woodland description:** *Type 089 , Dbh 7 , BA 60 , 0 bf/Ac, Active management: even aged*  
3/16/98

This is a mostly naturally occurring stand of walnut and ash on a bench above Paint Creek. The walnut was released in the late 80's but is now showing signs of sprouting from the bole and top dieback, similar to what we are seeing in bottomland sites. Some of the walnuts look OK on the higher elevations, but the site appears to be one which is not well drained enough for walnut.

Soil map indicates that it is a 249C soil type, Zwingle silt loam which is poorly drained with a high volume of clay from 18" to 55" depth and is suitable only for species with a high tolerance for wet conditions.

**Management recommendations:** Forest stand improvement, 2021.

#### **Stand 7:**

**Site description:** 7.0 acres, creek bottom with Lawson, arenzvil-volney, and spillville soils, no slope.

**Woodland description:** *Type 88 , Dbh 8 , BA 50 , 0 bf/Ac, Active management: even aged*  
3/16/98

Bottomland hardwood stand with no significant volume. Adjacent to Paint Creek, mostly willow, cottonwood, boxelder. Could be worked with to provide better mix of species.

**Management recommendations:** Forest stand improvement, 2021.

### **Stand 9:**

**Site description:** 9.6 acres upland site with village, paint creek, and lacrescent soils up to 25% slope.

**Woodland description:** *Type 063 , Dbh 16 , BA 165 , 13340 bf/Ac, Active management: even aged*

This is one of the aspen/oak stands which I am seeing on many of the good upland sites. The oak seems to develop fairly well even though mostly over-topped by aspen. These sites permit aspen to be salvaged at about 18 - 20" dbh leaving a pretty good oak stand behind to develop. Most of the red & white oak are in the sapling to pole stage at this time. The aspen are approaching the 16" size class and will be ready for harvest soon. Understory is mostly ironwood and ash. Oaks are smaller on rocky outcrop areas. This site could be looked at in 2011 for aspen harvest.

**Management recommendations:** Pre logging treatment, remove mature aspen and let oak develop. 2011.

### **Stand 10:**

**Site description:** 23.2 acres, upland site with Fayette, paint creek, and lacrescent soils.

**Woodland description:** *Type 063 , Dbh 16 , BA 180 , 16560 bf/Ac, Active management: even aged*  
3/18/98

A good stand of red & white oak with pretty good volume, but averaging under 18" dbh. Similar to stand #4, there are a couple good walnuts worth mentioning and some scattered large trees. Also, a sprinkling of aspen. Maple understory. There is some evidence of logging, probably salvage from a storm in the late 70's as noted by McSweeny.

**Management recommendations:** Inventory for regeneration harvest, 2011.

### **Stand 11:**

**Site description:** 10.7 acres ridge top site with Fayette and village soils, moderate slope.

**Woodland description:** *Type 063 , Dbh 0 , BA 0 , 0 bf/Ac, Active management: even aged*

This is a clearcut area which was actually started as a commercial harvest back in 1985. Total of 109 mbf was sold to J & J Logging, but not all was cut from this site nor was this intended to be a clearcut area. It is a ridge top site and the north end of it was cut very heavily followed by planting of



red oak and walnut. Several residual trees were left in the original cut area but these trees were removed in 1991 opening the site to full sunlight.

Another 62 mbf was marked further south of the original cutting area. This volume was harvested by Jim Troendle of Waukon in early 1992. The south part of the area was a planned clearcut to regenerate oak. Post harvest treatment included dropping of residual stems over 6' in height and scarification with a small dozer. Slash was pushed toward the outside of the stand. The site was planted the following spring of 1993 to red oak, white oak, and walnut.

In Feb of '98 this area shows some encouraging regeneration of oak, but it is not well distributed throughout the site. A few more years should be sufficient to re-visit this site for a weeding operation to encourage the oak survivors.

**Management recommendations:** forest stand improvement, crop tree release, 2011.

### **Stand 12:**

**Site description:** 4.5 acres upland site with Fayette soils, moderate east slope.

**Woodland description:** *Type 063 , Dbh 4 , BA 50 , 0 bf/Ac, Active management: even aged*

This 1985 clearcut was part of a larger commercial sale of 110 mbf sold to J & J Logging of Marquette Ia. (\$204/mbf) In addition to this 4.5 acres, some trees were apparently selectively cut around the edges and another virtual clearcut further to the north on the end of the ridge. This was a true clearcut, slash was windrowed inside the harvest area and salvageable trees were brought into the YRSF mill. Planting on 10 by 10 spacing of red oak, white oak, and walnut in 1986 followed by release with Roundup and stump treatment of maple and ironwood competing sprouts. Aspen root sprouts were also cut and treated. A forestry field day was conducted on this site in 1987 and the site was released again, so the initial establishment costs for this stand were substantial and in 1998 the work shows. Red oak up to 4" in diameter, canopy closure, and some impressive walnut saplings now occupy the site. Although somewhat unfeasible, it shows what can be accomplished with lots of man-hours of labor.

Slash is now pretty much rotted down and where the slash piles omitted planting of seedlings, elm, maple, sumac, ironwood, and butternut have become established and will probably need dealing with soon to avoid excessive competition. A crop tree release demonstration was done here in 2006 as part of a district forester training program.

**Management recommendations:** Forest stand improvement, 2011.

### **Stand 13:**

**Site description:** 6.9 acres mid slope with Bertrand and yellow river soils up to 25% slope.

**Woodland description:** *Type 089 , Dbh 6 , BA 85 , 0 bf/Ac, Active management: even aged*

3/19/98

A stand of crappy small diameter trees with hardly any oak. Looks like a formerly grazed stand which is just recovering. Lots of 2" dbh maple with understory of prickly ash, gooseberry, and ironwood. Scattered throughout the stand are some large senescent maples and basswoods, but no salvageable volume. most trees average about 6"dbh, major species are bitternut hickory, cherry, elm, shagbark, ash, basswood, and maple.

**Management recommendations:** Forest stand improvement, 2021.

### **Stand 14:**

**Site description:** 15.7 acres upland slope with village and lacrescent soils up to 25% slope.

**Woodland description:** *Type 089 , Dbh 18 , BA 90 , 8460 bf/Ac, Active management: even aged*  
3/19/98

Northeast to east facing slope to ridge top with variable stocking of large diameter trees. Stand averages about 17" dbh, but there are many harvestable pockets of quality red oak. The ridge top also has several pockets of 18" aspen. there are several good quality walnuts in the valley of this stand.

There is some blow down on the ridge but not enough to justify salvage. Should be looked at in 2011 for harvest area.

**Management recommendations:** Inventory, regeneration harvest 2011.

### **Stand 15:**

**Site description:** 13.5 acres, upland site, Fayette, village, and paint creek soils 9 - 18% slopes

**Woodland description:** *Type 089 , Dbh 20 , BA 80 , 7840 bf/Ac, Active management: uneven aged*

This is an over mature oak stand which is falling apart. Lots of younger maple and ash in understory, taking the place of decadent and dying oaks. Some good walnuts in the SE corner. A good candidate for selective harvest with a developing diameter distribution.

**Management recommendations:** Selective harvest, 2011.

### **Stand 16:**

**Site description:** 5.0 acres upland ridge top with Fayette soils up to 14% slope.

**Woodland description:** *Type 013 , Dbh 12 , BA 200 , 19800 bf/Ac, Active management: even aged*

A small white pine stand of about 40 years age. Some blister rust in the stand should be removed. Running over 200 sq. ft. of BA in places, this stand should be thinned for cabin logs or other products ASAP. A high visibility area.

**Management recommendations:** Forest stand improvement, thin to recommended BA for white pine, 2011.

### **Stand 17:**

**Site description:** 6.4 acres, ridge top site with Dubuque soil up to 14% slope.

**Woodland description:** *Type 089 , Dbh 12 , BA 95 , 7980 bf/Ac, Active management: even aged*

A variable mixed hardwood stand near the fire tower loop. Dominated by a few 16" trees, mainly red oak, maple, and white oak. An aspen pocket near the east edge. Most trees average around 6 to 10" dbh dominated by red oak, white oak, hickory, and basswood. Maple-ironwood understory. Could be thinned to promote oak development.

**Management recommendations:** Forest stand improvement, 2011.

### **Stand 18:**

**Site description:** 44.6 acres, upland site, soils highly variable from Fayette to Boone, so some areas may be drier than others. Slope range is up to 40%.

**Woodland description:** *Type 063 , Dbh 19 , BA 95 , 9120 bf/Ac, Active management: even aged*

Fairly young healthy red oak with maple basswood and ash. Some salvage harvest evident in this stand, but still a good number of mature trees. This stand was part of a "selective" salvage harvest back in mid-80's following a wind storm. A good mix of species including red and white oak, aspen, maple, ash, elm, and hickory.

**Management recommendations:** Inventory for regeneration harvest, 2011.

### **Stand 19:**

**Site description:** 1.9 acres, upland site on Fayette soils 5 - 9% slope.

**Woodland description:** *Type 063 , Dbh 14 , BA 70 , 4550 bf/Ac, Active management: even aged*

Between road to cedar point and clearcut area, this stand was girdled in 1995 by contractor to promote oak seedlings which had grown from a good acorn crop of 1993 & 94. Part of an aspen pocket and most of the non merchantable trees were girdled to let in light for developing seedlings. All trees between 1 and 10" were frilled and killed with Tordon RTU except for the aspen. Only about half the aspen was killed, thinking that the shade left would keep aspen from root sprouting and taking over the stand. Most of the trees which were killed were poor quality maples, basswood, and bitternut hickory.

In '98 some of the seedlings persist but are not growing at a good rate. After a few more growing seasons, residual overstory should be removed to establish oak as the dominant species.

**Management recommendations:** Forest stand improvement, crop tree release, 2011.

### **Stand 20:**

**Site description:** 4.5 acres, upland site on Fayette and village soils up to 14% slope.

**Woodland description:** *Type 089 , Dbh 12 , BA 145 , 12180 bf/Ac, Active management: even aged*

Young aspen, cherry, ash, and oak mixed with scattered 20"+ diameter

oaks. Younger trees probably a result of past storms and blow downs. Pretty well stocked in 12" dbh trees.

**Management recommendations:** Forest stand improvement, 2011.

### **Stand 22:**

**Site description:** 2.7 acres, upland site with Lacrescent soils up to 25% slope.

**Woodland description:** *Type 063 , Dbh 17 , BA 80 , 7440 bf/Ac, Active management: even aged*  
Small stand of 18" red & white oak. Need more info on this stand.

**Management recommendations:** Inventory, forest stand improvement, 2011.

### **Stand 23:**

**Site description:** 3.1 acres, upland site on Fayette soils up to 14% slope.

**Woodland description:** *Type 101 , Dbh 12 , BA 140 , 11760 bf/Ac, Active management: even aged*  
Aspen with 12" dbh, maple understory and some scattered ash and oak. Just west of aspen clearcut.

**Management recommendations:** Forest stand improvement, 2021.

### **Stand 24:**

**Site description:** 1.3 acres, upland site on Fayette soils, little slope.

**Woodland description:** *Type 101 , Dbh 2 , BA 140 , 0 bf/Ac, Active management: even aged*  
Small aspen clearcut of 1991. Stand is developing well, a couple of oak stump sprouts have been released. Young aspen is very thick at this time and running about 2"dbh.

**Management recommendations:** Forest stand improvement, thin aspen, release oak and maple, 2011.

### **Stand 25:**

**Site description:** 1.9 acres, upland site with Fayette soils 9 - 14% slopes.

**Woodland description:** *Type 063 , Dbh 2 , BA 100 , 0 bf/Ac, Active management: even aged*  
1988 clearcut of hardwoods for sawmill. This harvest was done by B. Kolsrud and inmate crew during the winter, followed by planting of red & white oak, and walnut. The stand was released in 1989 and again in 1997 by Larry Maslo. Oaks and walnuts are developing well. In '98 site looks well established with oaks and good stocking of all upland species.

5/1/01

In preparation for a NRC meeting, a cursory survey of flowering ground plants was done by Kemperman, Bruce Blair, and Honeywell to get an idea how the harvest operation affected the ground plants' survival and growth. Following is a note

describing this effort.

I checked (5/1/01) several regeneration harvest areas on Yellow River State Forest that were 7-14 years old. For many of the spring species, it was obvious that there were at least three times the number of individual plants and more species in the regeneration areas than in the adjacent non harvested stands. The harvest areas had nearly all the overstory removed and most of the slash pushed off to favor oak/hickory regeneration (actual soil disturbance minimal and not an objective). The oak was generally well regenerated along with a mixture of other species.

The differences in ground vegetation, especially spring wildflowers, was very striking with strong positive response in the harvested areas. It is possible that some species may have been negatively affected, but as the following table indicates the general spring wildflower population appears very healthy. With an planned 150 year rotation, there is time for other species to move into the harvested sites.

The following table is a species list for a two acre 13 year clearcut where tops were pushed into small piles to create open conditions for oak/hickory regeneration. The adjacent forest is the uncut area with large oaks being replaced by a maple, basswood, ash forest. Bruce Blair assisted in preparing the list. About 20 minutes were spent in each area to list all observed species.

{NOTE THAT THE "ADJACENT FOREST" IS STAND # 27, COMPARTMENT 10, PAINT CREEK UNIT.}

Species	Adjacent Forest	Harvest Area
False Rue Anem.	X	X
Spring Beauty	X	X
May Apple	X	X
Yellow Violet	X	X
Purple Violet	X	X
Trillium (Nodding)		X
Wild Geranium	X	X
Blood Root	X	X
Buttercup		X
Bed Straw	X	X
Jack-in-the-Pulpit	X	X
Bellwort	X	X
False Solomon Seal	X	X
Showy Orchid		X
Jacob's Ladder	X	X
Wild Onion	X	X
Blue Cohosh	X	X
Sweet William	X	X
Maiden Hair Fern		X
Lady Fern	X	X
Sensitive Fern		X
Puttyroot Orchid	X	X
Hepatica	X	

**Management recommendations:** Forest stand improvement, 2011.

### **Stand 26:**

**Site description:** 7.2 acres, upland site with Fayette and village soils up to 14% slope.

**Woodland description:** *Type 089 , Dbh 12 , BA 75 , 6300 bf/Ac, Active management: even aged*  
Small sawtimber maple and red oak with a few scattered large trees. some aspen pockets.

**Management recommendations:** Forest inventory and stand improvement, 2011.

### **Stand 27:**

**Site description:** 16.0 acres, upland site with Fayette, village, paint creek, and lacrescent soils up to 30% slopes.

**Woodland description:** *Type 063 , Dbh 20 , BA 70 , 6860 bf/Ac, Active management: even aged*  
Mature red and white oaks around 20" dbh mixed with ash and hickory. Harvestable volumes.

**Management recommendations:** Regeneration harvest, 2011.

### **Stand 28:**

**Site description:** 6.5 acres, upland site, lacrescent soils up to 35% slope.

**Woodland description:** *Type 089 , Dbh 16 , BA 80 , 5360 bf/Ac, Active management: even aged*  
North to west facing slope above fire tower road. Small sawtimber trees on rocky soils. I would classify this as a mixed hardwood stand with oaks, maple, basswood, and aspen dominating. Average about 16" dbh.

**Management recommendations:** Forest inventory, 2011.

### **Stand 30:**

**Site description:** 4.9 acres upland site with yellow river and lacrescent soils up to 35% slope.

**Woodland description:** *Type 063 , Dbh 19 , BA 90 , 8640 bf/Ac, Active management: even aged*  
This is largely over mature mixed oak stand with significant volume. This stand is showing some degradation in the white oaks near the Cedar Point overlook and also some blow down in the large red oak. There are a few walnuts worthy of mention and some very good quality red oaks. Should be looked at for the next harvest cycle in FY 2001.

McSweeny's notes indicate that some salvage may have taken place in the southern parts of this stand from a windstorm in 1978 and '79.



**Management recommendations:** Regeneration harvest, 2011.

**Stand 31:**

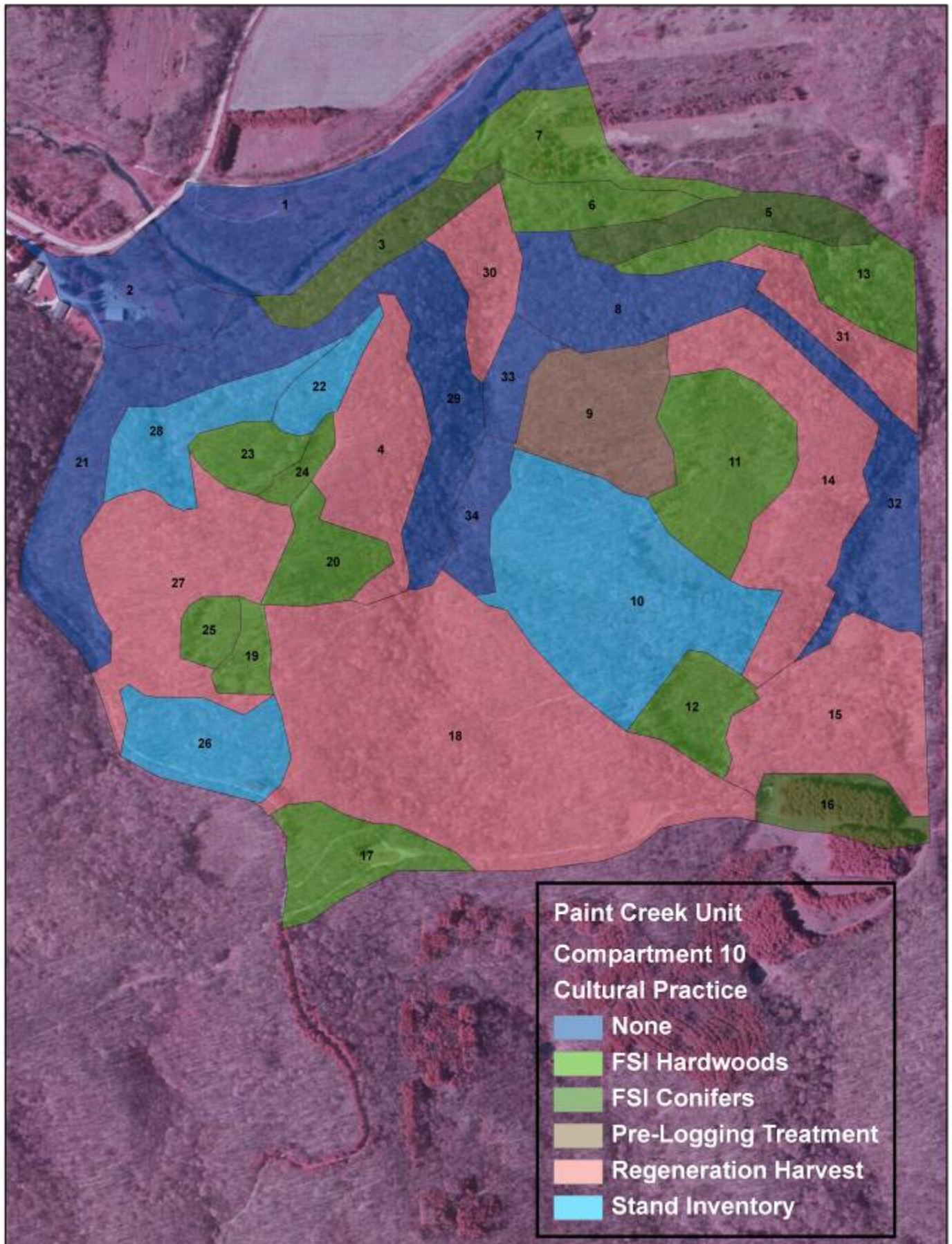
**Site description:** 5.0 acres, upland slope to ridge top, lacrescent soils up to 35% slope.

**Woodland description:** *Type 089 , Dbh 18 , BA 90 , 6300 bf/Ac, Active management: even aged*

Northeast to east facing slope to ridge top with variable stocking of large diameter trees. Stand averages about 17" dbh, but there are many harvestable pockets of quality red oak. The ridge top also has several pockets of 18" aspen. there are several good quality walnuts in the valley of this stand.

There is some blow down on the ridge but not enough to justify salvage. Should be looked at in 2001 for harvest area.

**Management recommendations:** Inventory for regeneration harvest, 2011.



**FY 2012:**

Paint Creek Unit, Compartment 4:

**Stand 1:**

**Site description:** 2.2 acres, bottomland site adjacent to Little Paint Creek on Arenzville-Volney soils, 0 - 2% slope.

**Woodland description:** *Type 80 , Dbh 8 , BA 80 , 0 bf/Ac, Limited management: salvage only*  
Elm, ash, cottonwood, boxelder, and a few walnuts just above 2<sup>nd</sup> creek crossing in Little Paint Campground. This stand is in limited management because it is in a riparian zone.

**Management recommendations:** Check and release walnut 2012, salvage harvest only.

**Stand 3 & 10:**

**Site description:** 16.4 acres, bottomland adjacent to Little Paint Creek on Arenzville-Volney soils, 0 - 2% slope.

**Woodland description:** *Type 008 , Dbh 0 , BA 0 , 0 bf/Ac, Non-forest:*  
Mown grass areas of Little Paint Creek Campground.

**Management recommendations:** Recreational.

**Stand 5:**

**Site description:** 25.3 acres, ridge top site with Fayette, Village, and Paint Creek soils 9 - 30% slopes.

**Woodland description:** *Type 63 , Dbh 12 , BA 120 , 10080 bf/Ac, Active management: even aged*  
Upland red and white oak, some good quality timber here with aspen and some maple understory. This stand needs re-mapping for more information.

**Management recommendations:** Stand map, recon for harvest, 2012.

**Stand 6:**

**Site description:** 27.5 acres, upland site, west to south facing slope, with LaCrescent soils on 25 - 70% slopes.

**Woodland description:** *Type 058 , Dbh 12 , BA 110 , 6710 bf/Ac, Limited management: salvage only*  
Poor quality oak-hickory stand with a good population of native white pines above Little Paint Creek. Most of this stand is very steep and rocky and not suitable for forestry work. Some release work on the small native white pine was done in the 90's. This is a limited management area.

**Management recommendations:** TSI white pines 2012, salvage harvest only.

**Stand 7:**

**Site description:** 2.3 acres, mostly bottomland site on the Little Paint Creek floodplain, soils are LaCrescent and Bertrand up to 25% slope.

**Woodland description:** *Type 017 , Dbh 8 , BA 70 , 0 bf/Ac, Active management: uneven aged*

This stand is a degraded Scots pine stand near Little Paint Creek Campground. Many of the pines have died off here and are being replaced by mostly poor quality boxelder and black locust. Selective management due to proximity to the camp area.

**Management recommendations:** TSI conifers, 2012.

### **Stand 8:**

**Site description:** 6.8 acres, east facing slope above creek bottom, LaCrescent soil up to 25% slope.

**Woodland description:** *Type 079 , Dbh 12 , BA 80 , 4880 bf/Ac, Active management: uneven aged*

Oak, elm, ash stand adjacent to Little Paint Camp area. Uneven aged due to proximity to the campground. more info needed on this stand.

**Management recommendations:** stand inventory 2012, recon for harvest, 2022.

### **Stand 9:**

**Site description:** 7 acres, creek bottom site, Arenzville-volney soils, no slope.

**Woodland description:** *Type 080 , Dbh 8 , BA 70 , 0 bf/Ac, Active management: uneven aged*

Bottomland hardwoods with elm, ash, cottonwood, boxelder. Uneven aged due to proximity to camp area.

**Management recommendations:** TSI, 2022.

### **Stand 11:**

**Site description:** 19.6 acres on a southwest facing slope, soils are LaCrescent on the side hill with slopes up to 70%, the toe slope is relatively flat Arenzvil Volney soil.

**Woodland description:** *Type 063 , Dbh 16 , BA 100 , 9200 bf/Ac, Limited management: salvage only*

Oak hickory timber on steep rocky ground, mostly south and west facing slope. A white poplar (populus alba) clone was removed from the toe slope in 2003 to stop it from spreading. Most of this stand is over the 35% slope limit, and this stand is in limited management.

**Management recommendations:** Salvage only, recon for white poplar sprouting, 2012.

### **Stand 12:**

**Site description:** 7.7 acres southwest facing slope, with LaCrescent soils up to 70% slope.

**Woodland description:** *Type 052 , Dbh 10 , BA 100 , 0 bf/Ac, Limited management: salvage only*

This type is "eastern red cedar/hardwoods" with mostly bur and white oak, some poor quality walnuts and occasional hickory. Stand is in limited management due to slope, and the natural areas inventory identifies a "dry prairie" in this stand.

**Management recommendations:** Salvage only, check and rescue prairie, 2012.

### **Stand 13:**

**Site description:** 21.6 acres south and east facing slope with LaCrescent soils up to 70% slope.

**Woodland description:** *Type 063 , Dbh 14 , BA 100 , 9000 bf/Ac, Limited management: salvage only*

Small sawtimber oak-hickory on pretty steep slopes, rocky in places. There are some larger trees on the east facing slope, and may be some TSI opportunities in the hollow toward the center of this stand. Need more information on this stand of trees.

**Management recommendations:** Stand recon, 2012, limited management.

### **Stand 14:**

**Site description:** 6 acres upland site with Fayette and Village soils 9 - 18% slopes.

**Woodland description:** *Type 012 , Dbh 10 , BA 100 , 0 bf/Ac, Active management: even aged*

Planted red pine in need of thinning. This is a typical 70's era planting with emphasis on edge. This stand is very isolated and in need of some work, as well as more inventory work.

**Management recommendations:** TSI conifers, thin to recommended BA for red pine.

### **Stand 15:**

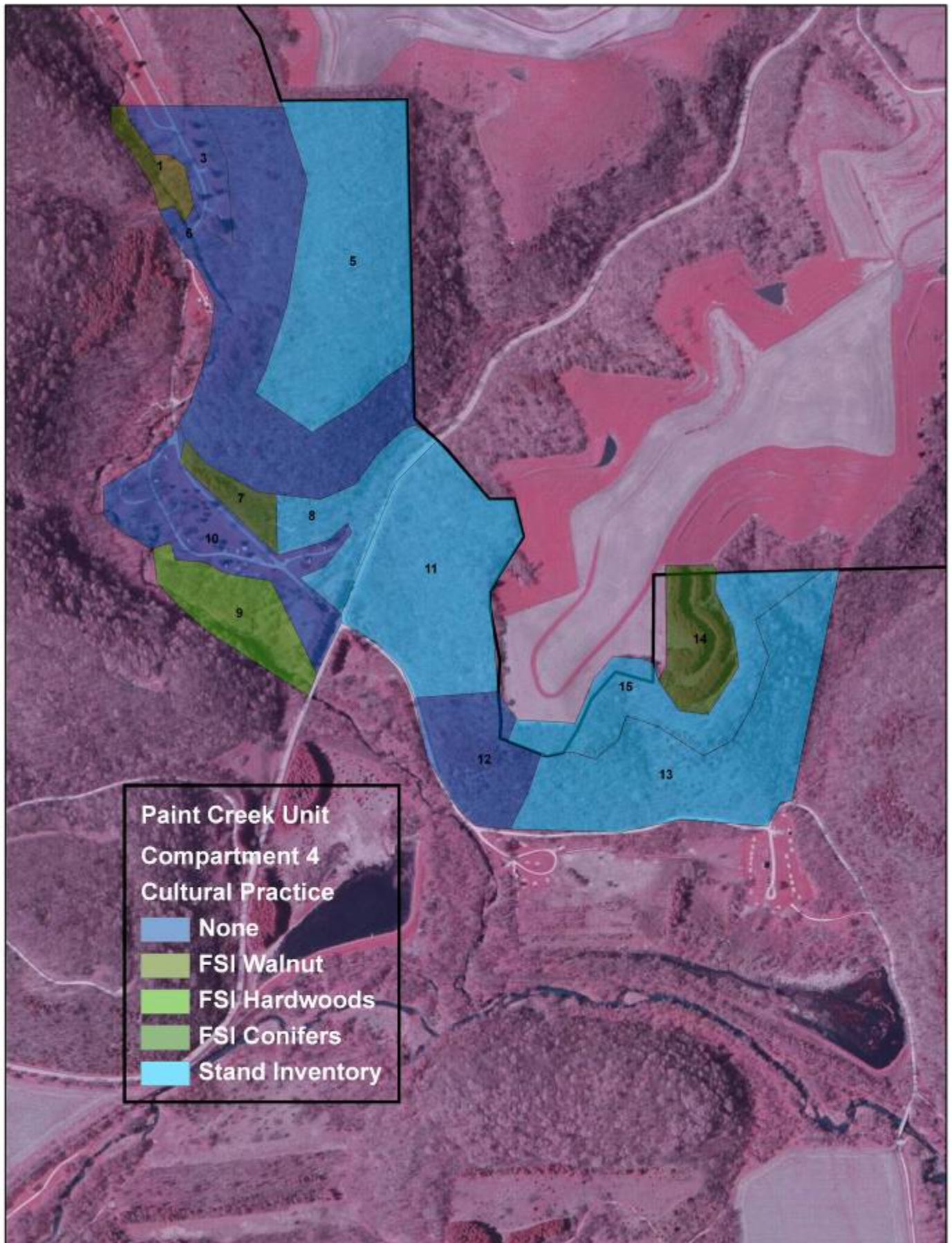
**Site description:** 11.3 acres upland slope with Fayette and Village soils up to 25%.

**Woodland description:** *Type 063 , Dbh 16 , BA 100 , 9200 bf/Ac, Active management: even aged*

Upland oak-hickory timber on the edge of a steep slope. Access is across neighbor to north. This stand should be looked at for a possible harvest in 2012.

**Management recommendations:** Recon for harvest, 2012.







**FY 2012:**

Paint Creek Unit, Compartment 5:

**Stand 2, 3, 4, 5, 7, 8, 21, 25, 26, 33, 39:**

**Site description:** Total of 98.6 acres. all upland sites on steep slopes. LaCrescent soils, 35 - 70% slopes.

**Woodland description:** *Type Various , Dbh 6 - 18 , BA 60 - 120 , 0 - 14160 bf/Ac, Limited management: salvage only*

Steep sloped ground above the Paint Creek floodplain with variable mixtures of mostly poor quality trees. Species include, red, white, and bur oak as well as some chinkapin oak on the dryer rocky south aspects; walnut, cedar, and maple basswood in the deep valleys. There are some Kentucky Coffee Tree near the Larkin overlook, as well as hackberry. Most of these sites are too unproductive to justify management although there are some salvageable trees here. All sites are too steep and rocky to allow equipment access and are in limited management at this time.

**Management recommendations:** Salvage only, no management.

**Stand 9, 27, 49:**

**Site description:** Total of 15.3 acres, upland sites with Village and Fayette soils up to 25% slope.

**Woodland description:** *Type 120 , Dbh 14 - 16 , BA 50 - 70 , 3250 - 4690 bf/Ac, Limited management: salvage only*

All 3 stands are former camp areas which were mowed periodically through the 60's and 70's resulting in savanna like conditions. Basal area here is low as a result, and there are some prairie species occurring here, especially closer to the overlook areas where the site is drier and soil is shallow. Some burning has been attempted on these areas with good results. Many oak seedlings can be found in the grassy areas. These areas will be managed primarily for savanna and are in limited forest management.

**Management recommendations:** Savanna management, salvage harvest only.

**Stand 16, 37, 50:**

**Site description:** total of 17.4 acres, upland sites with village and Fayette soils up to 25% slope.

**Woodland description:** *Type 2 , Dbh 0 , BA 0 , 0 bf/Ac, Non-forest:*  
Grasslands.

**Management recommendations:** None.

**Stand 56:**

**Site description:** Upland site with Fayette soils up to 18% slope

**Woodland description:** *Type 1 , Dbh 0 , BA 0 , 0 bf/Ac, Non-forest:*  
Crop field

**Management recommendations:** Ag lease management.

### **Stand 1:**

**Site description:** Creek bottom site, Arenzvil-volney soils 0 - 2% slope.

**Woodland description:** *Type 87 , Dbh 8 , BA 60 , 0 bf/Ac, Active management: uneven aged*

Mixture of walnut, hackberry, elm, and boxelder. A former walnut planting area in which survival and growth were not good, probably due to soil factors. There are scattered larger trees which should be watched for increased mortality.

**Management recommendations:** Walnut inventory and evaluation 2012.

### **Stand 6:**

**Site description:** 6.9 acres mid-slope, Yellow River soils 14 - 40% slope.

**Woodland description:** *Type 063 , Dbh 12 , BA 55 , 3355 bf/Ac, Active management: uneven aged*

Red and bur oak with maple and walnut on an east facing slope below Larkin's field. Included with this stand is the parking area across from the walnut wayside. Another all-aged stand with good hard maple understory that is 4 - 6" dbh.

**Management recommendations:** Forest stand improvement, 2012.

### **Stand 10:**

**Site description:** Upland site, village, Fayette, paint creek soils 9 - 30% slope.

**Woodland description:** *Type 063 , Dbh 18 , BA 80 , 9440 bf/Ac, Active management: even aged*

Good timber site with RO, WO, and white ash on fairly level ground. This stand should be inventoried for timber sale at some point in the next 2 cutting cycles. A good candidate for oak regeneration.

**Management recommendations:** Regeneration harvest, 2012.

### **Stand 11:**

**Site description:** 32.7 acres upland site with Fayette and village soils up to 18% slopes.

**Woodland description:** *Type 063 , Dbh 18 , BA 80 , 9440 bf/Ac, Active management: even aged*

Good timber site with RO, WO, and white ash on fairly level ground. This stand should be inventoried for timber sale at some point in the next 2 cutting cycles. A good candidate for oak regeneration.

**Management recommendations:** Regeneration harvest 2012.

### **Stand 12:**

**Site description:** 4.4 acres, upland site, Village and LaCrescent soils 14 - 35% slope.

**Woodland description:** *Type 065 , Dbh 24 , BA 80 , 10400 bf/Ac, Active management: even aged*

Good red oak timber site described as a "cove site" by Randy Cook. Very large red oaks should be checked for health condition and definitely looked at in the next cutting cycle. This "cove" faces east and soil is typed as LaCrescent.

**Management recommendations:** Regeneration harvest, 2012.

### **Stand 13:**

**Site description:** 1.9 acres, upland site with Fayette soils 5 - 18% slope.

**Woodland description:** *Type 101 , Dbh 1 , BA 250 , 0 bf/Ac, Active management: even aged*

This is a small pocket from which 7000 bf of aspen and 2 mbf of red and white oak was harvested in Feb of 1993. The area was planted the following spring with red and white oak, but the aspen root sprouted very densely crowding out the seedlings which were planted late in the season. Also contributing to the poor seedling survival was the small size of the opening. Stand is at least 90% aspen with high stem density.

Currently, the site is excellent habitat for ruffed grouse. Should be checked for survival of anything other than aspen for a release job.

**Management recommendations:** Forest stand improvement, 2012.

### **Stand 14:**

**Site description:** 3.2 acres, mid-slope, LaCrescent soil, 25% slope.

**Woodland description:** *Type 093 , Dbh 0 , BA 0 , 0 bf/Ac, Active management: even aged*

07/09/97 8:05 AM

This stand was a clear cut in winter of 1993 followed by planting in spring 1994. There was little scarification on this site due to the steepness of the terrain and consequently, oak survival is minimal. All logs went to the YRSF mill and the skid trail was turned into a horse trail in 1996.

2/12/99

After mapping this comp, foresters remarked that this area was too narrow to have much success with oak regen. At present, it is

typed as a mixed hardwood stand consisting of mostly 1" maple and walnut with BA 100.

**Management recommendations:** Stand inventory and forest stand improvement 2012.

### **Stand 15:**

**Site description:** 2.0 acres, upland site, village soil 9 - 14% slope.

**Woodland description:** *Type 065 , Dbh 18 , BA 70 , 8260 bf/Ac, Active management: even aged*  
Typical mature/over mature red oak stand. Some large walnuts are scattered in the cove area of this stand.

**Management recommendations:** Inventory, regeneration harvest evaluation, 2012.

### **Stand 17:**

**Site description:** 7.5 acres, upland site with Fayette and Village soils, 5 - 18% slope.

**Woodland description:** *Type 079 , Dbh 18 , BA 80 , 9440 bf/Ac, Active management: even aged*  
Typed as an oak/elm/ash stand on Fayette & Village soils w moderate slope. Should be a very productive stand. Was not clear from mapping data whether it was predominantly oak or mixed hardwoods. Aspen pockets also present.

7/5/01

Recon for possible timber sale in FY 02. This is a mixed red and white oak stand with diameters up to 30". Some red oak has died out from oak wilt in the uplands, but there is a lot of 22 - 24" dbh red oak in the sloping ground to the south side of the stand. Also quite a few large ash which should be harvested soon. Might be a good place for a group selection or small clearcut. The white oak in this stand is fairly large but in good shape. Basal area average is around 90, dbh ave. 20", 1.5 logs. Stand quick cruise volume is around 10mbf/ac.

**Management recommendations:** Inventory for regeneration harvest, 2012.

### **Stand 18:**

**Site description:** 5.2 acres, upland site with Fayette, Village, and Paint Creek soils up to 30% slope.

**Woodland description:** *Type 079 , Dbh 18 , BA 70 , 8260 bf/Ac, Active management: even aged*  
Typed as an oak/elm/ash stand on Fayette & Village soils w moderate slope. Should be a very productive stand. Map data was not clear, but looks like an over mature red oak stand with shade tolerant species and an occasional white oak.

**Management recommendations:** Inventory for regeneration harvest 2012.

### **Stand 20:**

**Site description:** 3.9 acres. upland site, Fayette and Village soils, 9 - 18% slope.

**Woodland description:** *Type 079 , Dbh 14 , BA 120 , 13080 bf/Ac, Active management: even aged*  
Typed as an oak/elm/ash stand on Fayette & Village soils w moderate slope. Should be a very productive stand. Map data was not clear, needs to be inventoried again.

**Management recommendations:** Stand map, 2012, possible FSI.

### **Stand 22:**

**Site description:** 13.7 acres, upland site, west facing slope, Fayette, Paint Creek, and LaCrescent soils up to 35% slope.

**Woodland description:** *Type 063 , Dbh 16 , BA 100 , 11300 bf/Ac, Active management: even aged*  
comment file missing. Oak hickory small sawtimber, has potential for commercial harvest or FSI.

**Management recommendations:** Stand map, forest stand improvement, 2012.

### **Stand 23:**

**Site description:** 14.1 acres upland site with Fayette soil, 5 - 18% slope.

**Woodland description:** *Type 010 , Dbh 10 , BA 210 , 0 bf/Ac, Active management: even aged*  
Conifer planting done in blocks of red, white, and jack pine and white spruce. Some mixtures. The red pine block has a heavy understory of hardwoods with quite a bit of red and white oak up to 6 ft. tall. Probably due to the fact that the red pine has been thinned and pruned and didn't respond as quickly as the white pine. White pines up to 16" dbh at this time. White spruce has not been thinned or pruned and needs work. Jack pine has failed in places but a few large individuals are still persisting. Jack is mixed with other species in places and some large aspen has encroached into the stand over the years. This planting is about 40 -45 years of age at this point and exhibits very small crowns for the most part. Recommend thinning for cabin logs in near future.

**Management recommendations:** Forest Stand Improvement, thin to recommended BA for pine, 2012.

### **Stand 24:**

**Site description:** 5.9 acres, mid slope, LaCrescent soils, 25 - 35% slope.

**Woodland description:** *Type 089 , Dbh 5 , BA 50 , 0 bf/Ac, Active management: even aged*

This is an early successional stand with a few pines planted into it. Over the past couple of decades, this stand has developed from a grassy state into tree and brush cover with persistent grass. Its proximity to the stand above has allowed encroachment into the stand by larger seeded trees and root suckering pioneer species. There is a good representation of oak and walnut which should probably be watched and released where necessary. Species include prickly ash, raspberry, sumac, maple, red and white oak, walnut, basswood, ironwood, hickory. toward the upper edge of this stand it becomes a 4" pole stand with high basal area. LaCrescent soils.

**Management recommendations:** FSI, 2012.

### **Stand 28:**

**Site description:** 6.4 acres upland site with Fayette & Village soils 9 - 18% slope.

**Woodland description:** *Type 064 , Dbh 10 , BA 110 , 0 bf/Ac, Active management: even aged*

Young white oak stand with several very old specimens which might be in the old tree list. There are at least 3 very nice walnuts in this stand varying from 22 to 26" dbh. Note that several of the oldest trees in this stand were dated and some are now over 300 years old. There is a hard copy file on these old specimens. They should be GPS and monitored.

**Management recommendations:** Inventory and forest stand improvement 2012.

### **Stand 29:**

**Site description:** 3.4 acres upland site, Fayette, Village, and Paint Creek soils 9 - 18% slope.

**Woodland description:** *Type 089 , Dbh 5 , BA 55 , 0 bf/Ac, Active management: even aged*

This stand is kind of an odd mix of upland hardwoods. West end is an old power line cut with lots of poles in aspen black oak, and walnut. There are some older ash trees closer to the crop field edge as well as some older red & white oaks.

**Management recommendations:** FSI, 2012.

### **Stand 30:**

**Site description:** 13.5 acres ridge top site, Fayette, Village, Paint Creek soils 5 - 30% slope.

**Woodland description:** *Type 089 , Dbh 14 , BA 105 , 11445 bf/Ac, Active management: even aged*

A good second growth stand of red oak and walnut. There are some nice walnuts here which could use some TSI work. Some oak wilt is working in the larger red oaks but beyond the salvage stage. Lots of young aspen around the edges. This stand is completely surrounded by overlook roads.



**Management recommendations:** Forest stand improvement, 2012.

### **Stand 31:**

**Site description:** 5.9 acres creek bottom site, Arenzvil-Volney soils 0 - 2% slope.

**Woodland description:** *Type 087 , Dbh 6 , BA 80 , 0 bf/Ac, Active management: even aged*  
bottomland hardwood site well stocked with pole sized cottonwood, basswood, hackberry, and walnut. Arenzvil-Volney soils, low in p & k, subject to flooding.

**Management recommendations:** Forest stand improvement, 2012.

### **Stand 32:**

**Site description:** 1.7 acres. creek bottom site, Arenzvil-volney soils, 0 - 2% slope.

**Woodland description:** *Type 087 , Dbh 12 , BA 40 , 3960 bf/Ac, Active management: even aged*  
bottomland hardwood site once planted to walnut. Quite a few larger hackberry here, but walnuts are dying out. Could consider conversion to green ash, soft maple, & cottonwood..... weed competition severe. Arenzvil-Volney soils, low in p & k, subject to flooding.

**Management recommendations:** FSI, 2012.

### **Stand 34:**

**Site description:** 2.7 acres, upland site, Village, Paint Creek, & LaCrescent soils 9 - 35% slope.

**Woodland description:** *Type 064 , Dbh 14 , BA 70 , 7630 bf/Ac, Active management: even aged*  
Mostly mature white oak with hickory, aspen, basswood. Stand is moving towards shade tolerants. Site seems like a good one and would be a good candidate for regeneration cut. village, Lacrescent, and Paint Creek soils.

**Management recommendations:** Recon for regeneration harvest, 2012.

### **Stand 35:**

**Site description:** 5.0 acres, upland site, with Village, Paint Creek, & LaCrescent soils 9 - 30% slope.

**Woodland description:** *Type 064 , Dbh 14 , BA 50 , 3250 bf/Ac, Active management: even aged*  
Scattered mature white oak with black oak, hickory, basswood. Unhealthy stand with mortality and broken tops. 5 or 6 good walnuts on southeast side of this stand. village, Lacrescent, and Paint Creek soils.

**Management recommendations:** Forest stand improvement.

### **Stand 36:**

**Site description:** 24.1 acres upland site with Fayette, Village, LaCrescent soils 5 - 35% slope.

**Woodland description:** *Type 064 , Dbh 14 , BA 60 , 6540 bf/Ac, Active management: even aged*  
White oak sawtimber stand described as "needing work". Aspen, elm, basswood with white oak and shade tolerant understory. Fayette & Village soils.

**Management recommendations:** Forest Stand improvement, 2012.

### **Stand 38:**

**Site description:** 10.7 acres upland site with Village, Paint Creek, LaCrescent soils 9 - 35% slope.

**Woodland description:** *Type 101 , Dbh 4 , BA 60 , 0 bf/Ac, Active management: even aged*

This was a 1981 selective harvest area which was billed as a field trial for planting of red oak seedlings after a harvest. Initial BA of 100 - 140 with maple/ash/basswood understory. (Copy of field trial preliminary data in PC-5 file.) BA in the selective area was reduced to around 80 sq. ft. A small portion of the study area toward the central part of the stand was clearcut and ironwood was removed under the selectively cut area. Bed run red oak seedlings were planted on 9 x 25' spacing and alternate rows were chemically released with Roundup in '82 & '83. Early results showed that seedlings planted in the open showed more growth than those in more shaded areas and also that the competition was threatening to overtop most of the seedlings planted in a few years.

Our field mapping work indicated that the original study area was too narrow to supply enough sunlight for maximum growth of the oaks, although some still persist. The southernmost area of this stand was clearcut in fall of 1993. Several of the residual stems from the original harvesting in 1981 were also felled. This site was pushed off clean with crawler to pile tops followed by planting of red oak, white oak, and walnut in the spring of '94. Shows a good stocking of oak today and could use a weeding.

**Management recommendations:** Forest stand improvement, 2012.

### **Stand 40:**

**Site description:** 8.3 acres, upland site with Village and Paint Creek soils 9 - 30% slope.

**Woodland description:** *Type 064 , Dbh 16 , BA 60 , 6780 bf/Ac, Active management: even aged*  
White oak sawtimber averaging 16" dbh on a good site. This is reaching maturity and advance regeneration should be a

consideration before next harvest. Village, Paint Creek, and LaCrescent soils.

**Management recommendations:** Forest stand improvement, preharvest to establish advance regeneration.

### **Stand 41:**

**Site description:** 2.4 acres, upland site with village soils, 9 - 14% slope.

**Woodland description:** *Type 063 , Dbh 12 , BA 80 , 4880 bf/Ac, Active management: even aged*  
White oak and black oak with shade tolerant mix on west facing slope. Moderately steep and rocky but not restrictive.

**Management recommendations:** Forest stand improvement, 2022.

### **Stand 43:**

**Site description:** 7.2 acres upland site with Paint Creek soils 9 - 14% slope.

**Woodland description:** *Type 063 , Dbh 14 , BA 80 , 8720 bf/Ac, Active management: even aged*  
Small sawtimber red & white oak on a good site with Paint Creek soils.

**Management recommendations:** Forest stand improvement, 2012.

### **Stand 44:**

**Site description:** 28.3 acres upland site with village and paint creek soils, 9 - 14% slope.

**Woodland description:** *Type 064 , Dbh 14 , BA 70 , 7630 bf/Ac, Active management: even aged*  
White oak sawtimber billed as "nice site" on fairly level ground with Paint Creek & Village soils.

**Management recommendations:** Forest

### **Stand 45:**

**Site description:** 3.3 acres upland site with village and paint creek soils, 9 - 30% slope.

**Woodland description:** *Type 063 , Dbh 10 , BA 70 , 0 bf/Ac, Active management: uneven aged*  
Red oak, white oak, and ash with high variability in sizes, could be brought into an all aged condition with selection harvest.

**Management recommendations:** Forest stand improvement, 2022.

### **Stand 46:**

**Site description:** 4.6 acres upland site, Fayette and Village soils, 5 - 14% slope.

**Woodland description:** *Type 063 , Dbh 12 , BA 80 , 7920 bf/Ac, Active management: even aged*

Red and white oak with a few large white ash. Fayette soils, should be good site.

**Management recommendations:** Forest stand improvement, 2012.

### **Stand 47:**

**Site description:** 5.5 acres upland site, Fayette soils, 5 - 14% slope.

**Woodland description:** *Type 063 , Dbh 1 , BA 200 , 0 bf/Ac, Active management: even aged*

This was a 19" average diameter stand of red and white oak (85% by numbers) Which was harvested by a clearcut of around 6 acres in 1993 with a good acorn crop just coming down in the fall. After logging crew left, YRSF crew came in to finish the clearcut and push tops into brush piles in attempt to bury acorns for regen of red oak. Following year, about 100 walnuts were planted into the site which was originally devoid of walnut. No further treatment was done in this stand. Spring following the harvest, estimates of over 10K red oak seedlings per acre were recorded, along with aspen and all the rest. Site has been a showcase for oak regeneration since '95.

6/11/04

This stand has been the topic of many forestry field days and other gatherings because of the incredible natural regen experienced in this area. The original stand was over mature red & white oak (87% by volume---57% RO and 30% WO) totaling 54 mbf. Another 54mbf was harvested the same year in 2 other clearcuts, stands 38 & 48. There are still incredible numbers of red oak here and the stand could be cleaned up some as competition is starting to take a toll on some of the oaks.

6/24/05

After much deliberation by local district foresters, it was decided to undertake a TSI on this stand in the spring of '05. 3 plots were selected and underwent different levels of crop tree release. Note that 3 of the plots had over 2500 red oak per acre...one plot had only 700...but the average of the 4 plots measured was 2070. Total trees/Ac averaged 3925, 53% of these are red oak. Average total BA was 48 sq ft, 17.5 sq ft for red oak (37%). Average tree diameter was 1.5125". (All data based on 1/20 ac plots.) Plots are laid out and numbered south to north, 1, 2, and 3. The control plot lies to the west of plot 3.

Treatments: Plot 1 - 50 crop trees per acre were selected with a spacing of 30 feet between crop trees (900 sq ft per tree). These trees were giving a crown touching release which removed 6 sq ft of BA leaving a residual BA of 46 sq ft.

Plot 2 - all trees overtopping crop trees were removed. This is the more traditional approach to early stand release. A total BA of 12 sq ft was removed leaving a residual of 39 sq ft.

Plot 3 - 100 crop trees were selected in this plot on a 20 ft spacing (400 sq ft per tree). These trees were given a 4 sided release removing a BA of 16 sq ft with a residual of 37 sq ft.

**Management recommendations:** Forest stand improvement, 2012.

### **Stand 48:**

**Site description:** 2.5 acres, upland site with village and paint creek soils, 9 - 30% slope.

**Woodland description:** *Type 063 , Dbh 0 , BA 0 , 0 bf/Ac, Active management: even aged*

One of 2 clearcut areas from which 40.3 mbf were harvested in fall of 1993. Planted with oak and walnut spring of 1994 which was also a year with good acorn production. Checked in summer of '97. Both red and white oak doing well in pockets. Lots of aspen thickets with closed canopy and no oak regen. except for stump sprouts. Much of this area is still in the brush stage but looks like oak regen will be adequate in areas devoid of aspen. Plan to re-check this and do crop tree release around 2004.

**Management recommendations:** Forest stand improvement to release oak crop trees, 2012.

### **Stand 51:**

**Site description:** 3.9 acres upland site with Fayette soils 5 - 9% slope.

**Woodland description:** *Type 063 , Dbh 18 , BA 60 , 4200 bf/Ac, Active management: even aged*

This is an upland hardwood stand which looks like an old field edge stand. Several large red and white oak and hard maple mixed with smaller 16" trees. Stand is highly visible since it follows the overlook road in a narrow band and would be a good candidate for selective mgt. A fair number of low to average quality walnuts in places.

**Management recommendations:** Recon for regeneration harvest, 2012.

### **Stand 52:**

**Site description:** 1.9 acres upland site with Fayette soils 5 - 9% slope.

**Woodland description:** *Type 010 , Dbh 6 , BA 200 , 0 bf/Ac, Active management: even aged*

Mixed red and white pine planted on a failed jack pine site. Planted in 1979, thinned in 1987. Red pine is substantially smaller than white. These trees seem short for their age with fairly large diameters indicating they have grown in a fairly open condition. Crown closure should force them up quickly if stand density is maintained.

**Management recommendations:** Forest stand improvement, thin to recommended BA for conifers, 2012.

### **Stand 53:**

**Site description:** 9.6 acres upland site with Fayette soils up to 9% slope.

**Woodland description:** *Type 013 , Dbh 6 , BA 200 , 0 bf/Ac, Active management: even aged*

Formerly part of a crop field, this area is a mixture of small strip plantings of walnut and white pine which are not doing well. Native grasses were also planted here and several ponds were built. Rows of shrubs were planted on these edges, and many of these are now considered invasive, including honeysuckle and autumn olive. Some attempts to get rid of these has been made, but more work needs to be done..

**Management recommendations:** Forest stand improvement, 2012.

### **Stand 54:**

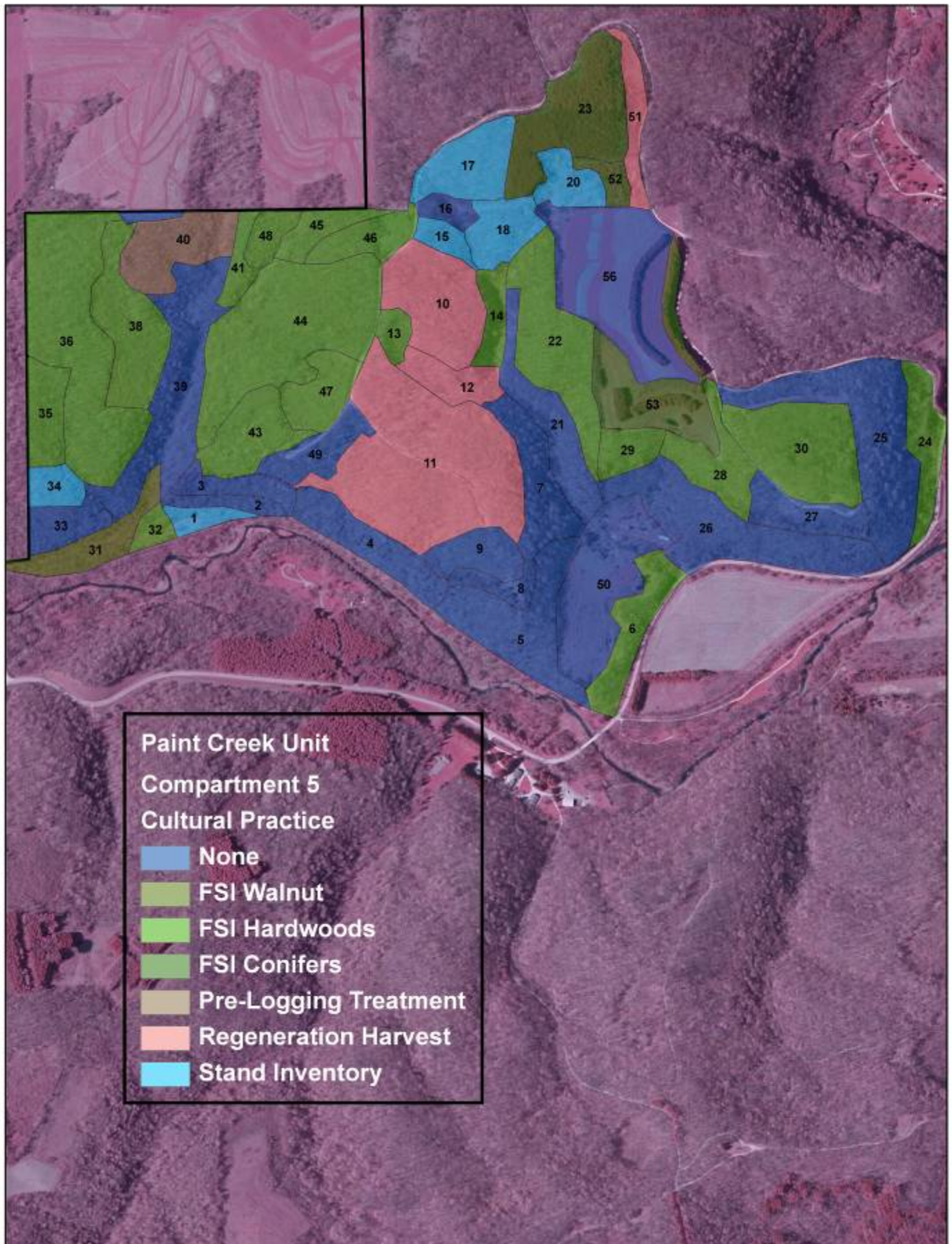
**Site description:** 2.3 acres upland site on Fayette soils 9 - 14% slope.

**Woodland description:** *Type 013 , Dbh 6 , BA 200 , 0 bf/Ac, Active management: even aged*

Small strip plating of white pine done in 1978. Not good for much but wildlife cover and windbreak at this point.

**Management recommendations:** FSI conifers. Thin to recommended BA for white pine, 2012.





**FY 2012:**

Paint Creek Unit, Compartment 16: Note that this compartment was mapped before implementing the comment file link of the database, so written Woodland descriptions do not yet exist.

**Stand 1:**

**Site description:** 8.0 acres upland site with Dubuque, Yellow River, and Paint Creek soils, 5 - 30% slope.

**Woodland description:** *Type 093 , Dbh 16 , BA 70 , 4690 bf/Ac, Active management: uneven aged*  
Maple-basswood type with a few wolf oak and hickory along the road. This is too far gone to try to revert to oak hickory, so mgt recommendation is uneven aged.

**Management recommendations:** Selective harvest, 2022.

**Stand 2:**

**Site description:** 7.0 acres upland site with Fayette & village soils, 9 - 14% slope.

**Woodland description:** *Type 069 , Dbh 16 , BA 60 , 2340 bf/Ac, Active management: even aged*  
Field edge gully with mostly black locust and a few other species. Stand should be regenerated. Need more info.

**Management recommendations:** Reconnaissance, 2012.

**Stand 3:**

**Site description:** 14.7 acres, upland site with Fayette and Village soils, 5 - 14% slope.

**Woodland description:** *Type 089 , Dbh 3 , BA 30 , 0 bf/Ac, Active management: even aged*  
Formerly a crop field in the crop lease program, this field was planted as part of a root grading replication study by ISU Professor Dick Schultz to assess growth of nursery stock graded on the basis of the number of primary lateral roots. Seedlings were machine planted in 1991. Site prep was roundup, and tree shelters were used on many of the seedlings. There is a hard copy file on survival and growth of this planting. Site has reached crown closure at this time, and black locust is encroaching from the north side ditch. Some attempt to eradicate these has been made, but they are helping to create stem density so not all will be cut out. This stand may be due for a thinning in the near future.

**Management recommendations:** Inventory, FSI, 2012.

**Stand 4:**

**Site description:** 6.0 acres, upland site with Fayette soils on 9 - 14% slope.

**Woodland description:** *Type 101 , Dbh 12 , BA 90 , 7560 bf/Ac, Active management: even aged*  
Type is an aspen stand, but other hardwoods are included in this stand. There is no comment file here. Need further map work on this stand.

**Management recommendations:** Inventory, stand map, 2012.

### **Stand 5:**

**Site description:** 9.6 acres, upland site with Fayette, Village and Boone soils, 9 - 14% slope.

**Woodland description:** *Type 063 , Dbh 14 , BA 110 , 9900 bf/Ac, Active management: even aged*  
Decent stand of red oak mixed with lots of other species. No comment file on this. Small sawtimber stand which may be well served by FSI.

**Management recommendations:** Inventory, FSI, 2012.

### **Stand 6:**

**Site description:** 6.6 acres, upland site, with Village and Paint Creek soils, 14 - 30% slope.

**Woodland description:** *Type 079 , Dbh 12 , BA 45 , 2745 bf/Ac, Active management: even aged*  
Understocked stand of oak-elm-ash on pretty rocky ground. There is a lot of young stuff here which might be worked with. This stand needs inventory.

**Management recommendations:** Crop tree release, 2012.

### **Stand 7:**

**Site description:** 28.2 acres, upland site with Fayette, Village, Paint Creek, Lacrescent, and even some Dubuque soils. Slopes up to 30%.

**Woodland description:** *Type 007 , Dbh 0 , BA 0 , 0 bf/Ac, Active management: even aged*  
This is a former pastured area with a few large trees and is mostly successional woody growth at this time. There is a lot of Multiflora rose on this site which should be eliminated. The stand needs inventorying and might benefit from some supplemental tree planting.

**Management recommendations:** Inventory, tree planting, 2012.

### **Stand 8:**

**Site description:** 1.6 acres, upland site with Fayette, Village, and Paint Creek soils up to 30% slope.

**Woodland description:** *Type 110 , Dbh 4 , BA 30 , 0 bf/Ac, Active management: even aged*  
Small walnut plantation on the old White farm. There are a few decent specimens here. This stand should be inventoried and thinned.

**Management recommendations:** Inventory, Forest stand improvement, 2012.

### **Stand 9:**

**Site description:** 2.5 acres, upland site with Fayette, Paint Creek, Lacrescent soils up to 35% slope.

**Woodland description:** *Type 110 , Dbh 2 , BA 40 , 0 bf/Ac, Active management: even aged*

An old power line cut, this stand is long and narrow band of sapling to pole sized trees with some decent walnuts in it.

**Management recommendations:** Forest stand improvement to release walnut and oak, 2012.

### **Stand 10:**

**Site description:** 12.6 acres, upland timber, Fayette, Village, Paint Creek soils 5 - 30% slope.

**Woodland description:** *Type 063 , Dbh 12 , BA 85 , 5185 bf/Ac, Active management: even aged*

Small sawtimber oak-hickory. Some decent white oak here mixed with lots of other species including aspen. Not real high volume, might be good candidate for some FSI.

**Management recommendations:** Inventory, FSI 2022.

### **Stand 11:**

**Site description:** 5.9 acres, upland site, Fayette soils, 5 - 9% slope.

**Woodland description:** *Type 010 , Dbh 10 , BA 200 , 0 bf/Ac, Active management: even aged*

A former crop field, this site was planted to conifers shortly after acquisition and is in dire need of thinning. There was a row of European Larch along the road here which was cut out by the power company in the 90's.

**Management recommendations:** FSI....thin to recommended BA for red & white pine, 2012.

### **Stand 12:**

**Site description:** 6.5 acres upland site with Fayette soils, 5 - 14% slope.

**Woodland description:** *Type 063 , Dbh 4 , BA 40 , 0 bf/Ac, Active management: even aged*

Former crop field which was planted back in the 70's to red oak and walnut. The edges around this block planting were kept mown, probably for edge as well as weed control. A couple of small blocks of oak and walnut were direct seeded on the north edge of this field in the early 90's, and oaks are well represented in these blocks. The rest of the open area in this field was planted with a tree planter in 2007 with a mix including oak and walnut. The original planting was thinned in 2005 to cull out the badly formed trees in the plantation.

**Management recommendations:** Seedling release, 2012.

### **Stand 13:**

**Site description:** 7.9 acres, upland site with Fayette and Village soils, 5 - 14% slope.

**Woodland description:** *Type 058 , Dbh 4 , BA 40 , 0 bf/Ac, Active management: even aged*

Former crop field planted to rows of white pine, red oak, and walnut in a configuration which left a couple of open areas in the field. This planting dates back to the 70's. The original planting was thinned to favor the red oak and walnut with the best form. The open parts of the field were planted to red and white oak with some shrubs in 2007 along with the field to the north.

**Management recommendations:** Seedling release, 2012.

### **Stand 14:**

**Site description:** 30.2 acres upland site with Fayette, Village, and Paint Creek soils up to 14% slope, and Arenzvil-Chaseburg soil in the drainage zone.

**Woodland description:** *Type 063 , Dbh 14 , BA 95 , 8550 bf/Ac, Active management: uneven aged*  
Small sawtimber stand of oak-hickory with a good maple component. This stand was selectively harvested in a commercial sale of 34mbf in 2002. Trees harvested were all in the 12 inch and higher dbh class and were selected from those with poor form or other defect. Care was taken to leave as many den trees as possible. Intentions were to cull out the intermediate sized trees with poor form and defect after the sale, but this was not done and should be taken care of in 2012.

**Management recommendations:** Forest stand improvement, 2012.

### **Stand 15:**

**Site description:** 14.6 acres, upland site, LaCrescent soils 25 - 70% slope

**Woodland description:** *Type 093 , Dbh 12 , BA 90 , 5490 bf/Ac, Limited management: salvage only*  
Maple basswood stand in a drainage area with steep sides. This area is rocky and not conducive to management due to slope. Area is also an intermittent stream and is considered riparian.

**Management recommendations:** None.

### **Stand 16:**

**Site description:** 19.7 acres, upland site with Fayette, Village, and Paint Creek soils up to 30% slope.

**Woodland description:** *Type 063 , Dbh 14 , BA 80 , 5200 bf/Ac, Active management: even aged*  
Small sawtimber stand on decent soils. Not much info is available on this stand and inventory is recommended.

**Management recommendations:** Stand inventory, 2012.

### **Stand 17:**

**Site description:** 2.3 acres upland site with Dubuque soils, 5 - 9% slope.

**Woodland description:** *Type 110 , Dbh 2 , BA 30 , 0 bf/Ac, Active management: even aged*

Former crop field which was planted to walnut and ash back in the 70's. These trees have never done well here, I suspect because of the soil type. This planting was sod bound with brome grass for almost 30 years and is just starting to grow out of it. Some release work was done here but it could use another thinning.

**Management recommendations:** Forest stand improvement, 2012.

### **Stand 18:**

**Site description:** 5.3 acres upland site with Boone and Dubuque soils 5 - 18% slope.

**Woodland description:** *Type 079 , Dbh 18 , BA 110 , 7700 bf/Ac, Active management: uneven aged*  
Oak-elm-ash stand which was selectively harvested in 2002 for the YRSF sawmill. Trees were selected to stimulate growth on the best quality oaks and cull out defective trees in the stand. This stand should be re-inventoried in 2012.

**Management recommendations:** Stand inventory, 2012.

### **Stand 19:**

**Site description:** 8.8 acres, upland site with Village, Paint Creek, LaCrescent soils up to 35% slope.

**Woodland description:** *Type 079 , Dbh 12 , BA 70 , 4270 bf/Ac, Active management: even aged*  
Oak-elm-ash type, not very good quality here. not much information available on this stand. Should be inventoried in 2012.

**Management recommendations:** Stand inventory, 2012.

### **Stand 20:**

**Site description:** 3.9 acres, upland site with Village, Fayette, and Paint Creek soils up to about 15% slope.

**Woodland description:** *Type 005 , Dbh 0 , BA 0 , 0 bf/Ac, Active management: even aged*  
Tree planting area which was part of a crop lease up till around 1988. Walnut, red oak, and cedar were planted here, but nothing seemed to grow very well, despite some attempts at weed control. I suspect this soil is just worn out from years of cropping. This site should be checked and inventoried again in 2012 to assess the planting.

**Management recommendations:** Forest stand improvement, inventory, 2012.

### **Stand 21:**

**Site description:** 5.5 acres, upland site with Village, Paint Creek, Lacrescent soils up to 30% slope.

**Woodland description:** *Type 005 , Dbh 0 , BA 0 , 0 bf/Ac, Active management: even aged*



This was forested site till the late 80's when it was clearcut for the YRSF sawmill, and replanted with oak and walnut. At least one release was done on this site and there were some good oak saplings on site in the mid 90's. More info is needed on this stand.

**Management recommendations:** Stand inventory, FSI, 2012.

### **Stand 22:**

**Site description:** 15.8 acres, upland site with Village, Paint Creek, and LaCrescent soils up to 35% slope.

**Woodland description:** *Type 079 , Dbh 10 , BA 60 , 0 bf/Ac, Active management: even aged*  
Oak-elm-ash type. No comment file available.

**Management recommendations:** Stand inventory, 2012.

### **Stand 23:**

**Site description:** 10.6 acres, upland site with LaCrescent and arenzvil-volney soils up to 70% slope.

**Woodland description:** *Type 063 , Dbh 16 , BA 75 , 5025 bf/Ac, Limited management: salvage only*  
Oak-hickory on a steep east facing slope and ravine. This is in limited management due to slope.

**Management recommendations:** None.

### **Stand 24:**

**Site description:** 7.4 acres, upland site with Paint Creek and LaCrescent soils up to 35% slope.

**Woodland description:** *Type 007 , Dbh 0 , BA 0 , 0 bf/Ac, Active management: even aged*  
Successional woody stand with lots of shrubs and a few poor quality walnuts. This stand should be looked into for a possible supplemental tree planting.

**Management recommendations:** Stand inventory and tree planting, 2012.

### **Stand 25:**

**Site description:** 13.2 acres, upland site with Fayette and Village soils up to 14% slope.

**Woodland description:** *Type 001 , Dbh 0 , BA 0 , 0 bf/Ac, Non-forest:*  
Ag field in the crop lease program.

**Management recommendations:** Agricultural lease.

### **Stand 28:**

**Site description:** 3.3 acres upland site with Paint Creek and LaCrescent soils up to 70% slope.

**Woodland description:** *Type* , *Dbh* , *BA* , *bf/Ac, Limited management: salvage only*

No stand information available. Need stand inventory.

**Management recommendations:** Stand inventory, 2012.

### **Stand 29:**

**Site description:** 14.8 acres, upland site, Fayette and Village soils, 9 - 18% slope.

**Woodland description:** *Type 001* , *Dbh* , *BA* , *bf/Ac, Non-forest:*  
Ag field in crop lease program.

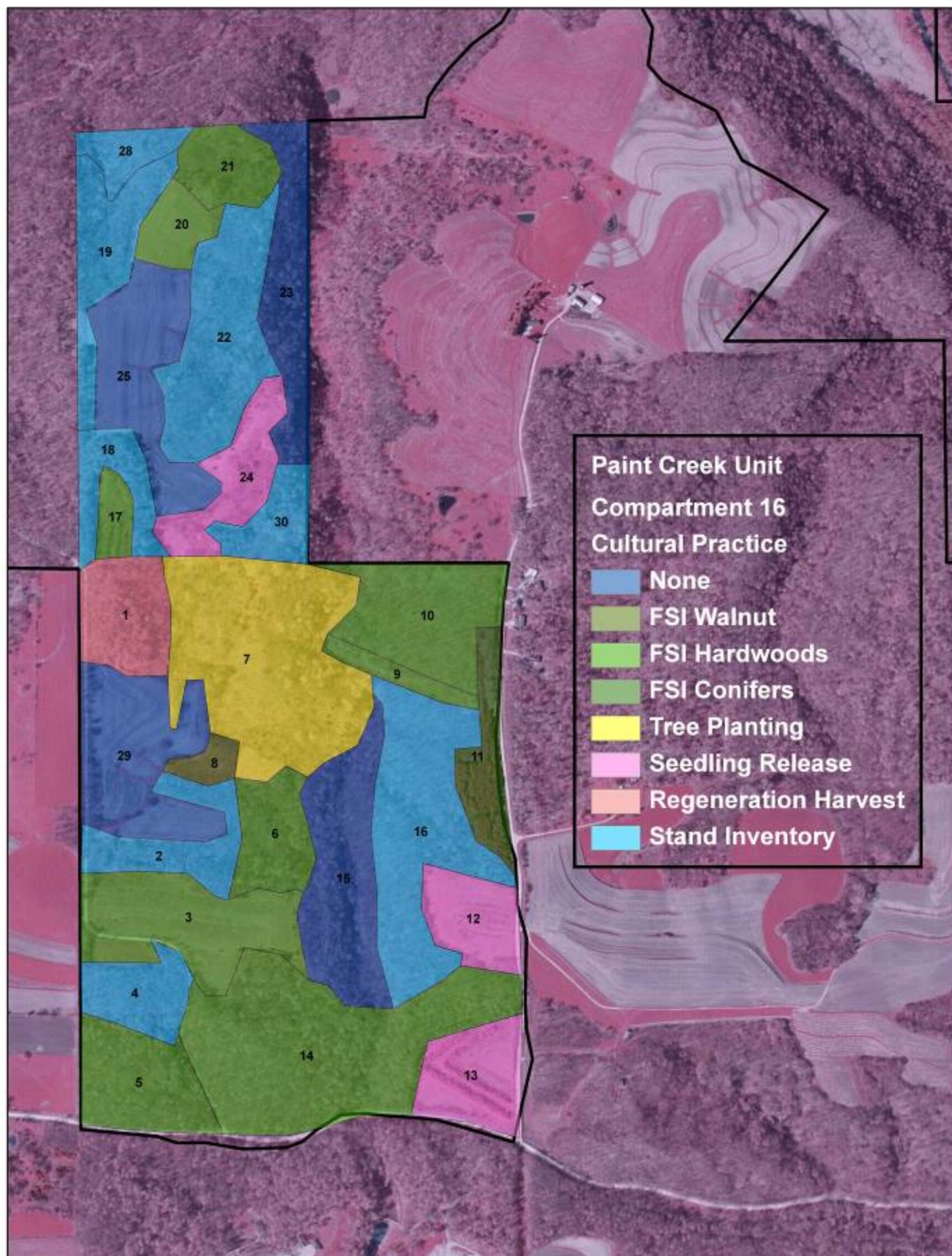
**Management recommendations:** Agricultural lease.

### **Stand 30:**

**Site description:** 4.8 acres upland site with Paint Creek and LaCrescent soils 9 - 25% slope.

**Woodland description:** *Type 079* , *Dbh 10* , *BA 70* , *0 bf/Ac, Active management: uneven aged*  
Oak-elm-ash type with a sprinkling of everything. Not a real productive site. Need more stand information on this.

**Management recommendations:** Stand inventory, 2012.



**FY 2013:**

Paint Creek Unit, Compartment 7:

**Stand 1:**

**Site description:** 6.5 acres, upland site with Village and Paint Creek soils, 9 - 30% slope.

**Woodland description:** *Type 063 , Dbh 14 , BA 70 , 6300 bf/Ac, Active management: even aged*

Red, white and bur oak with a history of grazing. Some trees were removed from this stand in 2003 in a kind of selective harvest to get rid of some of the culls and trees with poor form. Trees along the edge of the former crop field to the north were also removed in preparation for a tree planting area.

**Management recommendations:** Forest stand improvement, 2023.

**Stand 2:**

**Site description:** 6 acres, upland site with Fayette soils 5 - 14% slope.

**Woodland description:** *Type 010 , Dbh 6 , BA 150 , 0 bf/Ac, Active management: even aged*

Mixed red and white pine planting on a former crop field. Some of this was planted about 40 years ago, and another strip was planted in the 80's. There is no comment file on this so more info is needed. The smaller strip was thinned in 2003 but the larger trees were not thinned. There may be some info in hard copy on these plantings.

**Management recommendations:** Forest Stand Improvement, thin to recommended BA for conifers, 2013.

**Stand 3:**

**Site description:** 7.7 acres upland site with Fayette and Village soils 5 - 14% slope.

**Woodland description:** *Type 001 , Dbh 0 , BA 0 , 0 bf/Ac, Non-forest:*

This stand is listed as non forest but part of it was planted with oak, pine, and walnut in 2003. Database needs to be updated and comment file added.

**Management recommendations:** Stand inventory, 2013.

**Stand 4:**

**Site description:** 2.1 acres, upland site with Fayette soils 5 - 9% slope.

**Woodland description:** *Type 013 , Dbh 6 , BA 150 , 0 bf/Ac, Active management: even aged*

White pine planted in rows mixed with ash and walnut. Some attempt at thinning this was made in the winter of 2002, and there are a few decent stems here. There is no comment file on this stand and inventory is needed.

**Management recommendations:** Stand inventory, 2013.

### **Stand 5:**

**Site description:** 1.8 acres upland site with Fayette soils 5 - 9% slope.

**Woodland description:** *Type 001 , Dbh 0 , BA 0 , 0 bf/Ac, Non-forest:*

This was a small area of open ground which was farmed until the adjacent pines got too big make it difficult to get equipment around. it is now a mixture of brome and mostly weeds, and was supposed to be included in the acreage which was planted in 2003, but it was missed for some reason.

**Management recommendations:** Tree planting, 2013.

### **Stand 6:**

**Site description:** 8.2 acres upland site with Fayette soils on 5 - 9% slopes.

**Woodland description:** *Type 013 , Dbh 8 , BA 140 , 0 bf/Ac, Active management: even aged*

This was one of the first tree plantings on this compartment and is all white pine, about 8" dbh. About 2 acres of this was thinned Feb '03.

There has been quite a bit of mortality here from blister rust. We will need to finish this pine thinning in a subsequent year. The trees are big enough to produce some boards and parking posts. Hopefully, better air movement will slow the blister rust. This should be thinned again in 2013.

**Management recommendations:** Forest stand improvement, thin to recommended BA for white pine, 2013.

### **Stand 7:**

**Site description:** 2.8 acres bench site with Bertrand-Chelsea soils 5 - 35% slope.

**Woodland description:** *Type 008 , Dbh 0 , BA 0 , 0 bf/Ac, Non-forest:*

Back pack camp area known as Heffern's Hill. No forest management here.

**Management recommendations:** None.

### **Stand 8:**

**Site description:** 11.9 acres bench site with Bertrand-Chelsea and some LaCrescent soils on slopes up to 35%.

**Woodland description:** *Type 063 , Dbh 14 , BA 110 , 7150 bf/Ac, Active management: even aged*

Highly variable stand of mostly oak-hickory, but getting into some bottomland species as well. A lot of black oak, some good quality. This stand should be re-inventoried and broken up into smaller stands with better Woodland descriptions. Some TSI may be possible here.

**Management recommendations:** Stand inventory, 2013.

### **Stand 9:**

**Site description:** 2.9 acres on lower slope with Bertrand-Chelsea and some LaCrescent soils, slopes up to 35%.

**Woodland description:** *Type 063 , Dbh 0 , BA 0 , 0 bf/Ac, Active management: even aged*  
Stand location by GPS.

This was a stand of mixed oak-hickory timber which was harvested in the late summer of 1994 by Webster Industries. This was sold in the same sale as PC-7, stand #24. The original timber volume sold from this stand was 17,180 bf in 143 trees, an average of 120 bf/tree. Mean diameter 17.8"; 34% WO, 05% bur oak, 52% black oak, 09% others (by numbers of trees marked).

This was not a particularly good stand of trees which probably had a history of grazing. The objective for the stand was to regenerate with a higher percentage of quality red and white oak.

East facing slope with some deep cuts, fairly sandy Bertrand-Chelsea and Lacrescent soils on moderate slopes. This area was scraped off to pile logging debris and planted in the flatter areas with red and white oak on 10 x 10 spacing in spring of 1995.

2/01 recon of the area indicates that stump sprouting has occurred on many of the harvested oaks and that some seedlings appear to be doing well despite lack of weeding or release. Some release work could be done as there is a lot of prickly ash and other encroaching species present. Speculation is that there will be a substantial oak component in the future stand. Note that the skid trail in this stand suffered some substantial erosion before the ground cover stabilized it. This could have been prevented with better layout and follow-up water bars or other measures.

**Management recommendations:** Stand evaluation and FSI, 2013.

### **Stand 10:**

**Site description:** 7 acres upland site with Fayette soils, 5 - 9% slope.

**Woodland description:** *Type 002 , Dbh 0 , BA 0 , 0 bf/Ac, Non-forest:*

Open brome grass fields which were former crop fields. Much of these were planted to trees long ago, but these open areas remained in an attempt to maximize edge for game species. These open grass areas should be eliminated eventually and planted to trees.

**Management recommendations:** Tree planting, 2013.

### **Stand 11:**

**Site description:** 6.8 acres upland site with Village and LaCrescent soils 18 - 35% slope.

**Woodland description:** *Type 081 , Dbh 14 , BA 80 , 8100 bf/Ac, Active management: uneven aged*

A stand of cutover oak with some decent harvestable white oak and red oak. There are stumps here about 20 years old, probably left over from



the 1985 harvest of a nearby stand. There may have been oak wilt here which was salvage as part of the nearby clearcut. There are some dead ash here, probably ash yellows. Stand also contains maple and elm. Trees range from 8 to 18" dbh. Management will be uneven, as it is on a "B" slope. May be a good candidate for group selection.

**Management recommendations:** Stand inventory, possible regeneration harvest, 2013.

## **Stand 12:**

**Site description:** 2.7 acres upland slope with LaCrescent soils 25 - 35% slope.

**Woodland description:** *Type 063 , Dbh 4 , BA 150 , 0 bf/Ac, Active management: even aged*

This stand was clearcut by J & J Logging in November of 1985. The silvicultural CC was finished in March of 1986. According to McSweeney, there were good acorn crops in '84 & 85. Hand planted in '86 with 650 red oak and 250 black walnut. Part of this stand was scarified and part was just cut and piled by hand to see what the effect of scarifying was on oak regeneration. Some seedling release was conducted on this stand in the late 80's.

There is a need to recon this stand again to judge effectiveness of mgt. techniques.

5/17/02

Quite a few decent 4" dbh red oak in this stand could use release at this time. The stand is very dense with elm, maple and basswood, but a decent oak component. Much of this stand gets into a "C" slope but there is very little evidence of erosion from the '86 harvest.

12/4/02

A crew went through this in an attempt to release oaks as well as other desirable species. Many of the trees they were trying to help got knocked down or bent over in the process and some of the stump sprouts could have been thinned better. Aspen has already reached the 6" dbh size, so release of the smaller trees is difficult unless you use a girdling technique.

**Management recommendations:** Forest stand improvement, 2013.

## **Stand 13:**

**Site description:** 1.2 acres upland site with Fayette soils 5 - 9% slope.

**Woodland description:** *Type 010 , Dbh 8 , BA 120 , 0 bf/Ac, Active management: even aged*

This block of mixed red and white pine was planted in 1981? One block of white and one block of red pine, 10' spacing with shrub row btw and on the outside. The white pines here have

been plagued with blister rust and the reds are stunted. Basal areas over 200 in places. This stand was row thinned in 2003 and an effort was made to remove encroaching hardwoods as well as white pine affected by blister rust. All usable trees will be sawn into parking posts or 4 x 4's. Final basal area will be about 150.

**Management recommendations:** Forest stand improvement, 2023.

### **Stand 14:**

**Site description:** 3.0 acres upland site with Fayette soils, 5 - 9% slope.

**Woodland description:** *Type 010 , Dbh 8 , BA 120 , 0 bf/Ac, Active management: even aged*  
1/14/03

This block of mixed red and (mostly) white pine was planted in 1981? Winter of 2002, many of the white pines are infected with blister rust and many have already died from hardwood encroachment and blister rust. An effort to remove hardwoods and affected trees should open the stand and improve growing conditions for the remaining trees. This is a labor intensive effort as there will be little harvestable volume here.

2/14/03

The northwest portion of this red pine stand was row thinned and the hardwoods removed from the interior of the stand. The remainder of the stand was marked to remove hardwoods and blister rust, not sure if done yet.

**Management recommendations:** Forest stand improvement, 2023.

### **Stand 15:**

**Site description:** 2.5 acres upland site on Fayette soils with 5 - 9% slopes.

**Woodland description:** *Type 089 , Dbh 2 , BA 0 , 0 bf/Ac, Active management: even aged*  
2/14/03

This mixed stand of pines, walnuts and oaks has suffered from brome grass for many years. It was probably mowed for a long time but the trees are starting to shade out the grass. In January 2003 the walnuts on the east side of the stand were thinned. There were many 12" trees with short logs which were removed and taken down to the mill. Un-merchantable trees were felled to thin the trees with potential. The west side of the stand was thinned to favor oak and walnut.

**Management recommendations:** Forest stand improvement, 2023.

### **Stand 16:**

**Site description:** 4.7 acres upland site with Fayette soils 5 - 9% slope.

**Woodland description:** *Type 010 , Dbh 8 , BA 180 , 0 bf/Ac, Active management: even aged*

1/14/02

This block of mixed red and white pine was planted in late 1970's (1978?) spacing was about 10 ft between rows and a row of shrubs was planted between blocks of different pine species. The trees average around 6" dbh with a BA of 180. Some of the BA is made up of encroaching hardwoods, especially in the shrub rows. (Shrubs are mostly dead from shading.)

December of 2002, all hardwoods within the pines were marked to be felled. This opened up the stand significantly and will hopefully stimulate growth of the pines. Although the stand could use a thinning, most of these trees will not be useable, so we are concentrating our efforts on other pine stands in this compartment. We can defer thinning this one till 2013.

**Management recommendations:** Thin to recommended BA for white pine, 2013.

### **Stand 17:**

**Site description:** 2.5 acres upland site with Fayette and Village soils, 9 - 25% slope.

**Woodland description:** *Type 101 , Dbh 8 , BA 80 , 0 bf/Ac, Active management: even aged*

Typical edge type field with aspen, birch, maple on "A" slope.

This stand is probably result of encroachment into the field and contains an occasional good quality walnut.

**Management recommendations:** Forest stand improvement to release walnut and oak, 2013.

### **Stand 18:**

**Site description:** 21 acres upland site with Village and LaCrescent soils, 14 - 35% slopes.

**Woodland description:** *Type 063 , Dbh 16 , BA 80 , 9040 bf/Ac, Active management: even aged*

Some good 20" white oak but not well stocked. There is a beautiful 28" dbh walnut veneer log on the ridge top about 50m from the clearing. The balance of the stand is in maple, basswood, cherry, aspen, & hickory. Toward the west, the site gets dry and loses quality before sloping into limited mgt.

**Management recommendations:** Recon for regeneration harvest, 2013.

### **Stand 19:**

**Site description:** 4.2 acres upland with Village soils, 9 - 14% slope.

**Woodland description:** *Type 001 , Dbh 0 , BA 0 , 0 bf/Ac, Non-forest:*

Part of an open brome grass field with was being cropped for food plots and mown for hay through the 90's.

This area was planted to seedlings in 2003 but the data was never adjusted. This area should be re-inventoried in 2013 and reclassified.

**Management recommendations:** Stand inventory, 2013.

### **Stand 20:**

**Site description:** 8.7 acres upland site with Fayette, Village, and LaCrescent soils 9 - 35% slope.

**Woodland description:** *Type 063 , Dbh 15 , BA 75 , 0 bf/Ac, Active management: even aged*

2/14/03

this old farmstead site has been plagued by boxelder for many years. Some girdling of the boxelder followed by planting of seedlings was done in the late 1980's. Several walnuts survived this planting, but more boxelders needed to be killed. In December of '02 an effort was made to kill all the boxelder in this stand and let the residual trees come through. There are some pole sized and larger oaks, as well as cherry and ash and hickory. We are hoping these will come through and make a decent stand in the near future.

**Management recommendations:** Forest stand improvement, 2023.

### **Stand 21:**

**Site description:** 1.0 acres upland site with Fayette and Village soils, 9 - 14% slope.

**Woodland description:** *Type 013 , Dbh 6 , BA 140 , 0 bf/Ac, Active management: even aged*

Another small block of white pine planted in the 70's. There are a few walnuts mixed into this planting which were released in 2003. This stand could be thinned in the next rotation.

**Management recommendations:** Forest Stand improvement, 2013.

### **Stand 22, 26, 27, 28, 35, 38 :**

**Site description:** Sites comprising 75.7 acres, all upland slopes with LaCrescent soils, 35 - 70% slope.

**Woodland description:** *Type 062, 063, 045 , Dbh 10 - 18 , BA 80 - 120 , 5200 - 11280 bf/Ac, Limited management: salvage only*

All steep rocky slopes with various mixtures of black, red, white, and bur oak, with walnut, red cedar, elm, and other species. All stands are too steep to be worked with and are in limited management.

**Management recommendations:** None.

### **Stand 23:**

**Site description:** 2.4 acres upland site with Paint Creek and LaCrescent soils 14 - 35% slope.

**Woodland description:** *Type 045 , Dbh 10 , BA 100 , 0 bf/Ac, Active management: even aged*

No Woodland description available, but this is typed as a red cedar stand, probably very dry with shallow rocky soils. Need stand inventory.

**Management recommendations:** Stand inventory, 2013.

### **Stand 24:**

**Site description:** 2.7 acres lower slope with Bertrand soils 5 - 9% slope.

**Woodland description:** *Type 063 , Dbh 1 , BA 0 , 0 bf/Ac, Active management: even aged*

2/23/01

Stand location by GPS.

This was a stand of mixed oak-hickory timber which was harvested in the late summer of 1994 by Webster Industries. The original timber volume sold from this stand was 17,340 bf in 142 trees, an average of 122 bf/tree. Mean diameter 17.5"; 21% RO, 24% WO, 19% bur oak, 26% black oak, 10% others (by numbers of trees marked). This was not a particularly good stand of trees which probably had a history of grazing. The objective for the stand was to regenerate with a higher percentage of quality red and white oak. East facing slope with some deep cuts, fairly sandy Bertrand soils on 5 - 9% slopes. This area was scraped off to pile logging debris and planted in the flatter areas with red and white oak on 10 x 10 spacing in spring of 1995.

2/01 recon of the area indicates that stump sprouting has occurred on many of the harvested oaks and that some seedlings appear to be doing well despite lack of weeding or release. Some release work could be done as there is a lot of prickly ash and other encroaching species present. Speculation is that there will be a substantial oak component in the future stand.

10/02

recon....no work has yet been done on this stand. There are a number of good growing seedlings in this stand which need release and sprouts need thinning at this time. Many of the planted seedlings are still being browsed by deer, especially in the more open areas.

2/03

This stand was TSI'ed. There are some decent oak and walnut in places but the stocking could be better. It is thick in some areas and nonexistent in others. Quite a few stump sprouts and a lot of cherry. Boxelder and elm will definitely be a problem in future operations.

**Management recommendations:** Forest stand improvement, 2013.

### **Stand 25:**

**Site description:** 5.4 acres upland site with Fayette and Village soils 9 - 25% slope.

**Woodland description:** *Type 062 , Dbh 16 , BA 100 , 6700 bf/Ac, Active management: even aged*

No Woodland description available. This is a small sawtimber white oak stand with good stocking level and should be evaluated for regeneration harvest and overall stand health in next rotation.

**Management recommendations:** Recon for regeneration harvest, 2013.

### **Stand 29, 31:**

**Site description:** sites comprising 14.3 acres, bottomland, Eitzen soils, 0 - 2% slope.

**Woodland description:** *Type 083, 110 , Dbh 14 - 30 , BA 30 , 4140 bf/Ac, Limited management:*

This is a bottomland site which should be classified as riparian. Paint creek meanders through this area several times and tree cover is sparse but includes large diameter cottonwood, occasional soft maple, and boxelder. An attempt could be made to introduce some mast producing species into this zone on small areas with good weed control. Species to consider include swamp white oak, pin oak, hickory.

**Management recommendations:** None.

### **Stand 30:**

**Site description:** 10.1 acres bottomland site with Orion and Medary soils 0 - 9% slope.

**Woodland description:** *Type 088 , Dbh 14 , BA 100 , 9000 bf/Ac, Active management: even aged*  
2/23/01

This is a bottomland stand which was cleared and planted in 1975. (Part of this was a crop field.) McSweeney's notes indicate that it was planted to cottonwood, silver maple, white pine, walnut, with some shrubs. After 25 years, much of the planting toward the old railroad ROW has failed. Pines were planted adjacent to the ROW and only succeeded in a few spots. The quality of trees gets better as you move east in the stand. At this time, there are a lot of 20+" cottonwoods which should be harvested to stimulate growth on the silver maple. Soil map indicates that there is some Orion soil here which might be why some of the planting failed as Orion soils are poorly drained. Boxelder encroachment is pretty bad in places and should be eliminated.

11/22/02

About 5000 bf of cottonwood was harvested from this stand in February '02 to be used for a bluebird house project for the Audubon Society. Trees ranged from 16" to 28" dbh.

**Management recommendations:** Recon for regeneration harvest, 2013.

### **Stand 32:**



**Site description:** 1.4 acres upland site with Fayette soils 9 - 14% slope.

**Woodland description:** *Type 081 , Dbh 14 , BA 80 , 7200 bf/Ac, Active management: even aged*  
No Woodland description available. Stand inventory is needed here.

**Management recommendations:** Stand inventory, 2013.

### **Stand 33:**

**Site description:** 6.8 acres upland site with Fayette and paint Creek soils, 9 - 18% slope.

**Woodland description:** *Type 110 , Dbh 14 , BA 90 , 5850 bf/Ac, Active management: even aged*  
5/17/02

Predominantly walnut stand, with trees from 6 to 28" dbh, some good quality. Walnuts are mixed with aspen, elm, and basswood. "B" slope. Some of the larger walnut could be harvested to make room for better quality, younger trees.

1/15/03

about 5 acres of this stand was crop tree released to increase growth on the walnuts. We removed about 2000 bf, mostly aspen, basswood, and a couple of walnuts, one large one on the edge.

**Management recommendations:** Forest stand improvement, 2023.

### **Stand 36:**

**Site description:** 6.2 acres lower slope and bench with Bertrand soils 5 - 9% slope.

**Woodland description:** *Type 060 , Dbh 16 , BA 90 , 6030 bf/Ac, Active management: even aged*

Mature black oak mixed with bur oak, a few red oak, cedar, basswood, maple, hickory, and aspen. An interesting mix. A few damaged trees should be salvaged from this stand. Looks like it was grazed as there is a lot of prickly ash and gooseberry in the understory, and the larger trees are spaced far apart. Basal area increases as you move up slope and there are pockets of pole sized trees that contain little oak. No evidence of harvest in this stand.

**Management recommendations:** Recon for regeneration harvest, 2013.

### **Stand 37:**

**Site description:** 4.3 acres, upland site with Paint Creek soils, 9 - 14% slope.

**Woodland description:** *Type 064 , Dbh 12 , BA 120 , 10080 bf/Ac, Active management: even aged*

10/3/2002

Young field edge stand of white oak mixed with black oak and aspen which is in the small sawtimber class. This could be a very nice white oak stand with some commercial thinning to remove the aspen and black oak which are just about the right size at present. Some rough white and black oaks on the edge of this stand could be salvaged in the same operation.

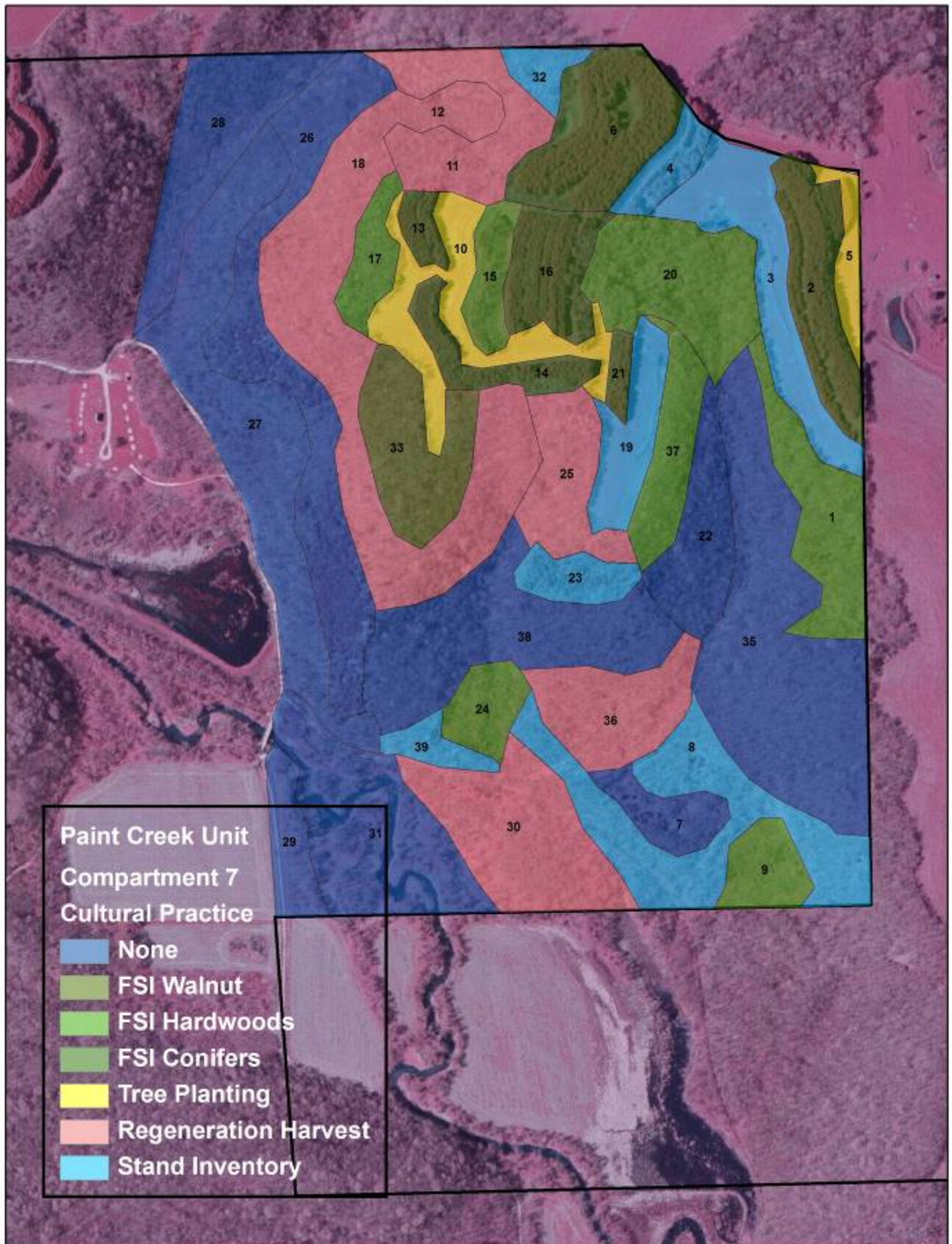
**Management recommendations:** Forest stand improvement, 2013.

### **Stand 39:**

**Site description:** 1.5 acres, upland site with Bertrand soils, 5 – 9% slope.

**Woodland description:** *Type 062 , Dbh 16 , BA 100 , 6700 bf/Ac, Active management: even aged*  
No Woodland description available. Needs further reconnaissance.

**Management recommendations:** Stand inventory, 2013.



## **FY 2013:**

Paint Creek Unit, Compartment 8:

### **Stand 17, 23, 24, 41:**

**Site description:** Sites comprising 48 acres, all bottomland sites with Arenzvil-volney and Eitzen soils with 0 - 2% slope.

**Woodland description:** *Type 080, 087 , Dbh 12 - 16 , BA 50 - 100 , 3050 - 6100 bf/Ac, Limited management*  
:

3:49 PM 2/13/2008

Bottomland sites along Paint Creek. These sites are in the limited mgt zone due to being in a riparian area. The stand is mostly cottonwood and elm, with some large specimens up to 23". The elms are in various stages of development, some are dying off. There is much honeysuckle in the understory of some of these stands, as well as serious encroachment of Japanese knotweed. These invasives have been worked on some, but are still problematic. There are several walnuts in these stands, some are not bad quality.

**Management recommendations:** Eliminate invasives, Forest stand improvement for walnut, 2013.

### **Stand 3, 4, 7, 18, 26, 32, 44:**

**Site description:** Sites comprising 93.4 acres, all upland sites with primarily LaCrescent soils on 35 - 70% slopes.

**Woodland description:** *Type 063, 079 , Dbh 14 - 18 , BA 65 - 110 , 4550 - 10340 bf/Ac, Limited management: salvage only*

These stands all on steep rocky slopes in the limited management zone. Many of these stands have large declining red oak and are succeeding to maple. In some places where blow down has occurred, there are some aspen. Lots of elm, ash, maple and bitternut hickory in these understories, as well as ironwood and muscle wood. These stands will all succeed to maple-basswood as no management is anticipated here.

**Management recommendations:** None

### **Stand 21, 31, 35, 37:**

**Site description:** 23.3 acres, various soil types and slopes.

**Woodland description:** *Type 002 and 008 , Dbh 0 , BA 0 , 0 bf/Ac, Non-forest:*

All non-forest areas including Big Paint Campground, Walnut Wayside picnic area, and a highway and power line right of way. No forest management is foreseen for these areas.

**Management recommendations:** None

### **Stand 1:**

**Site description:** 7.6 acres, upland site with Village and LaCrescent soils 18 - 25% slopes.

**Woodland description:** *Type 013 , Dbh 12 , BA 170 , 16830 bf/Ac, Active management: even aged*

This is a pretty good stand of white pine estimated planting date of 1959. Site index is good, around 80. Not much info available on this, but notes indicate it was thinned and pruned in 1978 & 79. No notes on BA or stocking at the time. Also, the 1959 planting date is related to a USFS study on white pine plantings, but there are no details on this study that I can find.

In 2000, we are row thinning this stand, every third row. Initial BA averages 200 and expect to end up around 140 - 150. There is a lot of mortality in the stand, much of which is probably natural thinning/lack of sufficient sunlight, but there is also some blister rust which is taking a few. Seems to be quite a bit of maple and ash in the understory which I am sure will respond to the thinning, but I doubt it will be serious competition for the pines which are now over 90 ft tall.

**Management recommendations:** Thin to recommended BA for white pine, 2013.

## **Stand 2:**

**Site description:** 7.7 acres, valley bottom site with Paint Creek and LaCrescent soils, relatively flat.

**Woodland description:** *Type 110 , Dbh 14 , BA 50 , 3250 bf/Ac, Active management: uneven aged*

A long narrow ravine area with mostly walnuts and elm. Many elms have died out in this valley leaving the BA somewhat low. There are a few decent walnut here, mostly toward the north end of the valley towards the visitor center. This is a pretty large drainage, so water problems can be troublesome, and it looks like the water channel has changed many times and uprooted a lot of trees over the years.

**Management recommendations:** Monitor walnut, FSI, 2013.

## **Stand 5:**

**Site description:** 8.3 acres, upland site with Fayette, Village, Paint Creek, and LaCrescent soils, 9 - 35% slope.

**Woodland description:** *Type 063 , Dbh 8 , BA 100 , 0 bf/Ac, Active management: even aged*

3:49 PM 2/13/2008

Nice pole stand which was worked on around 2000 to release young red oaks. Today is a nice mix of red oak, hickory,, maple, and aspen. There are several larger trees scattered around which are remnants of a previous stand. This may have been fairly open pasture at one time. Could use some crop tree release or thinning. Larger trees could be salvaged if damage to residuals could be kept minimal.

**Management recommendations:** Forest stand improvement, 2013.

## **Stand 6:**

**Site description:** 3.2 acres, upland site with Fayette and Village soils, 18 - 25% slope.

**Woodland description:** *Type 063 , Dbh 4 , BA 90 , 0 bf/Ac, Active management: even aged*

3:49 PM 2/13/2008

Clearcut which was done around 1983 or 84. This was a very early clearcut in which they planted red and white oak and walnut. Some early release was done, and some more around 2004. Today there is a fair amount of decent red oak and walnut which could use a crop tree release job. A few butternuts occur in the stand, as well as a large aspen pocket in the lower end. Other trees include a large component of cherry and bitternut hickory. A few white oaks are still hanging on, but in a subordinate position.

**Management recommendations:** FSI, 2013.

### **Stand 7:**

**Site description:** 7.1 acres, upland site with Fayette, Village, and Paint Creek soils 9 - 30% slope.

**Woodland description:** *Type 093 , Dbh 18 , BA 60 , 4200 bf/Ac, Active management: even aged*

2:05 PM 12/18/2002 Stewart Farnum

RO, WO, and maple on a steep north facing slope. This stuff is rapidly declining with oak wilt and blow down/breakage. There are significant amounts of muscledwood and bitternut hickory in the understory, but enough maple to succeed the oaks which are declining. Should be looked at for regen harvest in 2013.

**Management recommendations:** Regeneration harvest, 2013.

### **Stand 8:**

**Site description:** 3.4 acres, upland site with Fayette soils 5 - 14% slope.

**Woodland description:** *Type 010 , Dbh 16 , BA 150 , 16950 bf/Ac, Active management: even aged*

2:05 PM 12/18/2002 Stewart Farnum

White pine plantation that has done well over the years. Ash and basswood understory and other stuff encroaching into the formerly mown edges of the stand. This stand could be commercially thinned as there are some sawlogs here that could be removed.

**Management recommendations:** Forest Stand improvement for conifers, 2013.

### **Stand 9:**

**Site description:** 24.0 acres upland site with Fayette and Village soils, 5 - 18% slope.

**Woodland description:** *Type 063 , Dbh 18 , BA 80 , 7520 bf/Ac, Active management: even aged*

2:05 PM 12/18/2002 Stewart Farnum

Upland mixed hardwoods dominated by red and white oak. some decent trees here, also some oak wilt in this stand. This should probably be looked at for a regen cut in the next cycle. Quite a bit of aspen scattered through this, and enough maple that if not clearcut, will succeed into maple basswood.

**Management recommendations:** Reeneration harvest, 2013.

### **Stand 10:**



**Site description:** 15.0 acres upland site with Fayette, Village, and Paint Creek soils 9 - 14% slope.

**Woodland description:** *Type 079 , Dbh 18 , BA 70 , 6580 bf/Ac, Active management: even aged*

3:49 PM 2/13/2008

Mature red & white oak, with ash, basswood, and aspen. This is not a very well stocked stand in places, but there are some red oaks up to 30" dbh. Quite a bit of maple in the under story. This stand should probably be cut, as there is some windthrow and damage in the oaks.

**Management recommendations:** Recon for harvest, 2013.

### **Stand 11:**

**Site description:** 8.6 acres, upland site with Fayette, Paint Creek, and LaCrescent soils on 14 - 35% slope.

**Woodland description:** *Type 093 , Dbh 16 , BA 130 , 11960 bf/Ac, Active management: uneven aged*

2:05 PM 12/18/2002 Stewart Farnum

Maple basswood timber with a few oaks still hanging on. Aspen has developed in places where old oaks have died out, and the aspen is dying in pockets from canker. Maple and elm dominate the understory. There are a few scattered white oaks in the stand. This stand could be managed under uneven aged management as the oaks are pretty much gone and maple-basswood well developed.

**Management recommendations:** Selective harvest, 2023.

### **Stand 12:**

**Site description:** 5.6 acres mid-slope site with LaCrescent and some Arenzvil-volney soils 5 - 35% slope.

**Woodland description:** *Type 093 , Dbh 16 , BA 75 , 6900 bf/Ac, Active management: uneven aged*

2:05 PM 12/18/2002 Stewart Farnum

Maple basswood timber in a draw with north facing aspect. There are a few oaks still left in this stand, but not very high quality. Rock outcroppings towards the top of this stand. An all aged stand developing here.

**Management recommendations:** Selective harvest 2023.

### **Stand 13:**

**Site description:** 6.7 acres upland site with Fayette and Village soils 9 - 25% slope.

**Woodland description:** *Type 063 , Dbh 4 , BA 60 , 0 bf/Ac, Active management: even aged*

3:49 PM 2/13/2008

This is a 1995 clearcut from which 65 mbf was removed. Webster Lumber bought this sale along with 2 smaller cutting areas in compartment 7. About 2/3 of the volume here was in red and white oak, with about 20mbf of maple and basswood, which indicates that the stand was already succeeding to maple basswood from an oak stand. The site was planted with

red and white oak and walnut, but the planting was not very successful. There are some oaks on the site, but competition from more shade tolerant species is intense. There is also a fair amount of aspen in the northwest corner of the stand. A thorough TSI job should be conducted here as soon as possible.

**Management recommendations:** Forest stand improvement, 2013.

### **Stand 14:**

**Site description:** 36.5 acres upland site with Fayette and Village soils, 9 - 35% slope.

**Woodland description:** *Type 063 , Dbh 18 , BA 130 , 12220 bf/Ac, Active management: even aged*  
2:05 PM 12/18/2002 Stewart Farnum

Typical YRSF upland oak stand with a little bit of everything. Some of the larger RO is dropping out giving way to pockets of aspen. Maple, bitternut hickory, ash understory might be a regen problem here, but this stand should be looked at for a harvest in the next cutting cycle.

**Management recommendations:** Regeneration harvest, 2013.

### **Stand 15:**

**Site description:** 17.2 acres upland site with Fayette soils and 9 - 14% slope.

**Woodland description:** *Type 019 , Dbh 16 , BA 200 , 22600 bf/Ac, Active management: even aged*  
3:49 PM 2/13/2008

Mixed Conifers including larch, scotch pine, white pine, and Norway spruce. Many of the trees planted here were part of various research projects, including the Larch needle cast study which was funded through the forest service by the national paper institute. There should be some info on this in the hard files. Many of these trees are in need of thinning and some are in a state of senescence from neglect.

**Management recommendations:** Forest stand improvement for conifers, 2013.

### **Stand 16:**

**Site description:** 9.1 acres upland site with Fayette, Village, and LaCrescent soils 9 - 35% slope.

**Woodland description:** *Type 063 , Dbh 4 , BA 130 , 0 bf/Ac, Active management: even aged*

2:05 PM 12/18/2002 Stewart Farnum

A 1993 clearcut area which was replanted with red and white oak and walnut. The oak regen did not do that well, especially on the old Weggman farm portion to the east because of the maple and basswood poles in the previous stand. There is still a decent oak component that needs to be released here. this stand should be scheduled for TSI ASAP. Sumac here is getting out of hand.

**Management recommendations:** Forest stand improvement, 2013.

### **Stand 19:**

**Site description:** 4.7 acres creek bottom area with Huntsville soils 0 - 2% slope.

**Woodland description:** *Type 080 , Dbh 12 , BA 50 , 1800 bf/Ac, Active management: even aged*

11:13 AM 2/14/2008

Primarily elm and cottonwood, with maple and ash poles. Not a good quality stand of trees. maple, gooseberry, and honeysuckle in the understory. The site is kind of boggy in some places, and is adjacent to Big Paint Campground

**Management recommendations:** FSI, 2023.

### **Stand 20:**

**Site description:** 14.5 acres bench area with Bertrand, Huntsville, and Arenzvil-volney soils 0 - 9% slope.

**Woodland description:** *Type 013 , Dbh 16 , BA 160 , 21920 bf/Ac, Active management: even aged*

3:49 PM 2/13/2008

Planted white pine on a bench area above the Paint Creek bottoms. These pines have done fairly well despite having been neglected for many years and planted on a site with somewhat poorly drained soils for pine. A thinning was done here in the mid to late 90's to remove the defective and very small diameter trees. These were sold for

pulp. Not enough trees were removed, however, and today the pulp market is such that buyers will not come this far for white pine. Now the BA is up to 160 again and the stand is in serious need of thinning. There is quite a lot of honeysuckle in the understory, as well as some recruitment of ash and elm. Since this stand is adjacent to a campground, it should be maintained as long as possible. Plan should be to continue thinning to promote growth and vigor

**Management recommendations:** Thin to recommended BA for white pine, 2013.

### **Stand 25:**

**Site description:** 6.3 acres, bench site with LaCrescent and arenzvil-voley soils, 0 -25% slopes.

**Woodland description:** *Type 093 , Dbh 12 , BA 80 , 0 bf/Ac, Active management: even aged*

No description available, but this is a mix of ash, elm, walnut, hard maple on a bench area above Paint Creek.

**Management recommendations:** Stand inventory, 2013.

### **Stand 27:**

**Site description:** 8.6 acres upland site with Village and LaCrescent soils on 14 - 35% slope.

**Woodland description:** *Type 089 , Dbh 16 , BA 120 , 8040 bf/Ac, Active management: even aged*

7:23 AM 3/3/2008 Stewart Farnum

Walnuts with white oak and maple. Walnuts are average quality, some pretty crappy. Looks like some red oaks were harvested on the edge towards the larger timber. Maple/basswood understory.

**Management recommendations:** Forest stand improvement, 2023.

### **Stand 28:**

**Site description:** 12.4 acres, upland site with LaCrescent soils and 25 - 35% slopes.

**Woodland description:** *Type 079 , Dbh 18 , BA 150 , 10500 bf/Ac, Active management: even aged*

7:23 AM 3/3/2008 Stewart Farnum

Not a very good description on this timber, but looks like high BA and a good mix of oak, maple, and walnut. This stand is adjacent to the county road. Need better inventory data on this.

**Management recommendations:** Stand inventory, 2013.

### **Stand 30:**

**Site description:** 11.4 acres upland site with Village and Paint Creek soils 14 - 30% slope.

**Woodland description:** *Type 063 , Dbh 18 , BA 150 , 14100 bf/Ac, Active management: even aged*

7:23 AM 3/3/2008 Stewart Farnum

Good site and a pretty nice stand of trees. A mix of red & white oak, with maple and some good walnut...one very nice walnut near northeast corner of this stand. Maple and prickly ash understory. this stand is a possible regen candidate in the next rotation.

**Management recommendations:** Regeneration harvest, 2013.

### **Stand 33:**

**Site description:** 27.9 acres upland site with Village, Paint Creek, and LaCrescent soils 9 - 35% slope.

**Woodland description:** *Type 079 , Dbh 18 , BA 90 , 8460 bf/Ac, Active management: uneven aged*

2:05 PM 12/18/2002

This is a stand of trees combined of 3 different stands including mature sawtimber on a ridge, a slope, and a cut over stand which occurs on a new acquisition of the old Lee Wilkins Farm. The stand is a mix of aspen, maple, and red & white oak on A & B slopes. 42,920 bf of stumpage was marked using a group selection of 3 small groups of risk trees and scattered low quality trees throughout the 17 acres. The species breakdown was 14mbf red & white oak, 10mbf hard maple, 10mbf aspen with lesser volumes of basswood, elm, cherry, hickory, ash. The sale went to Grau Logs & Lumber out of Elkader.

A lot of the aspen was removed from the stand to release other species. There is a good maple understory in much of the stand, and there will be some good quality oaks remaining on the site. Oak seedlings will be planted into the group openings after they are cut. None of the openings is over 1 acre in size.

**Management recommendations:** Regeneration harvest, 2023.

### **Stand 38:**

**Site description:** 5.5 acres upland site with Fayette and Village soils 9 - 25% slope.

**Woodland description:** *Type 089 , Dbh 16 , BA 80 , 5360 bf/Ac, Active management: uneven aged*  
3:49 PM 2/13/2008

This is a stand which has all but converted from an over mature oak and maple stand to an all aged condition. Just about everything is represented here, including ash, maple, basswood, walnut, as well as a few remnant red and white oaks. Could consider a selective harvest here to clean it up and select a good mix of species.

**Management recommendations:** Selective regen. harvest, 2013.

### **Stand 39:**

**Site description:** 3.5 acres upland site with Fayette soils 9 - 14% slope.

**Woodland description:** *Type 058 , Dbh 12 , BA 80 , 4880 bf/Ac, Active management: even aged*  
2:05 PM 12/18/2002

This is a nice transitional stand of trees which is a combination of volunteer pine, apple and plum, aspen, and young oak. Much of this stuff just volunteered into a grassy area which was being mowed up till around 1990. The timber edge to the east was a mix of aspen and young oak. Some of the aspen was removed around 2000 to encourage the oak and allow the volunteer stuff to develop. Now it is a nice mix of fruit trees, white pine, and red & white oak with a few elm and maple.

**Management recommendations:** Forest stand improvement, 2013.

### **Stand 40:**

**Site description:** 1.8 acres upland site with LaCrescent soils 25 - 35% slope.

**Woodland description:** *Type 101 , Dbh 6 , BA 70 , 0 bf/Ac, Active management: even aged*  
3:49 PM 2/13/2008

A toe slope which was formerly open, now has a lot of aspen with pole sized maple and some oak. Some potential here although not a very big site.

**Management recommendations:** Forest stand improvement, 2013.

### **Stand 42:**

**Site description:** 1.4 acres, upland site with Fayette soils 9 - 14% slope.

**Woodland description:** *Type 063 , Dbh 0 , BA 0 , 0 bf/Ac, Active management: even aged*

2:05 PM 12/18/2002 Stewart Farnum

A small clearcut which was actually started back in the 80's and extended in 2000. The clearcut was done by the sawmill crew and followed up by scarifying and felling everything over 4'tall, then planted to red oak and white oak in the spring. This small area needs TSI.

**Management recommendations:** Forest stand improvement, 2013.

### **Stand 43:**

**Site description:** 5.2 acres upland site with Fayette soils 5 - 14% slope.

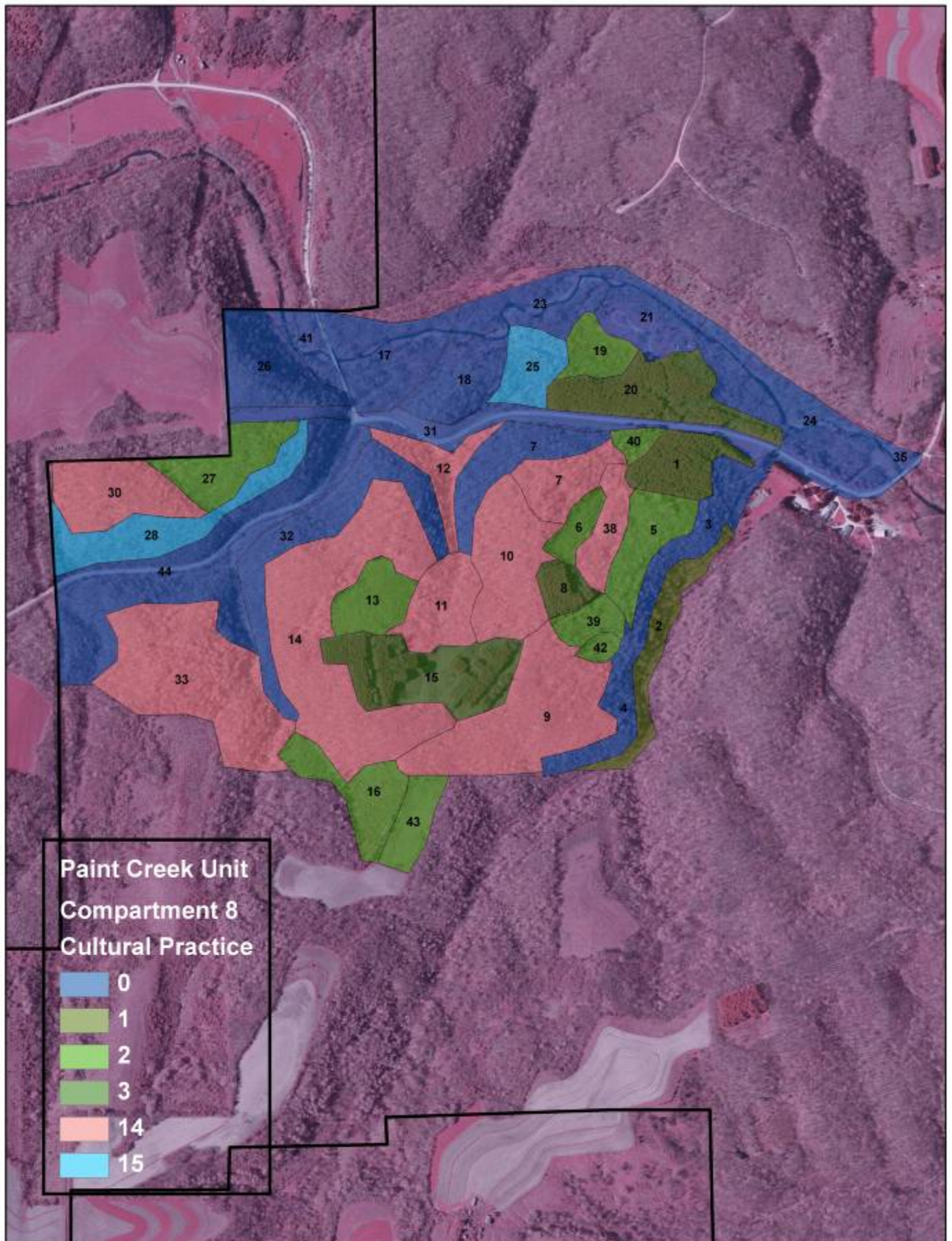
**Woodland description:** *Type 063 , Dbh 4 , BA 40 , 0 bf/Ac, Active management: even aged*

2:05 PM 12/18/2002 Stewart Farnum

A mixed oak planting done around 1992 on a crop field which was in grass at the time DNR bought this property...the former Weggman farm. This lower part of the field was planted to red & white & bur oak with hybrid poplar to fill in. Close to the timber edge, tree growth and survival was great, but the west edge took much longer to develop. The site prep here was roundup and we mulched each seedling with a 5 gallon bucket of sawdust. Survival was good, and today it is a nice mixture of trees that are developing well. Could use TSI and the trail going through it needs to be opened up.

**Management recommendations:** Forest stand improvement, 2013.





**FY 2014:**

Paint Creek Unit, Compartment 11:

**Stand 3, 9, 32, 33, 34, 35:**

**Site description:** Sites comprising 80.6 acres, all upland sites and side hills, Village, Paint Creek, and LaCrescent soils on slopes up to 70%.

**Woodland description:** *Type 063, 079, 089 , Dbh 14 - 20 , BA 70-100 , 4550-9800 bf/Ac,*

**Limited management:** *salvage only*

These 6 stands all classified as limited management due to slope restrictions. Stand 3 is a prominent terrain feature because it is a "knob" that stands alone, unlike the common long ridges that characterize YRSF. There are some native white pines on the north facing slope of this stand, as well as occurrence of T & E species. All stands have slopes over 35% with mostly LaCrescent soils which are rocky and difficult to work.

**Management recommendations:** None.

**Stand 4:**

**Site description:** 30.9 acres creek bottom site with Arenzvil-volney soils 0 - 2% slope.

**Woodland description:** *Type 080 , Dbh 6 , BA 50 , 0 bf/Ac, Limited management:*

Bottomland hardwoods with elm, boxelder, cottonwood and an occasional walnut. This stand is in a limited management area because of the meandering Paint Creek which flows through it. Some elimination of weed trees such as boxelder may be made here, as well as elimination of Japanese knotweed, but no other forest management is planned.

**Management recommendations:** No forest management, eliminate invasives.

**Stand 2, 6, 10, 14:**

**Site description:** Site comprising 61.7 acres, all bottomland sites and benches with typical bottomland soils: Eitzen, Bertrand, Zwingle, Medary; some poorly drained on flat or gently sloping ground.

**Woodland description:** *Type 001, 002 , Dbh 0 , BA 0 , 0 bf/Ac, Non-forest:*

One ag field of 16 acres in this group, the rest are grassy areas with some woody encroachment.

**Management recommendations:** None.

**Stand 1:**

**Site description:** 8.7 acres bench area above Paint Creek with Orion, Eitzen, and Medary soils 0 - 35% slopes.

**Woodland description:** *Type 088 , Dbh 16 , BA 85 , 5695 bf/Ac, Active management: even aged*

No comment file available on this. Mostly a bottomland hardwood stand with soft maple, elm, basswood and a mixture of other species. The poorly drained Orion soils in part of this stand probably will prohibit the establishment of upland hardwoods here.

**Management recommendations:** Forest stand improvement, 2024.

### **Stand 5:**

**Site description:** 4.5 acres, bottomland site with Eitzen soils, 0 - 2% slope.

**Woodland description:** *Type 110 , Dbh 6 , BA 70 , 0 bf/Ac, Active management: even aged*

This is a walnut plantation which was initially established back in the 70's. There were 2 things going on here: one was a walnut progeny test which was being conducted through the state nursery. Seed was collected from many superior trees across the state and planted here to track the trees with fastest growth and best form. Also, there were some of the famous Purdue line of walnuts planted here. In the late 70's, these trees started to decline, maybe because of a wet year, some type of canker, Bulls eye leaf spot was suspected but I don't think this was ever proven. many of the trees died back and resprouted leaving them with poor form and they were cut off and allowed to sprout from the root systems. About 20 years later, these trees died back again for some unknown reason, I suspect it has more to do with the site than anything else, although these soils are reputedly well drained, and prone to brief periods of flooding. Some of the old walnut planting was bulldozed out and put back into crop in the late 90's....this is what is left of that stand. Could be some TSI opportunities here.

**Management recommendations:** Forest stand improvement for walnut, 2014.

### **Stand 7:**

**Site description:** 7.2 acres, mid-slope site with Zwingli and Bertrand soils 1 - 14% slopes.

**Woodland description:** *Type 019 , Dbh 8 , BA 150 , 0 bf/Ac, Active management: even aged*

Mixed conifer stand including red and white pine with some spruce. There is no comment file on this stand and more information is needed. BA indicates this probably needs a thinning.

**Management recommendations:** Stand inventory, 2014.

### **Stand 8:**

**Site description:** 17.5 acres upland site with Yellow River and Medary soils 9 - 35% slopes.

**Woodland description:** *Type 089 , Dbh 16 , BA 90 , 6030 bf/Ac, Active management: even aged*

Upland hardwood stand with walnut. No further description. Need stand inventory.

**Management recommendations:** Stand inventory, 2014.

### **Stand 11:**

**Site description:** 2.3 acres bench site with Spillville soils, 0 -2% slope.

**Woodland description:** *Type 013 , Dbh 9 , BA 100 , 0 bf/Ac, Active management: even aged*

No comment file. This is a small stand of white pine which is planted on a soil which is not conducive to pine growth. There is a walnut planting next to this stand and the walnuts are having an effect on the growth and survival of the pines. This stand needs inventory.

**Management recommendations:** Stand inventory, 2014.

### **Stand 12:**

**Site description:** 6.3 acres floodplain site with Spillville and Eitzen soils, 0 - 5% slope.

**Woodland description:** *Type 110 , Dbh 10 , BA 50 , 0 bf/Ac, Active management: even aged*

No comment file, need stand inventory. This is a walnut plantation probably established in the 70's. There is some decent growth on some of these trees towards the west end of the stand, but this soil is not really very conducive to walnut growth. Soils are prairie type soils and subject to infrequent flooding. The Spillville soils sometimes have a saturated layer about a foot below the surface which is not good for walnut.

**Management recommendations:** Stand inventory, Forest stand improvement, 2014.

### **Stand 13:**

**Site description:** 7.7 acres upland site with Village, Paint Creek, and LaCrescent soils 9 - 35% slopes.

**Woodland description:** *Type 063 , Dbh 20 , BA 100 , 9800 bf/Ac, Active management: even aged*

The data suggests this is a well stocked stand of oak-hickory which is mature and should be regenerated, but there is no comment file on this stand. Inventory is recommended, and possible regeneration harvest.

**Management recommendations:** Stand inventory, regeneration harvest, 2014.

### **Stand 15:**

**Site description:** 2.8 acres upland site with Fayette and Village soils, 9 - 18% slope.

**Woodland description:** *Type 063 , Dbh 0 , BA 0 , 0 bf/Ac, Active management: even aged*

A former crop field which was terraced to prevent erosion many years ago. I suspect this was used as part of the crop lease program in the past, and was in brome grass for many years. 11/20/02

This open grass field was sprayed with 1.5% glyphosate followed by plowing and disking in preparation for a direct seeding of red and white oak, and walnut in fall of 2000. A good crop of seedlings started in the growing season of 2001, but weed pressure became intense toward the end of the growing season. Early bud break in spring 2002 prevented herbicide treatment and the site was mowed in late summer exposing the remaining oak and walnut. Main weed problem was goldenrod and grass encroachment. November of 2002 the following herbicides were applied:  
1/2 ounce Oust, 2 qt Simazine, 2 qt Stomp (Prowl)....per acre.

Note: mowing seems to be a good rescue treatment during year 2 on direct seeding if it is timed correctly. Many of the oaks

showed late season growth after this was mowed in mid August.

**Management recommendations:** Forest stand improvement, weed and crop tree release, 2014.

### **Stand 16:**

**Site description:** 5.1 acres bench site with Bertrand, Bertrand-Chelsea, and Zwingle soils 1 - 35% slopes.

**Woodland description:** *Type 007 , Dbh 1 , BA 0 , 0 bf/Ac, Active management: even aged*

Transitional woody vegetation growing into former pastured land. No comment file on this. Might be a good candidate for some tree planting if the Zwingle soil is avoided. Suggest we inventory this for mast producing volunteers and supplement if necessary.

**Management recommendations:** Forest Stand improvement....weeding, 2014.

### **Stand 17:**

**Site description:** 1.6 acres upland site with Village and Paint Creek soils 9 - 30% slope.

**Woodland description:** *Type 063 , Dbh 2 , BA 30 , 0 bf/Ac, Active management: even aged*  
01/08/03

This is a small clearcut done in 1985 followed by planting in '85 or '86. At this time, there is a lot of good 2"+ diameter red oak and walnut. These crop trees were released less than 5 years ago and could use a little more help now. This planting was chemically released in '87 after a 1985 planting of red & white oak, walnut, and white ash.

This site was part of a sawmill harvest that included some other stands to the east, total of 23,880 bf in all. In addition, there was a commercial harvest of walnut in and near this stand in 1985.

**Management recommendations:** Forest stand improvement, crop tree release, 2014.

### **Stand 18:**

**Site description:** 16.1 acres, upland site with Fayette soils 5 - 18% slope.

**Woodland description:** *Type 005 , Dbh 4 , BA 80 , 0 bf/Ac, Active management: even aged*  
8:17 AM 2/19/2008

This stand contains a lot of different stuff and needs to be remapped. There are walnut plantings, walnut and oak, larch, spruce, and white pine here, plus some open ground which is succeeding into aspen and oak, as well as some ground that need to be planted.

**Management recommendations:** Stand inventory and forest stand improvement, 2014.

### **Stand 19:**

**Site description:** 3.2 acres ridge top site with Fayette soils 5 - 18% slope.

**Woodland description:** *Type 005 , Dbh 0 , BA 0 , 0 bf/Ac, Active management: even aged*  
8:17 AM 2/19/2008

This was a former food plot area which was planted in 2005? A mix of pine and hardwoods including red oak and walnut was planted along with shrubs along the edge of the trail. This planting is one of the attempts to close up the fire tower ridge with forest in order to form a larger contiguous area of forest cover for migratory bird habitat. Weeds are a problem here as well as deer browse.

**Management recommendations:** Seedling release, 2014.

### **Stand 20:**

**Site description:** 2.2 acres ridge top site with Fayette soils 5 - 18% slope.

**Woodland description:** *Type 010 , Dbh 6 , BA 120 , 0 bf/Ac, Active management: even aged*

Small block plantings of red and white pine with hardwood encroachment between. There are also some planted walnuts here next to the woods edge. Need more data on this stand, possible thinning.

**Management recommendations:** Stand inventory, forest stand improvement, 2014.

### **Stand 21:**

**Site description:** 7.5 acres ridge top site with Fayette and Village soils 5 - 18% slopes.

**Woodland description:** *Type 10 , Dbh 6 , BA 120 , 0 bf/Ac, Active management: even aged*

Red and white pine block plantings with encroaching hardwoods on the edges. some of this stuff has been thinned in the past and there may be some information in hard copy available. Stand needs inventory and probably thinning.

**Management recommendations:** Forest stand improvement, 2014.

### **Stand 22:**

**Site description:** 13.6 acres upland site with Bertrand, Bertrand-Chelsea, and Paint Creek soils 14 - 35% slope.

**Woodland description:** *Type 063 , Dbh 14 , BA 70 , 4550 bf/Ac, Active management: even aged*

North facing slope with small sawtimber oak-hickory and maple understory. There are some walnuts scattered throughout this stand. Good candidate for TSI.

**Management recommendations:** Forest stand improvement, 2014.

### **Stand 23:**

**Site description:** 7.0 acres mid-slope site with Lawson, Bertrand-Chelsea and Zwingle soils 0 - 35% slope.



**Woodland description:** *Type 110 , Dbh 9 , BA 50 , 0 bf/Ac, Active management: even aged*

This is typed as a walnut stand, even though the soils are not conducive to walnut growth. The Lawson and the Zwingle are generally poorly drained which walnut does not agree with. This stand should be looked at for TSI in the next rotation. Some walnuts were sold from this stand in the mid-80s, there may be some info on this sale in hard copy files.

**Management recommendations:** Forest stand improvement, 2014.

### **Stand 24:**

**Site description:** 4.5 acres upland site with Fayette, Village, and Paint Creek soils 14 - 30% slope.

**Woodland description:** *Type 079 , Dbh 6 , BA 110 , 0 bf/Ac, Active management: even aged*  
01/09/03

This stand of pole sized trees is left over from a 1985 hardwood/walnut harvest which was apparently almost a clearcut. It is an odd combination of ash, elm, red oak, and walnut. There are a few large trees, notably hickory and white oak which should be removed from the stand to improve the overall character of some pole sized oak and walnut with potential.

**Management recommendations:** Forest stand improvement, 2014.

### **Stand 25:**

**Site description:** 2.7 acres upland site with LaCrescent soils 25 - 35% slope.

**Woodland description:** *Type 064 , Dbh 16 , BA 110 , 7370 bf/Ac, Active management: even aged*  
01/08/03

Small stand of white oak and maple on the edge of the steep north facing slope. There are several white oaks which are sprouting on the edge of the adjacent 1986 clearcut which should be harvested to stimulate growth in the clearcut.

**Management recommendations:** Recon for possible regeneration harvest, 2014.

### **Stand 26:**

**Site description:** 4.7 acres ridge top site with Village, Paint Creek, and LaCrescent soils 9 - 35% slope.

**Woodland description:** *Type 062 , Dbh 12 , BA 90 , 3240 bf/Ac, Active management: even aged*  
01/09/03

This is a 12" stand of bur oak and walnut on a narrow hog's back straddling the equestrian trail. Basswood and red oak make up the rest of the stand and the understory is mostly prickly ash with a small contingent of maple. I suspect there is very little soil here as the trees seem short and suppressed. There is an occasional walnut with

decent form and size. The stand grades into a dry south facing slope with more red oak towards the bottom of the slope.

**Management recommendations:** Forest stand improvement, 2014.

### **Stand 27:**

**Site description:** 2.1 acres upland site with Village soils 9 - 14% slope.

**Woodland description:** *Type 089 , Dbh 16 , BA 110 , 10120 bf/Ac, Active management: even aged*  
01/08/03

A good stand of maple and ash with an occasional low quality red or white oak. This may have been part of an oak wilt harvest in the mid 1980's. The remaining oaks are suppressed and there is little understory. The hard maple is good quality in the small sawtimber class.

**Management recommendations:** Forest stand improvement, 2014.

### **Stand 28:**

**Site description:** 2.1 acres upland site with Fayette soils, 9 - 14% slope.

**Woodland description:** *Type 063 , Dbh 4 , BA 70 , 0 bf/Ac, Active management: even aged*  
01/08/03

This is a combination clearcut/open field area which was planted up in 1985. There was some release work done on red oak and walnuts in this stand in the late 1980's. A very good young stand of red oak and walnut here now which could use some work, especially around the edges.

**Management recommendations:** Forest stand improvement, 2014.

### **Stand 29:**

**Site description:** 11.7 acres upland site with Fayette and Village soils 9 - 18% slope.

**Woodland description:** *Type 089 , Dbh 18 , BA 110 , 7700 bf/Ac, Active management: even aged*  
01/08/03

Mature maple, ash, basswood, elm, with an occasional oak. At least one very nice walnut tree toward the east end of the stand. This stand is mature enough to harvest but not a lot of high quality trees.

**Management recommendations:** Regeneration harvest, 2014.

### **Stand 30:**

**Site description:** 7.6 acres upland site with Village, Fayette, Paint Creek, and LaCrescent soils 15 - 35% slope.

**Woodland description:** *Type 063 , Dbh 18 , BA 90 , 8460 bf/Ac, Active management: even aged*  
01/08/03

Decent red and white oak with maple ash, aspen. Very brushy but no stumps. There are two red oaks over 30" dbh towards the west part of the stand, below the pond.

**Management recommendations:** Regeneration harvest, 2014.

### **Stand 31:**

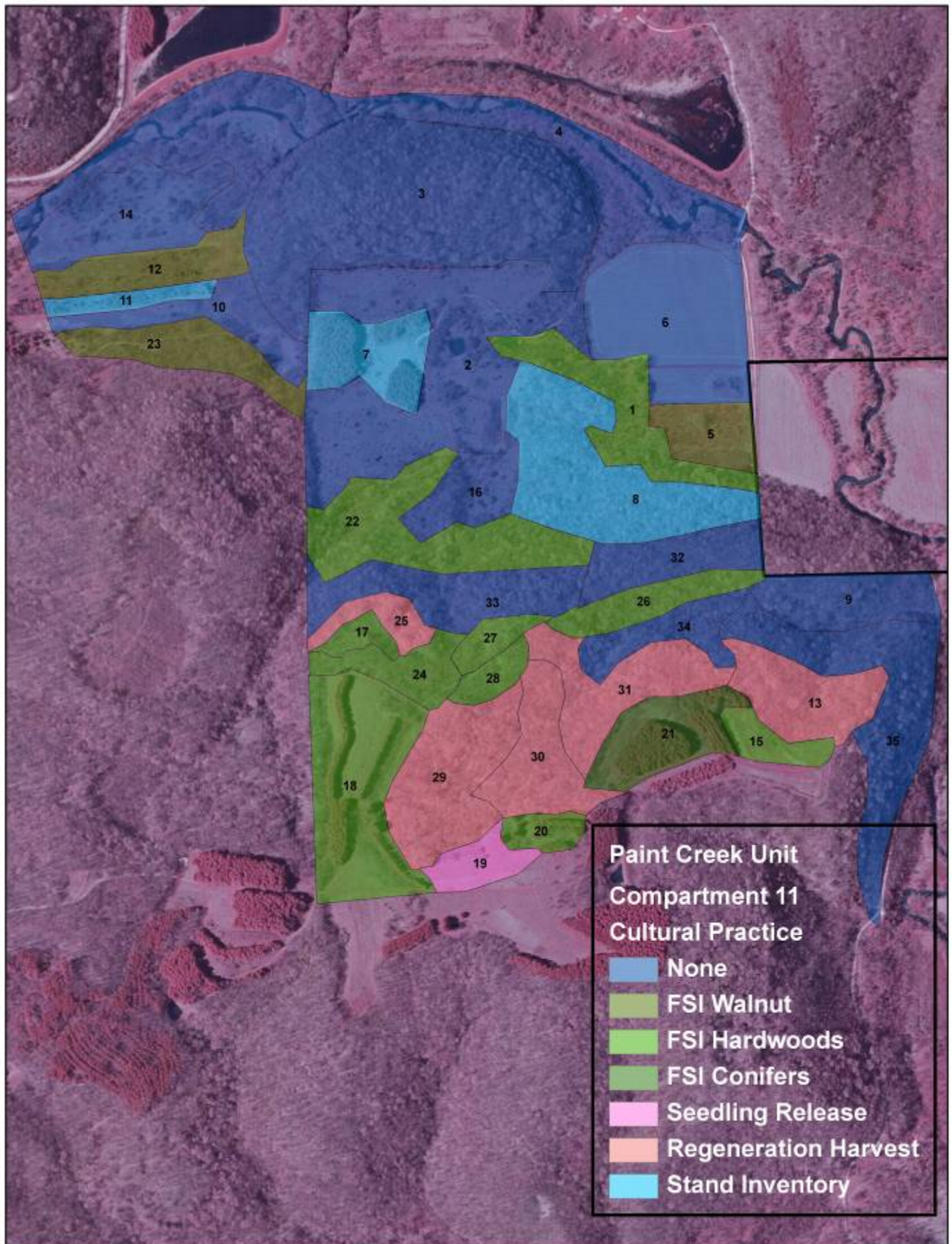
**Site description:** 9.0 acres upland site with Fayette, Village, Paint Creek, and LaCrescent soils 14 - 35% slope.

**Woodland description:** *Type 063 , Dbh 16 , BA 100 , 6700 bf/Ac, Active management: uneven aged*  
01/08/03

This is a stand with an all aged character. Very large red oaks toward the west end of the stand are starting to break up. There are places nearer the field edge where there are oaks and aspen regenerating, and maple/basswood occupy the middle diameter ranges. The south facing slope to the north is predominantly red oak, not real good quality but harvestable.

This looks like a good site and could be a good candidate for a group selection harvest area, which removes the declining oaks and other poor quality trees. Oak regeneration could be attempted in the group harvest areas.

**Management recommendations:** Regeneration harvest, selective all aged, 2014.



## **FY 2014:**

Paint Creek Unit, Compartment 12:

### **Stand 4, 6, 9, 17, 28, 32, 33:**

**Site description:** Sites comprising 94.4 acres mostly adjacent to deep drainage ravines with LaCrescent soils on slopes from 35 - 70%. A small area of Arenzvil-volney soils in the Brown's Hollow area.

**Woodland description:** *Type 063, 079, 110 , Dbh 2 - 17 , BA 40 - 130 , 0 - 10230 bf/Ac,*

**Limited management:** *salvage only*

All stands containing oak-hickory and other upland timber except in the low lying riparian area of Brown's Hollow which is primarily walnut and bottomland hardwoods. All area are in limited management due to slope considerations or riparian areas containing running water. No intensive management will occur on these stands.

**Management recommendations:** Salvage only.

### **Stand 1:**

**Site description:** 8.8 acres upland site with Village, Paint Creek, and Nordness soils 9 - 30% slope.

**Woodland description:** *Type 063 , Dbh 16 , BA 90 , 8280 bf/Ac, Active management: even aged*  
01/28/03

This is a stand of mature red & white oak on a gentle south facing slope. Trees towards the upper edge are shorter and smaller, with some average quality walnuts and aspen mixed in. Below are some very nice red and white oak over 24" dbh with some damage. Most of this looks like it is a "B" slope, but on the ground, a lot appears flatter than "B". In any case, this would be a good group selection site unless a clear cut can be made to regenerate oak.

There is one nice 26" walnut on the lower slope.

**Management recommendations:** Regeneration Harvest, 2014.

### **Stand 2:**

**Site description:** 20.8 acres upland site north facing slope with Fayette, Village, and Paint Creek soils on 9 - 30% slope.

**Woodland description:** *Type 063 , Dbh 16 , BA 65 , 5980 bf/Ac, Active management: uneven aged*

02/24/04

This stand was scheduled for a group selection harvest in January '04. Trees were marked in October '03 after a spring reconnaissance by the natural inventory people to check for sensitive ground species. Three one-acre groups were marked in areas of high volume in red oak. Two of these group areas contained oak wilt. A total of 45.8mbf was marked. Trees were harvested in January and the post

harvest treatment was done by sawmill crew to accommodate spring planting of red and white oak with a few walnut. The easternmost group was not clearcut because there were a few sapling sized desirable trees which we thought would be good growing stock in this area. Improvement cutting was lightly done over the rest of the stand by removing broken and poor formed trees in the sawlog sized trees. Overall stand quality should improve over the next cutting cycle of 20 years. The next harvest for this stand should be FY 2024. Database entries reflect these stand changes as of this date.

**Management recommendations:** Stand inventory, seedling release, 2014.

### **Stand 3:**

**Site description:** 3.2 acres, upland site with LaCrescent soils 25 - 35% slope.

**Woodland description:** *Type 110 , Dbh 8 , BA 80 , 0 bf/Ac, Active management: uneven aged*

Walnut site with some very good looking young trees. This stand should be gone through for a crop tree release as soon as possible in the next rotation.

**Management recommendations:** Forest stand improvement, 2014.

### **Stand 5:**

**Site description:** 34.8 acres upland site with Fayette, Dubuque, Nordness, Village, Paint Creek, and lacrescent soils from 9 - 35% slope.

**Woodland description:** *Type 063 , Dbh 16 , BA 95 , 8740 bf/Ac, Active management: even aged*

Large stand of variable sized sawtimber in oak-hickory, with aspen, ash, maple and other upland hardwoods with occasional walnuts. Most of this ground slopes into a southern aspect and has good soil for the most part. There have been some oak wilt pockets here and some salvage has been done over the years, so most of it is not real high volume.

**Management recommendations:** Stand inventory, possible regeneration harvest, 2014.

### **Stand 7:**

**Site description:** 9.9 acres upland site with Dubuque, Nordness, and Yellow River soils 9 - 25% slope.

**Woodland description:** *Type 063 , Dbh 14 , BA 100 , 9000 bf/Ac, Active management: even aged*

No comment file on this stand. Small sawtimber oak-hickory with maple, aspen, basswood, ash, etc. This stand should be looked at for TSI next rotation.

**Management recommendations:** Forest Stand improvement, 2014.

### **Stand 8:**



**Site description:** 2.5 acres upland site with Yellow River soils 18 - 25% slope.

**Woodland description:** *Type 063 , Dbh 6 , BA 85 , 0 bf/Ac, Active management: even aged*  
01/23/03

This was a small stand of mixed hardwoods which was clearcut harvested in 1980 and replanted to oak and walnut in spring of 1981. The site was not scarified which resulted in much competition from shade tolerant species. After 22 years, there is a fair amount of walnut and some red oak towards the upper part of the stand. The remainder is hard maple, ash, basswood, cherry, etc. Some release work was done on this stand in the late 1980's.

Volume harvested here was 11,100 bf. I suspect there was considerable volume loss to oak wilt in the stand before the harvest. Oak wilt continues to be a problem in this area. Logs were used in the YRSF sawmill.

**Management recommendations:** Forest stand improvement, 2014.

### **Stand 10:**

**Site description:** 1.8 acres upland site with Dubuque soils 9 - 14% slope.

**Woodland description:** *Type 063 , Dbh 4 , BA 40 , 0 bf/Ac, Active management: even aged*  
01/23/03

This was a small acreage of red oak which was infected with oak wilt and harvested in 1985. Volume removed was 12000 bf. In addition to the small (1 ac) clearcut, residual trees in the surrounding timber were removed. The harvest area was replanted with red and white oak and walnut. These trees are doing well today, having been released in 1987 and again in the early 90's. The area could use a little more TSI now.

Harvesting the red oaks here seemed to have little effect on the spread of oak wilt in the area. There are dead red oaks all around this original pocket in the mature timber..

**Management recommendations:** Forest stand improvement, 2014.

### **Stand 11:**

**Site description:** 14.5 acres upland site with Dubuque, Nordness, and Yellow River soils 9 - 35% slope.

**Woodland description:** *Type 063 , Dbh 18 , BA 90 , 8460 bf/Ac, Active management: even aged*  
Over mature red and white oak on a gentle south facing slope. This stand has had some incidence of oak wilt and some salvage work has been done here close to the fire tower road. Probably a good candidate for harvest next rotation as a lot of volume is at risk here.

**Management recommendations:** Regeneration harvest, 2014.

## **Stand 12:**

**Site description:** 2.0 acres ridge top site with Fayette soils, 5 - 9% slope.

**Woodland description:** *Type 013 , Dbh 12 , BA 200 , 19800 bf/Ac, Active management: even aged*

White pine planting which is at least 50 years old, there are some pretty good trees here. A few have been lost to blister rust but the stand is still in pretty good shape. High basal area indicates this is in dire need of a thinning as soon as possible.

**Management recommendations:** Forest stand improvement, commercial thinning, 2014.

## **Stand 13:**

**Site description:** 2.3 acres ridge top site with Fayette soils, 5 - 9% slope.

**Woodland description:** *Type 008 , Dbh 0 , BA 0 , bf/Ac, Non-forest:*

Small grassy area which has been converted to a backpack camping area. There are many volunteer walnut trees here which could be encouraged.

**Management recommendations:** None.

## **Stand 14:**

**Site description:** 1.6 acres upland site with Paint Creek and LaCrescent soils, 18 - 35% slope.

**Woodland description:** *Type 063 , Dbh 2 , BA 0 , 0 bf/Ac, Active management: even aged*

Small clearcut area in which some tree planting was done many years ago. An attempt to do some release work was done here in the late 90's. No other info is available on this stand. Need stand inventory.

**Management recommendations:** Stand inventory, 2014.

## **Stand 15:**

**Site description:** 2.1 acres upland site with Village and LaCrescent soils 14 - 35% slope.

**Woodland description:** *Type 101 , Dbh 8 , BA 130 , 0 bf/Ac, Active management: even aged*

02/21/03

Ridge top stand of aspen mixed with cherry, maple, and basswood. This looks like it was a virtual clearcut from the salvage sale in 1971 with no follow-up tree planting. I suspect most of this was aspen due to the amount of aspen there now, and also that there are no old stumps around. There is some good quality cherry in the stand which could be released.

**Management recommendations:** Forest stand improvement, 2014.

## **Stand 16:**

**Site description:** 12.4 acres upland site with Village and LaCrescent soils 14 - 35% slope.

**Woodland description:** *Type 063 , Dbh 15 , BA 130 , 0 bf/Ac, Active management: even aged*

No comment file available. Small sawtimber stand of oak-hickory. No volume is listed for this stand which is large enough to indicate volume. This stand needs inventory.

**Management recommendations:** Stand inventory, 2014.

## **Stand 18:**

**Site description:** 30.2 acres upland site with Fayette, Village, Paint Creek, and LaCrescent soils 5 - 35% slope.

**Woodland description:** *Type 063 , Dbh 16 , BA 95 , 8740 bf/Ac, Active management: uneven aged*

Original stand is a mixed hardwood stand from which 300mbf was "selectively" harvested in 1973. The only records pertaining to this sale indicate that it was a salvage operation following some severe windstorms in the area. In 1997, the stand was carrying an average of 147 square feet of basal area and around 500 trees per acre, the bulk of which were in the upper diameter classes (over 12").

In the initial prism count, the following number of trees by species was tallied:

Red oak	105	45%
White oak	12	5%
Hard maple	66	28%
Aspen	19	8%
Basswood	8	3%
Ash	9	4%
Hickory	9	4%
Others	10	4%

It was decided that we would try to maintain a "q" level of 1.6, which would allow us to harvest some large diameter sawtimber as well as a lot of trees in the 12 - 16" classes. The 12 - 16 inch class was overstocked and included a lot of aspen, which we felt would probably drop out over the next cutting cycle of 15 years. This q level also minimized the number of small diameter trees which needed to be cut.

Note: a spreadsheet showing the breakdown in number of trees and q level basal areas can be found at c:\msoffice\excel\yrfiles\pc12\_aa.xls

Marking was done on a basal area basis and we figured out we needed to mark about 1 out of three trees over 18", and 4 of every 8 small sawtimber trees. A total of 21 mbf was removed over about 14 acres or about 3mbf per acre. Growth rates looked to be about 2" per 15 years so we expect to be able to harvest this volume again in about 15 years. During the marking, an effort was made to select the trees most in danger of succumbing to death or breakage so that the residual stand was better quality than the original, giving us more earning potential per acre.

1997 notes.....This area was marked and logged using our own crew in the winter of '96 -97. Damage to residual trees was minimal, and the overall visual effect of the harvest was minimal.

**Management recommendations:** Selective harvest 2014.

### **Stand 19:**

**Site description:** 11.7 acres upland site with La Crescent soils, 25 - 35% slope.

**Woodland description:** *Type 063 , Dbh 14 , BA 90 , 8100 bf/Ac, Active management: even aged*  
2/20/03

Pretty nice all aged stand of mixed hardwoods resulting from salvage harvest in 1971. A little bit of everything here with good diversity of size and species. Looks like it has a good stand structure. There are red and white oaks here over 20 dbh and only one oak wilt tree was noted.

**Management recommendations:** Forest stand improvement, 2014.

### **Stand 20:**

**Site description:** 3.0 acres upland site with Boone and Yellow River soils 9 - 18% slope.

**Woodland description:** *Type 079 , Dbh 9 , BA 90 , 0 bf/Ac, Active management: even aged*

Oak-elm-ash type with occasional good trees, and lots of aspen in various stages of decline. There is a small opening along the fire tower road which is being colonized by aspen. This stand should be gone through and weeded to promote oak component.

**Management recommendations:** Forest stand improvement, 2014.

### **Stand 21:**

**Site description:** 15.6 acres upland site with Village, Paint Creek, and LaCrescent soils 9 - 35% slope.

**Woodland description:** *Type 063 , Dbh 12 , BA 80 , 6720 bf/Ac, Active management: uneven aged*

Oak hickory stand, small sawtimber size with some good stems. This stand was put into uneven aged mgt because of the moderate slope and northern aspect. There is a lot of maple in the understory here.

**Management recommendations:** Recon for selective harvest, 2014.

### **Stand 22:**

**Site description:** 2.8 acres upland site with Village, Paint Creek and LaCrescent soils 9 - 35% slope.

**Woodland description:** *Type 063 , Dbh 1 , BA 0 , 0 bf/Ac, Active management: even aged*

01/28/03

This is a small clearcut which was completed in 1994/95. There was and active oak wilt pocket in this stand when it was marked and estimate about 15000 bf were removed and sawn at YRSF mill. The site was planted to red and white oak and walnut in spring '95. No follow-up treatment was done in this stand.

In '03 a recon of this site showed that much of the oak regeneration still present was of stump sprout origin. Also, much of the competition to the oak seedlings was aspen, ironwood, elm, and hard maple. A cleaning cut was done in winter '03 to release remaining oaks. The seedlings from the best nursery stock still remain and are competing fairly well. Best survival on seedlings seems to be on skid trails where competition was uprooted. There should be an adequate oak component here in the future stand, however, we will need to follow up on this in about another 10 years.

**Management recommendations:** Forest stand improvement, 2014.

### **Stand 23:**

**Site description:** 4.5 acres upland site with Village and Paint Creek soils 9 - 30% slope.

**Woodland description:** *Type 063 , Dbh 1 , BA 0 , 0 bf/Ac, Active management: even aged*

01/28/03

This stand is almost 100% 2nd growth red oak. There is a serious oak wilt pocket on this knob and many trees have been lost in the last 10 or so years. Basal area is up to 130 in some places. Size of trees seems to decline as you move down slope in either direction. This stand should be harvested soon to salvage the remaining red oak and break up the oak wilt pocket.

Towards the southeast, there are 3 large walnuts, one is 25" dbh walnut with 24 ft veneer. This tree has a couple of broken branches and should probably be taken out in the next walnut sale.

02/17/03

An oak wilt pocket and the surrounding trees were marked and harvested during this month. A total of 81 trees were marked, including 16 dead trees, a total of 9600 bf. The harvest area was measured by GPS to be just over half an acre. This area will be planted with red & white oak in spring.

**Management recommendations:** Forest stand improvement, 2014.

### **Stand 24:**

**Site description:** 1.2 acres upland site with Yellow River soils 14 - 18% slope.

**Woodland description:** *Type 101 , Dbh 16 , BA 130 , 11960 bf/Ac, Active management: even aged*

2/20/03

Small aspen stand on both sides of fire tower road. Could be cut any time and allow aspen to come back.

**Management recommendations:** Regeneration harvest, 2014.

### **Stand 25:**

**Site description:** 6.8 acres upland site with Yellow River and LaCrescent soils 14 - 35% slope.

**Woodland description:** *Type 063 , Dbh 16 , BA 130 , 11960 bf/Ac, Active management: even aged*  
2/20/03

Very nice red oak with aspen pushing up the BA in places. No oak wilt noted in the walk through. This is a harvestable but very healthy looking stand. The diameter and quality drops off a little when you get over to the north facing slope, probably because of soils. There are some prostrate junipers on one rock outcrop. This stand will be good till 2013.

**Management recommendations:** Recon for regeneration harvest, 2014.

### **Stand 27:**

**Site description:** 12.4 acres upland site with LaCrescent soils 25 - 35% slope.

**Woodland description:** *Type 063 , Dbh 17 , BA 110 , 7590 bf/Ac, Active management: uneven aged*  
2/20/03

all aged stand of oak and maple which was cut hard in early 70's. There is some decent small sawtimber maple mixed with large red oak and maple. Also some pockets of small white oak sawtimber. In 1984, a couple of small pockets resembling group selections were cut in this stand, presumably oak wilt mortality. These cut areas were planted and released at least one year and now still have young red oak and walnut persisting. This stand could benefit from another group selection harvest to open up some of these small pockets and allow these young trees to grow. There are also some very old and decadent red oaks and maples which should be harvested during a group selection.

**Management recommendations:** Forest stand improvement....weed group selection cuts, 2014.

### **Stand 29:**

**Site description:** 1.1 acres upland site with Village soils 14 - 18% slope.

**Woodland description:** *Type 101 , Dbh 14 , BA 150 , 13500 bf/Ac, Active management: even aged*  
02/21/03

Harvest size aspen mixed with smaller(6") oaks and maples. Should be taken out if a harvest is done in the adjacent good oak-hickory stand.

**Management recommendations:** Forest stand improvement, remove aspen, 2014.

### **Stand 30:**



**Site description:** 7.4 acres upland site with Village and LaCrescent soils 14 - 35% slope.

**Woodland description:** *Type 063 , Dbh 16 , BA 90 , 8280 bf/Ac, Active management: even aged*  
02/21/03

Nice stand of mixed hardwoods dominated by red and white oak. There are some very nice oaks here over 20" dbh on "A" slope. The '71 harvest was well distributed in this stand and some stumps still remain. Maple poles and saplings have replaced the oaks removed in the harvest. This is a very good site but gets rocky towards the end of the ridge where there are limestone outcrops. This is a pretty healthy stand despite the age on some of these trees. No oak wilt noted. Access here can be made from an old logging road just above Brown's Hollow or from our neighbors to the west.

**Management recommendations:** Recon for regeneration harvest 2014.

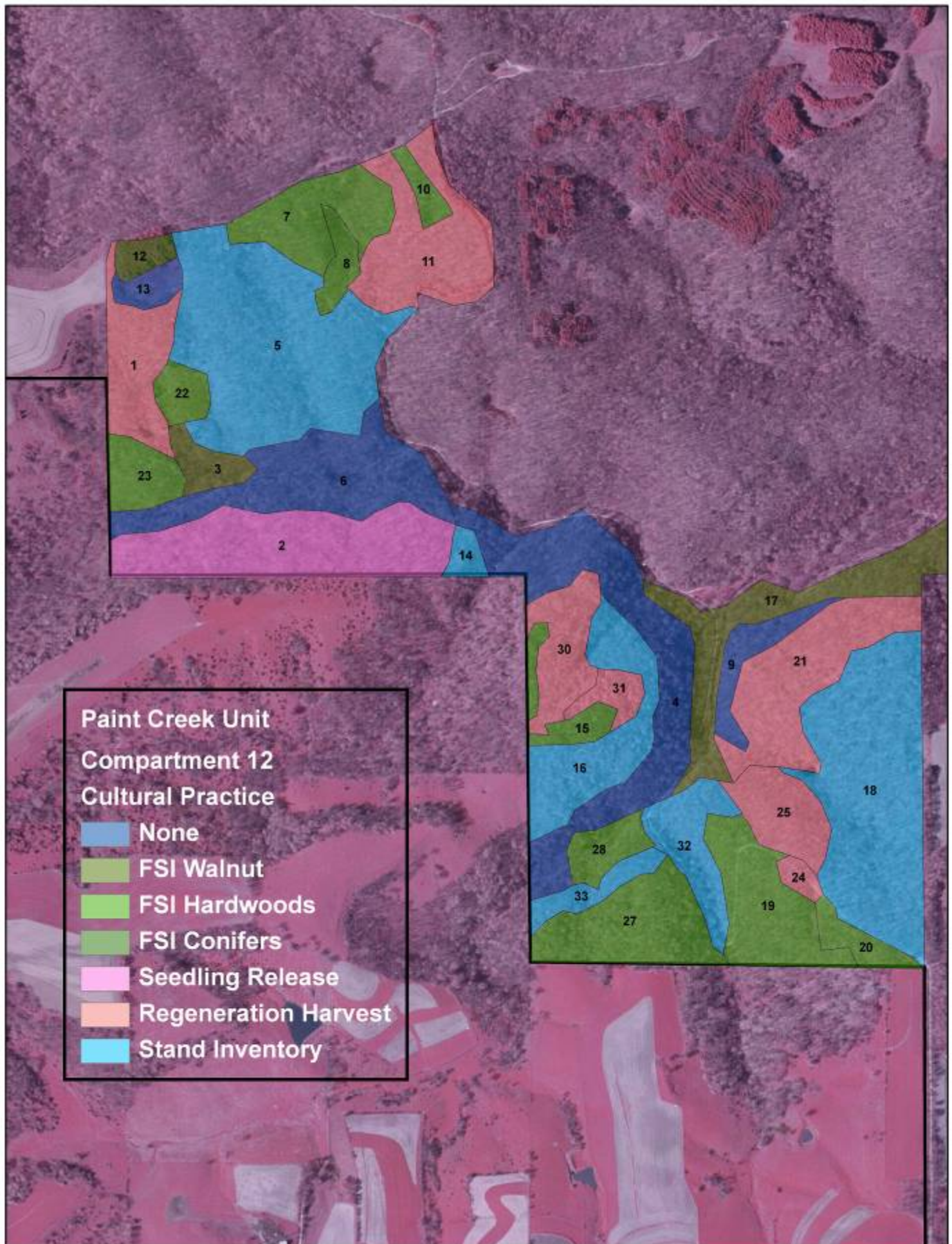
### **Stand 31:**

**Site description:** 2.5 acres upland site with Village and LaCrescent soils 14 - 35% slope.

**Woodland description:** *Type 093 , Dbh 17 , BA 80 , 7440 bf/Ac, Active management: even aged*  
02/21/03

1971 cutting was heavier here and many oaks were salvaged leaving mostly maple with a few residual large oaks. Maples are fair quality. Site grades into a "B" slope.

**Management recommendations:** Recon for regeneration harvest, 2014.



**FY 2015:**

Luster Heights Unit, Compartment 1:

**Stand 1, 17, 33, 34, 35, 47, 50, 59, 68, 69, 70:**

**Site description:** Sites comprising 123.4 acres, all upland slopes on LaCrescent soils, 35 - 70% slope.

**Woodland description:** *Type 063, 073, 081, 092, 093, 089 , Dbh 8 - 22 , BA 60 - 120 , 0 - 10340 bf/Ac, Limited management: salvage only*

All stands are in limited management due to severity of slope. Most of these sites are rocky as well, and contain various mixtures of over mature red and white oak in various stages of decline. Some of these stands have already begun to succeed into the maple basswood type. No management is anticipated on any of these stands.

**Management recommendations:** None.

**Stand 14, 15:**

**Site description:** Sites comprising 26.3 acres, Arenzvil-volney soils, 2 - 5% slope

**Woodland description:** *Type 110 , Dbh 12 , BA 70 , 4270 bf/Ac, Limited management: salvage only*

Both stream bottom sites adjacent to county highway and considered to be in riparian areas. These stands are mixtures of bottomland hardwoods with boxelder, cottonwood, elm, and an occasional walnut. Walnuts with dieback were salvaged from stand 15 in 2003. These trees were affected with top dieback, and mostly in smaller diameter trees averaging 16" dbh. These stands also have a high incidence of garlic mustard which is spreading through the drainage.

**Management recommendations:** None.

**Stand 31:**

**Site description:** 1.5 acres upland site with Fayette soils 9 - 14% slope.

**Woodland description:** *Type 063 , Dbh 24 , BA 70 , 5250 bf/Ac, Limited management: salvage only*  
3/19/2004

A very old (old growth) oak stand with red and white oak and some maple. Most of these trees are over 24" dbh, one white oak measured 32" dbh. This stand should probably be preserved as an old growth stand. There is a very cool rock outcrop in the middle of this stand.

**Management recommendations:** None.

**Stand 13, 19, 66:**

**Site description:** 27.5 acres total, Upland sites with Fayette soils 5 - 14% slope and bottomland site with Canek soils 0 - 2% slope.

**Woodland description:** *Type 006, 009 , Dbh 0 , BA 0 , 0 bf/Ac, Non-forest:*

All non forest stands, one is Luster Heights Correctional facility. The others include an upland pond and a river bottom wetland.

**Management recommendations:** None.

## **Stand 2:**

**Site description:** 6.9 acres, upland site with Paint Creek and LaCrescent soils 18 - 30% slope.

**Woodland description:** *Type 063 , Dbh 16 , BA 90 , 8280 bf/Ac, Active management: even aged*

2/25/2004

mostly "B" slope ground with red & white oak dominants and ironwood/maple understory. Some harvesting has been done in this stand, especially close to the trail which goes around the adjacent pine stand. The stand grades into a south facing slope where the trees lose size and BA. There are some aspen pockets and some areas with good RO & WO poles.

**Management recommendations:** Forest stand improvement, 2015.

## **Stand 3:**

**Site description:** 5.8 acres upland site with Village, Paint Creek, and LaCrescent soils 14 - 35% slope.

**Woodland description:** *Type 101 , Dbh 9 , BA 120 , 0 bf/Ac, Active management: even aged*

2/25/2004

Partly old pasture with some heavily cut over areas on the upper portions of the stand. Mostly aspen with oak, hickory, maple poles, with an occasional larger ash or oak. Some parts of the stand need TSI as there are some good quality 6" diameter oaks here.

**Management recommendations:** Forest stand improvement, 2015.

## **Stand 4:**

**Site description:** 11.6 acres, upland site with Fayette, Village, and Paint Creek soils 5 - 18% slope.

**Woodland description:** *Type 063 , Dbh 16 , BA 105 , 9660 bf/Ac, Active management: even aged*

2/25/2004

This stand is part of the old Cahallan property acquired around 1991. It is a nice young red oak timber with about 30% white oak and some aspen mixed in. There is a small oak wilt pocket near the west point of the stand, and the trees get smaller as you approach the point where the soil gets thin and the site gets drier. There are some prairie plants on

the point where there is a nice view.

**Management recommendations:** Forest stand improvement, 2015.

### **Stand 5:**

**Site description:** 9.3 acres upland site with Fayette soils, 5 - 14% slope.

**Woodland description:** *Type 012 , Dbh 10 , BA 160 , 0 bf/Ac, Active management: even aged*  
3/16/2004

Red Pine & aspen. This red pine probably planted sometime in the 40's and thinned in the 70's. Not all areas of the stand were thinned, and hardwoods have encroached especially on the east and south sides of the stand. Most of this area is being taken over by aspen with a few other species mixed in. The un-thinned pines have diameters much smaller than the managed portion and are in various stages of decline. The entire stand could be thinned again. At this point, it is not known if the stagnant pines will benefit from thinning as there is some worry of windthrow and lodging.

**Management recommendations:** Forest stand improvement, 2015.

### **Stand 6:**

**Site description:** 4.3 acres upland site with Fayette soils 9 - 14% slope.

**Woodland description:** *Type 089 , Dbh 8 , BA 100 , 0 bf/Ac, Active management: uneven aged*  
2/25/2004

This stand is a weird mix of aspen, cherry, walnut, elm, ash, and other stuff. Could be part of an old home site. There is a lot of wood on the ground, but no stumps. Dead wood could be mostly elm. There are a few decent quality poles as well as a few fair larger walnuts. Might be a good stand to harvest for the YRSF mill and manage for oak and walnut.

3/18/04

The file on this compartment indicates that 12 walnuts were cut from the west end of this stand in the fall of 1988. Might be why the stand appears to be understocked and the residual trees are low quality.

**Management recommendations:** Forest stand improvement, 2015.

### **Stand 7:**

**Site description:** 4.4 acres, upland site with Fayette and Village soils, 9 - 14% slope.

**Woodland description:** *Type 110 , Dbh 18 , BA 100 , 9400 bf/Ac, Active management: even aged*  
2/25/2004

A preponderance of walnuts here, pretty good quality up to 24" dbh.

**Management recommendations:** Recon for harvest, 2015.

### **Stand 8:**

**Site description:** 17.9 acres, upland site with Fayette, Village, and Paint Creek soils 5 - 14% slope.

**Woodland description:** *Type 063 , Dbh 18 , BA 125 , 11750 bf/Ac, Active management: uneven aged*  
3/1/2004

This is a mixed stand of red and white oak with aspen pockets. The aspen pockets are mature and need cutting to release some smaller diameter oaks which grow among them. There is some damage to the red oak here, and some oak wilt pockets, but none are active at this time. There are some occasional walnuts in the stand. The site is fairly level but grades into a "B" slope towards the west. Diameters decrease as you near the western point.

11/1/04

This stand was scheduled for a harvest in 2004/5 and an inventory revealed the following information: vol/Ac = 9813 bf. BA = 117 ft<sup>2</sup>/Ac average dbh = 18.8". The stand has a diameter distribution which is deficient in the 6 - 16" size classes. Much of the sapling growing space is in ironwood and elm, with a small amount of maple, basswood, ash, and white oak. The stand is overstocked in the large classes from 18 to >26. Most of the basal area is devoted to large red oak, some of which is still in good shape. Total stand volume before harvest is 171,700 bf. This stand was harvested in 2005 using a group selection harvest. Hard copy files are available on this sale.

**Management recommendations:** Stand inventory 2015, selection harvest 2025.

### **Stand 9:**

**Site description:** 17.7 acres upland site with Fayette, Village, Paint Creek and Lacrescent soils 14 - 35% slope.

**Woodland description:** *Type 064 , Dbh 16 , BA 165 , 11500 bf/Ac, Active management: even aged*

Predominantly white oak with a sprinkling of red. While the average dbh is 16, there are occasional larger 20+ trees here. Lots of dead wood on the ground, looks like most of the red oak has simply died out for the most part. There is one active pocket near the end of the ridge. Along the southernmost drainage, there are a lot of pretty good walnuts. The white oaks could be thinned, or the larger trees could be taken out in a selection harvest. some of the walnut could also be released.

**Management recommendations:** Recon for harvest, 2015.



## **Stand 10:**

**Site description:** 2.4 acres upland site with Fayette and Village soils, 9 - 18% slope.

**Woodland description:** *Type 063 , Dbh 20 , BA 120 , 11760 bf/Ac, Active management: even aged*

High volume red oak stand which probably should have been harvested along with the adjacent stand to the east. Oak wilt is active here and there are some high quality trees which are in danger of mortality.

**Management recommendations:** Regeneration harvest 2015.

## **Stand 11:**

**Site description:** 3.7 acres upland site with Fayette and Village soils 5 - 18% slope.

**Woodland description:** *Type 063 , Dbh 0 , BA 0 , 0 bf/Ac, Active management: even aged*

This was a high volume red oak stand similar to the timber now still standing on the west end. This stand had a couple of oak wilt pockets as well as some wind damage when it was selected for harvest in 1995. Merlin Reinke of New Albin harvested 35mbf from this stand and skidded to a landing for the YRSF sawmill. Post harvest treatment was to clear cut everything larger than 1" and push all debris into piles. The stand was planted to red and white oak, and walnut spring of 1996.

There is pretty good regeneration here, but it needs releasing at this point to insure that the oaks remain viable.

3/9/04

This stand was released to encourage oak and walnut. There is a good number of desirable trees here. Main competition is elm, sumac, and bitternut hickory.

**Management recommendations:** Forest stand improvement, 2015.

## **Stand 12:**

**Site description:** 2.9 acres upland site with Fayette soils 5 - 18% slope.

**Woodland description:** *Type 089 , Dbh 4 , BA 60 , 0 bf/Ac, Active management: even aged*

This stand was part of a total 104 mbf sale which was cut by Bill Miller of Dubuque in the winter of 1985-86. The sale was 71% red oak and covered quite a few more acres than this small clearcut. All the residual stems were cut and hand piled in this stand, so that tree planting could be done in the spring, there was no scarification. Seedlings were released 2 years, but today, there are very few surviving oaks and the stand has pretty much been taken over by butternut, walnut, and many other non-desirable trees. This is too good a site to have let go, but it seems, despite our best efforts, it got away.

Note that this harvest covered some of the adjacent timber to the west and north, but the cutting was not so heavy that a residual stand couldn't have been left.

**Management recommendations:** Forest stand improvement, 2015.

### **Stand 16:**

**Site description:** 7.4 acres bench site with LaCrescent soils, 25 - 35% slope.

**Woodland description:** *Type 093 , Dbh 17 , BA 100 , 6900 bf/Ac, Active management: even aged*

this stand is located on a bench just above the bottom and before the ground gets too steep. These are typically very good timber sites for walnut, but few walnuts are located on this bench. Mostly hard maple with a few poor quality red oaks and a few aspen. Would be a good site to regenerate.

**Management recommendations:** Recon for harvest, 2015.

### **Stand 18:**

**Site description:** 8.7 acres upland side with Fayette and Paint Creek soils 5 - 18% slope.

**Woodland description:** *Type 012 , Dbh 10 , BA 170 , 0 bf/Ac, Active management: even aged*

Red Pine planted on incredibly tight spacing and thinned for pulp sometime in the 70's or early 80's. Rows are about 10 ft with only a few ft between trees in the row. Part of this stand was thinned again in 1995 by Luster Hts camp and the wood was used for fuel at camp. Now almost 10 years later the stand needs another thinning. There is a small pocket of 6 - 8" walnuts in the middle of this pine. There is some understory hardwood, mostly elm, in places where the stand was thinned.

**Management recommendations:** Forest stand improvement, thin to recommended BA for red pine.20

### **Stand 20:**

**Site description:** 2.4 acres upland site with Fayette soils 9 - 14% slope.

**Woodland description:** *Type 012 , Dbh 10 , BA 170 , 0 bf/Ac, Active management: even aged*

Red Pine planted on incredibly tight spacing and thinned for pulp sometime in the 70's or early 80's. Rows are about 10 ft with only a few ft between trees in the row. Trees are beginning to decline here and this stand needs thinning badly.

**Management recommendations:** FSI, 2015.

### **Stand 21:**

**Site description:** 3.2 acres upland site with Fayette soils 5 - 9% slope.

**Woodland description:** *Type 012 , Dbh 11 , BA 160 , 0 bf/Ac, Active management: even aged*

Red Pine planted on incredibly tight spacing and thinned for pulp sometime in the 70's or early 80's. I know this stand was thinned in the 80's and McSweeney remarked that it didn't seem to be responding well. Trees are slightly larger here, but basal area is still too high and there is not that much growth.

**Management recommendations:** FSI conifers, thin.

## **Stand 22:**

**Site description:** 3.0 acres upland site with Fayette and Boone soils 5 - 25% slope.

**Woodland description:** *Type 012 , Dbh 10 , BA 160 , 0 bf/Ac, Active management: even aged*

Red Pine planted on incredibly tight spacing and thinned for pulp sometime in the 70's or early 80's. This stand is not too bad but could use thinning as could all the others in the LH Unit.

**Management recommendations:** FSI, thin

## **Stand 23:**

**Site description:** 1.9 acres upland site with Fayette and Villages soils 5 - 14% slope.

**Woodland description:** *Type 010 , Dbh 8 , BA 100 , 0 bf/Ac, Active management: even aged*

This started out to be a mixed red and jack pine planting. Over the years the jack pine has died out for the most part, making way for some walnut, red oak, and aspen. There are some decent walnuts which could be released. There is one small area where the red pine is still the dominant species, but hardwoods are starting to encroach on this area and the pines will probably die out as the walnuts begin to grow larger.

**Management recommendations:** Forest stand improvement, 2015.

## **Stand 24:**

**Site description:** 12.8 acres upland site with Fayette, Village, and Paint Creek soils 5 - 30% slope.

**Woodland description:** *Type 010 , Dbh 10 , BA 200 , 0 bf/Ac, Active management: even aged*

Mixed conifer planting of red pine, white pine, and (Norway?) spruce. Absolutely no vegetation under the spruce which needs thinning and pruning. Much of the red pine has not been thinned and is in various stages of decline. In some places the reds are lodged and bending over, and there are many dead ones on the ground. White pines also need to be thinned, but are tolerating the tight growing condition. Some hardwood encroachment and a lot

of elderberry in the understory in places..

**Management recommendations:** Thin white pine, clearcut reds that are lodged and declining, 2015.

### **Stand 25:**

**Site description:** 4.8 acres upland site with Fayette soils 5 - 9% slope.

**Woodland description:** *Type 012 , Dbh 11 , BA 160 , 0 bf/Ac, Active management: even aged*

Red pine thinned in 1980. This stand looks pretty good but is still high in BA. Could use another thinning.

**Management recommendations:** Forest stand improvement, thin 2015.

### **Stand 26:**

**Site description:** 1.0 acre upland site with Fayette soil 5 - 9% slope.

**Woodland description:** *Type 011 , Dbh 6 , BA 70 , 0 bf/Ac, Active management: even aged*

Jack pine plantation which was mostly killed out in the late 70's or early 80's by *fomes annosus* root rot. Jack pines have never done well around here, I suppose because the soils are too heavy for them. They also do not form a dense canopy which opens them up to encroachment by more aggressive hardwoods. We removed some of the pines here back in 1995 to try to encourage more mast producing hardwoods.

**Management recommendations:** Forest stand improvement, 2015.

### **Stand 27:**

**Site description:** 11.2 acres upland site with Fayette and Village soils 5 - 18% slope.

**Woodland description:** *Type 012 , Dbh 8 , BA 200 , 0 bf/Ac, Active management: even aged*

Another red pine plantation which looks like it has been thinned in places. There are some nice 12" pine here, but there are also places in the stand which have a preponderance of 4" trees, very tightly spaced. As you can see from the aerial photo, a few pockets of hardwoods have become dominant in places. There are some very large silver maples in the stand, and also some elms which have died out leaving some holes. This stand should be thinned and the hardwoods should be removed.

**Management recommendations:** Forest stand improvement, thin, 2015.

### **Stand 28:**

**Site description:** 10.9 acres upland site with Fayette soils 5 - 15% slope.

**Woodland description:** *Type 063 , Dbh 19 , BA 120 , 11520 bf/Ac, Active management: even aged*

Part of a 1986 timber sale area in which a lot of the big red oak was removed in a "selective" harvest. There is still a lot of basal area in the stand, mostly in white oak, but there are still some nice red oaks standing. I did not find anything in the file about why this particular stand was selected for harvest, but there was one residual oak wilt pocket near the north border of the stand, so I assume it could have been oak wilt related. Many of the trees were removed in pockets. Although a lot of volume was removed in '86, a lot remains and some very nice quality trees. There is a small amount of dead white oak and some trees showing branch dieback in the southwest corner of the stand near the adjacent clearcut. This could be white oak decline, but not sure at this point.

**Management recommendations:** Recon for harvest, 2015.

### **Stand 29:**

**Site description:** 2.3 acres upland site with Boone soils 18 - 25% slope.

**Woodland description:** *Type 089 , Dbh 12 , BA 120 , 7320 bf/Ac, Active management: even aged*

This looks like an old farmstead which was grazed back in the 30's. There is a remnant foundation on this high spot. The stand contains a lot of walnut with pockets of oak and aspen. A good candidate for TSI. There are several wolf trees of cottonwood, elm, and walnut that could be removed to give young trees with potential room to grow.

**Management recommendations:** Forest stand improvement, 2015.

### **Stand 30:**

**Site description:** 5.0 acres upland site with Fayette soils 5 - 9% slope.

**Woodland description:** *Type 069 , Dbh 16 , BA 120 , 11040 bf/Ac, Active management: even aged*

A pretty old black locust plantation with a lot of dead wood on the ground. Some of these trees did very well as there are several 20+ dbh trees with decent looking logs. There is hardly any understory plants or shrubs in the stand, and very few other species represented besides a few walnuts and some hackberry. Not sure if Black locust is allelopathic or not. Would be nice to harvest some of the bigger trees just to have some of the lumber around. I suppose these black locust plantations are about at the end of their run and we should be thinking about regenerating them as they are on fairly good sites.

**Management recommendations:** Regeneration harvest, 2015.

### **Stand 32:**

**Site description:** 17.8 acres upland site with Fayette, Village, and Paint Creek soils 5 - 18% slope.

**Woodland description:** *Type 063 , Dbh 18 , BA 120 , 11280 bf/Ac, Active management: even aged*

Very nice well stocked stand of red and white oak with some maple, aspen, ash, etc mixed in. No evidence of harvesting in this stand.

Not the typical 75% red oak you generally see around here, more like about 40% red and 40% white in the mix. The stand is probably mature enough for a harvest, but it is not as big as it could be and just doesn't have the "feel" of an oak harvest area yet.

**Management recommendations:** Recon for harvest, 2015.

### **Stand 36:**

**Site description:** 2.9 acres upland site with Village soils 9 - 14% slope.

**Woodland description:** *Type 063 , Dbh 4 , BA 60 , 0 bf/Ac, Active management: even aged*

Part of the Miller sale of 1986, this was a small clear cut on a north facing slope. This site was planted to red oak and walnut and released once in the first or second season, then again about 15 years later. Today, there are quite a few decent red oaks and walnuts with cherry, aspen, and other stuff mixed in. This was a typical harvest job for the time, and no clear stand boundary was drawn before the sale, so some trees were swiped from the periphery of the stand, leaving low basal areas but little opportunity for oak regeneration.

**Management recommendations:** Forest stand improvement, 2015.

### **Stand 37:**

**Site description:** 4.3 acres upland site with LaCrescent soils 25 - 35% slope.

**Woodland description:** *Type 063 , Dbh 15 , BA 150 , 0 bf/Ac, Active management: even aged*

This is a decent red oak and aspen timber on a ridge top. There are aspen pockets, especially close to the end of the ridge where there is also a very old oak wilt pocket which took mostly small trees. There is an active OW pocket nearer to the west edge of the stand near the clearcut which was done to address this problem. Oak wilt also in the pole stand to the north. There are some decent trees in this stand which will bear watching so they can be salvaged if the oak wilt continues to run out the ridge.

**Management recommendations:** Recon for oak wilt, forest stand improvement, 2015.

### **Stand 38:**

**Site description:** 2.3 acres upland site with Village and Paint Creek soil 18 - 30% slope.



**Woodland description:** *Type 063, Dbh 1, BA 0, 0 bf/Ac, Active management: even aged*

This was part of a commercial harvest in 1995. On this particular site, 21 mbf was sold, about half was red oak, the remainder was maple, basswood, ash, and some aspen. This sale was put together with the sale of another stand (not yet mapped) to the north and west. James Troendle of Waukon paid \$505/mbf for these trees. Spring of '96, the site was planted (after post harvest treatment of pushing tops into piles and clearcutting) to red and white oak and walnut. The stand is doing OK with some release work in 2002. There is a fair amount of oak and walnut, but a lot of competition from sumac.

2/1/05

This stand was released again in winter 04/05. There is a good amount of red & white oak here, as well as some decent walnuts. The oak wilt which prompted the sale in 95, reappeared on the east edge of this stand, and also killed some trees in the stand to the north.

**Management recommendations:** Forest stand improvement, 2015.

### **Stand 39:**

**Site description:** 5.4 acres upland site with Fayette and Paint creek soils 9 - 30% slope.

**Woodland description:** *Type 063, Dbh 10, BA 90, 0 bf/Ac, Active management: even aged*

A pretty good stand of mixed red oak and aspen. I have no history on this, but it is a fairly young stand which could use some TSI.

We cut some aspen on the very top of the ridge, adjacent to the clearcut, in order to release some red oak. This could be done over the remainder of the stand to increase the percentage of oak.

There is some oak wilt in the stand which bears watching. This whole ridge has quite a bit of oak wilt history, and it is still working here. There are a few red oaks up to 18" dbh, but most of it is smaller.

**Management recommendations:** Forest stand improvement, 2015.

### **Stand 40:**

**Site description:** 3.1 acres upland site with Paint Creek and LaCrescent soils 18 - 35% slope.

**Woodland description:** *Type 065, Dbh 22, BA 80, 8080 bf/Ac, Active management: uneven aged*

Large red oak/maple and pole sized maple with a few other species. Some of these oaks are falling over and some with breakage. These trees could be selectively harvested out of this stand to promote the nice quality maple coming under the older trees.

**Management recommendations:** Recon for selective harvest, 2015.

### **Stand 41:**

**Site description:** 12.2 acres upland site with Village, paint Creek, and lacrescent soils 14 - 35% slope.

**Woodland description:** *Type 065 , Dbh 18 , BA 140 , 13160 bf/Ac, Active management: even aged*

This is a very high density red oak and aspen stand with some very good quality red oaks. Most of the red oak does not yet look mature, but there are some pretty large trees. They seem to be doing well despite the high basal area. Aspen should probably be sold from this stand at some point to give the red oaks some room. On one point, the basal area was 180.

**Management recommendations:** Recon for harvest, 2015.

### **Stand 42:**

**Site description:** 2.3 acres upland site with Fayette soils 5 - 14% slope.

**Woodland description:** *Type 089 , Dbh 6 , BA 40 , 0 bf/Ac, Active management: even aged*

Site looks like a formerly grassy area which has naturally regenerated into a mix of oak, aspen, cedar, and ash. There are some young trees here with potential, but not enough basal area to consider a thinning at this time. Perhaps a cleaning cut?

**Management recommendations:** Stand inventory, 2015.

### **Stand 43:**

**Site description:** 2.3 acres upland site with Fayette soils 5 - 9% slope.

**Woodland description:** *Type 012 , Dbh 10 , BA 250 , 0 bf/Ac, Active management: even aged*

Red pine with some pretty good trees. Needs thinning, like all the rest.

**Management recommendations:** Forest stand improvement, 2015.

### **Stand 44:**

**Site description:** 2.1 acres upland site with Fayette soils 9 - 14% slope.

**Woodland description:** *Type 063 , Dbh 12 , BA 120 , 10080 bf/Ac, Active management: even aged*

This is a small stand of red oak, aspen, and ash. The aspen are way past their prime, and the red oak has been tolerant. This could be a good stand of oak with some work. Aspen should probably just be girdled as it is not very good quality any more.

**Management recommendations:** Forest stand improvement, 2015.

### **Stand 48:**

**Site description:** 3.1 acres upland site with Village and LaCrescent soils 18 - 35% slope.

**Woodland description:** *Type 063 , Dbh 20 , BA 110 , 10780 bf/Ac, Active management: even aged*

Mature red oak, white oak, maple, basswood with aspen. Luster Heights has been salvaging trees for firewood in this stand. This should be looked at for regeneration harvest in 2015.

**Management recommendations:** Regeneration harvest, 2015.

### **Stand 49:**

**Site description:** 1.6 acres upland site with Fayette, Village, and LaCrescent soils 9 - 35% slope.

**Woodland description:** *Type 063 , Dbh 12 , BA 80 , 2880 bf/Ac, Active management: even aged*

A very narrow stand on the edge of the cliff overlooking the Mississippi River. Soil is rather thin here and there is a mixture of red and white oak, aspen, and others, no real good quality trees.

**Management recommendations:** Forest stand improvement, 2025.

### **Stand 51:**

**Site description:** 5.2 acres upland site with Fayette and Paint creek soils 9 - 30% slope.

**Woodland description:** *Type 089 , Dbh 22 , BA 60 , 4380 bf/Ac, Active management: even aged*

Over mature upland hardwoods with red oak, maple, elm, and walnut. Some harvestable trees here, but many den trees with poor form. Walnuts are generally poor quality. This stand is in the uplands of a drainage where an old dump was located. We cleaned up the dump around 1995.

**Management recommendations:** Regeneration harvest, 2015.

### **Stand 52:**

**Site description:** 1.6 acres upland site with Fayette soils 5 - 14% slope.

**Woodland description:** *Type 080 , Dbh 18 , BA 80 , 5600 bf/Ac, Active management: even aged*

Weird stand of mostly ash and bittersweet hickory, with some elm and others. There are some stumps at the bottom of this stand presumably from the 1986 harvest which clearcut a small stand to the east. These trees could be cut to regenerate oak. Stand is adjacent to the ski trail.

**Management recommendations:** Regeneration harvest, 2015.

### **Stand 53:**

**Site description:** 8.3 acres upland site with Fayette, Village, and LaCrescent soils 5 - 35% slope.

**Woodland description:** *Type 065 , Dbh 19 , BA 120 , 11520 bf/Ac, Active management: uneven aged*

Very high volume red oak stand with a few maple, basswood, and ash.

About 90% red oak, some showing breakage and windthrow. Some of the red oaks have basal scarring causing them to break above ground. This stand should be looked at for harvest in 2005.

11/10/04

This stand was inventoried using point sampling with diameters. Only 5 plots were sampled, but the following information was compiled.

Total stand volume was 97885 bf, 11382 bf/Ac with a standard error of 1100 bf/Ac. Stand basal area was 140 ft<sup>2</sup> which is way off the charts for red oak stands with no aspen.

There has been a lot of blow down and breakage in the northwest part of the stand next to a 1985 harvest area. Maple is responding to the increased light in these places. Many large red oaks have windthrow over the years. Some large fair quality hard maple nearer the drainage with a few basswood and ash thrown in for good measure.

This stand will be set up for a group selection harvest along with stand #8. The improvement cut will be fairly heavy because many of the large red oak have basal scarring and top breakage. This will leave the stand subject to an influx of maple and basswood in the sapling size class. A group will be placed near the 1986 harvest area to take advantage of the increased light and try to regenerate some oak.

**Management recommendations:** Group selection harvest, 2025.

### **Stand 54:**

**Site description:** 2.7 acres upland site with Village and Paint Creek soils 14 - 30% slope.

**Woodland description:** *Type 101 , Dbh 12 , BA 170 , 16830 bf/Ac, Active management: even aged*

A small stand of aspen with suppressed red oaks. The aspen could be cut to release the oaks, some are good enough for the mill.

**Management recommendations:** Forest stand improvement, weed.

### **Stand 55:**

**Site description:** 1.6 acres upland site with Village soil 14 - 18% slope.

**Woodland description:** *Type 089 , Dbh 4 , BA 40 , 0 bf/Ac, Active management: even aged*

A small stand which was part of the Miller harvest of 1986. This was a clearcut followed by planting of red oak and walnut. The stand was overtaken by grapevines which pulled many of these young trees over. The stand was released around 1988 and vines were cut in 2001. Some release was done in 2004. Some of the red oaks survived all this, but may not catch up to the aspen and elm. There are a few walnuts doing OK.

**Management recommendations:** Forest stand improvement 2015.

### **Stand 56:**

**Site description:** 4.0 acres upland site with Village and LaCrescent soils 15 - 35% slope.

**Woodland description:** *Type 063 , Dbh 1 , BA 0 , 0 bf/Ac, Active management: even aged*

This stand is a 4 acre commercial clearcut done by Jim Troendle of Waukon winter of 95/96. This area yielded 22,140 bf red oak, 7040 white oak, 5440 basswood, 2440 maple, plus minor amounts of other species...a total over 10 mbf per acre. Average sale value was \$.505/bf. The site was clearcut with post harvest cutting everything over 5 ft tall and pushing slash into brush piles. This was followed by spring planting of red and white oak and walnut on 10 x 10 spacing. Seedling survival was good. I think nursery stock had improved significantly over the last 10 years, plus we had lots more experience doing these clearcuts than we had when the Miller clearcuts were done 10 years earlier. Some release work was done in spring of 2004, and there are lots of good growing oak and walnut. Main competition is from aspen (there was 1100 bf in the sale), cottonwood...must have blown in, and ironwood always present in the understory. This should prove to be a successful clearcut with a little more work.

**Management recommendations:** Forest stand improvement 2015.

### **Stand 57:**

**Site description:** 3.5 acres upland site with Village and LaCrescent soils 14 - 35% slope.

**Woodland description:** *Type 063 , Dbh 16 , BA 110 , 10120 bf/Ac, Active management: even aged*

A mixed oak stand dominated by white oak. This is fairly common on these upland ridges, it may be because the site gets a little drier or the soil gets a little shallower towards the ridge ends. The stand is probably about 90% red and white oak, mostly small sawtimber, but there was at least one white oak measuring 28". The understory is mostly maple poles.

**Management recommendations:** Regeneration harvest 2025.

### **Stand 58:**

**Site description:** 2.5 acres upland site with Fayette, Paint Creek, and LaCrescent soils 9 - 35% slope.

**Woodland description:** *Type 063 , Dbh 12 , BA 100 , 6100 bf/Ac, Active management: even aged*

End of ridge, rocky, shallow soil with red and white oak. Trees appear stunted and not very good quality..

**Management recommendations:** Forest stand improvement, 2025.

### **Stand 60:**

**Site description:** 10.4 acres upland site with Fayette, Village, and LaCrescent soils 9 - 35% slope.

**Woodland description:** *Type 063 , Dbh 18 , BA 120 , 11280 bf/Ac, Active management: even aged*  
Decent red and white oak timber on fairly flat ground, with maple, ash, basswood, and occasional aspen jacking up the basal area. This is not a real high volume stand and could use a few more cutting cycles. There are a few stumps around from the 1986 harvest, but they did not cut heavily anywhere. There is a good mix of red and white oak here. There is supposedly some red maple somewhere in this stand, but I did not find it in '04.  
**Management recommendations:** Regeneration harvest, 2025.

### **Stand 61:**

**Site description:** 2.7 acres upland site with Fayette, Paint Creek, and LaCrescent soils 9 - 35% slope.

**Woodland description:** *Type 063 , Dbh 20 , BA 145 , 14210 bf/Ac, Active management: uneven aged*  
A small stand of over mature mixed hardwoods running up a drainage. These trees are beginning to break up and should be harvested ASAP. A selective harvest might be appropriate as the ground is fairly sloped. This small stand needs further recon.  
**Management recommendations:** Stand inventory, 2015.

### **Stand 62:**

**Site description:** 5.5 acres upland site with Fayette and Paint Creek soils 5 - 30% slope.

**Woodland description:** *Type 063 , Dbh 8 , BA 150 , 0 bf/Ac, Active management: even aged*  
Good red oak poles with cherry and ash, mixed with aspen accounting for the high BA. This would be a very good TSI candidate as there is some potential for a good mixed red oak stand. There are a few very old white oak and poor quality walnuts which should be removed.  
**Management recommendations:** Forest stand improvement, 2015.

### **Stand 63:**

**Site description:** 9.7 acres upland site with Fayette, Village, and Paint Creek soils 5 - 30% slope.

**Woodland description:** *Type 065 , Dbh 16 , BA 120 , 8040 bf/Ac, Active management: even aged*  
Aspen, red oak, & white oak. This appears to have been an oak wilt salvage site judging by the stumps and the method of cutting. There is a lot of poplar in the stand which should probably be thinned to maintain oak and other mixed hardwoods. One of the clones here looks like white poplar.  
**Management recommendations:** Forest stand improvement, 2015.

### **Stand 64:**

**Site description:** 41.5 acres bottomland site with Caneek Channeled soil 0 - 2% slope.

**Woodland description:** *Type 086 , Dbh 14 , BA 150 , 13500 bf/Ac, Active management: even aged*

Not much info on this, but it is mostly silver maple, a dog hair stand of it. This site floods periodically, so it is kind of bare in some spots. Parts of this are in the riparian corridor next to Paint Creek, the site is flat and could be worked on. Need better info.

**Management recommendations:** Stand inventory, 2015.

### **Stand 65:**

**Site description:** 21.1 acres bottomland site with Caneek-Channeled soil 0 - 2% slope.

**Woodland description:** *Type 086 , Dbh 14 , BA 150 , 13500 bf/Ac, Active management: even aged*

Not much info on this, but it is mostly silver maple, a dog hair stand of it. This site floods periodically, so it is kind of bare in some spots. Parts of this are in the riparian corridor next to Paint Creek, the site is flat and could be worked on. Need better info.

**Management recommendations:** Stand inventory, 2015.

### **Stand 67:**

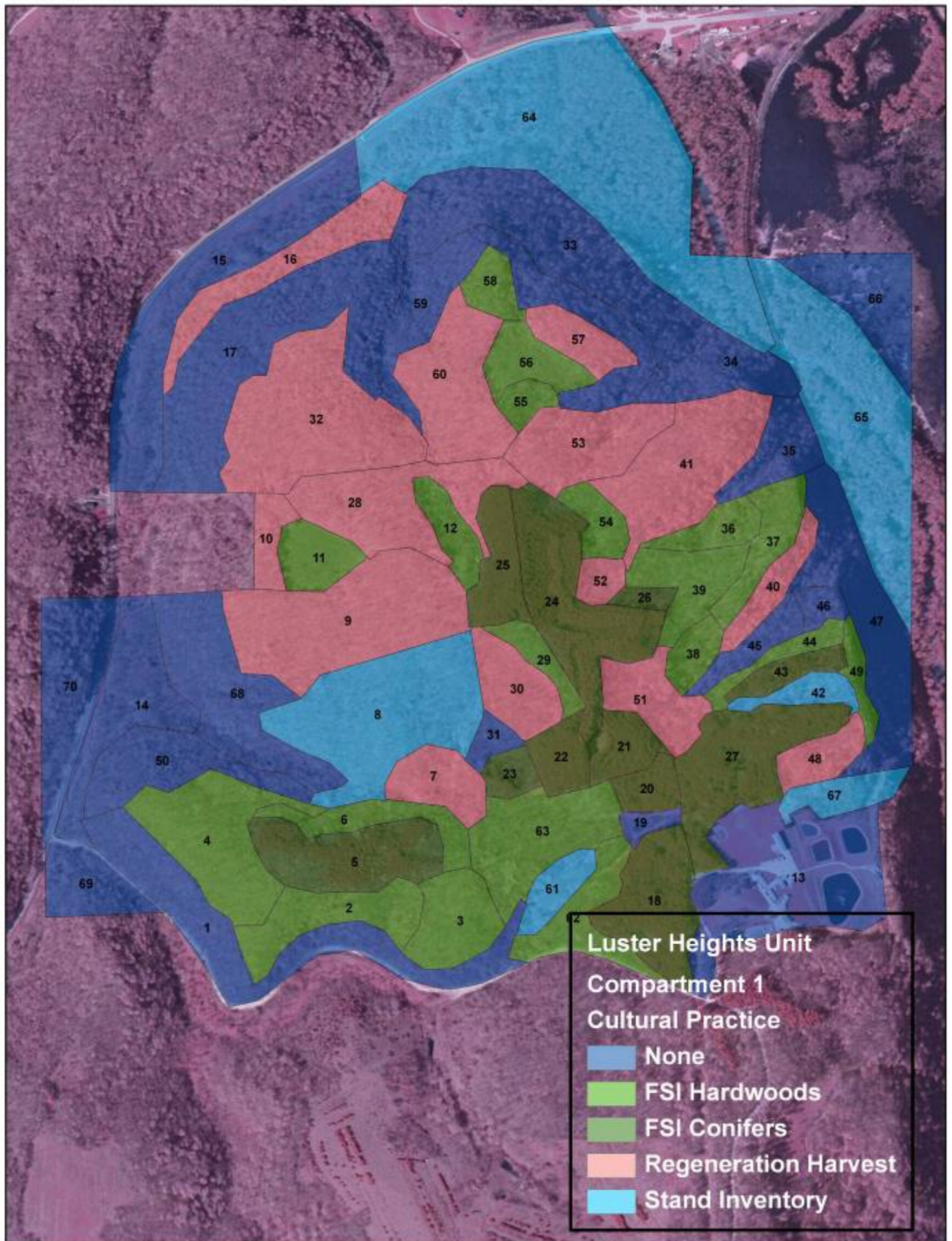
**Site description:** 3.2 acres upland site with Fayette, Village, and LaCrescent soils 9 - 35% slope.

**Woodland description:** *Type 0 , Dbh 0 , BA 0 , 0 bf/Ac, Active management: even aged*

No data or written description available.

**Management recommendations:** Stand inventory, 2015.





## **FY 2015:**

Paint Creek Unit, Compartment 15:

### **Stand 2, 6, 9, 11, 14, 18, 21, 24:**

**Site description:** Sites comprising 84.6 acres, upland sites with LaCrescent and Medary soils 35 - 70% slopes.

**Woodland description:** *Type 063, 079, 080, 092, 093 , Dbh 16 - 22 , BA 70 - 90 , 4690 - 6440 bf/Ac, Limited management: salvage only*

All upland stands on steep rocky slopes over 35%. All these stands have fairly poor quality over mature oaks which are breaking up and these stands are slowly converting to maple basswood, with various proportions of ash, bitternut hickory, and elm. All stands in limited management due to slope.

**Management recommendations:** None.

### **Stand 10:**

**Site description:** 37.4 acres bottomland site with Elon soil 0 - 2% slope.

**Woodland description:** *Type 083 , Dbh 18 , BA 80 , 8260 bf/Ac, Limited management: salvage only*  
cottonwood in the creek bottoms. Pretty good looking stuff. This is the site of T & E species, and should be protected from excessive logging disruption. There are a couple large trees appearing to be Kentucky Coffee Tree on the west edge of the stand.

**Management recommendations:** None.

### **Stand 1, 12, 13, 17, 22:**

**Site description:** 88.3 acres bottomland (riparian) sites, Orion, Eitzen, and Caneek soils 0 - 2% slope.

**Woodland description:** *Type 001, 002, 006 , Dbh 0 , BA 0 , 0 bf/Ac, Non-forest:*

One ag field of 7 acres, the other stands in this group are riparian areas with few if any trees. All are considered non-forest areas.

**Management recommendations:** None.

### **Stand 3:**

**Site description:** 1.7 acres bottomland site with Eitzen soils 0 - 2% slope.

**Woodland description:** *Type 087 , Dbh 4 , BA 120 , 0 bf/Ac, Active management: even aged*

This former crop field was once in the crop lease program and was retired around 1995 and planted to green ash, silver maple, a few pin oak, hybrid poplar and some walnut. The pin oak did not make it at all and the green ash is not well represented today, but there are a few remaining. All the planted trees have been hit pretty hard by beaver, but some of the silver maple is doing OK, especially farther from the creek. Walnuts are poor

formed and mostly on the edges of the planting area. Boxelder is the main species, and the stand could use a TSI to favor the maple.

**Management recommendations:** Forest stand improvement, 2015.

#### **Stand 4:**

**Site description:** 4.1 acres bottom and bench site with Orion and LaCrescent soils, 0 - 35% slope.

**Woodland description:** *Type 110 , Dbh 12 , BA 60 , 5040 bf/Ac, Active management: uneven aged*

This is a stand that surrounds the old Donahue farmstead and is stuff that has mostly been allowed to grow up unchecked. Mostly poor quality walnuts, boxelder, and elm. The slope here is not too bad, and some effort should be made to clean some of this up and get something going. Obviously was pastured judging by all the poor quality walnuts.

**Management recommendations:** Forest stand improvement, 2015.

#### **Stand 5:**

**Site description:** 3.6 acres bottomland site with Orion soils, 0 - 2% slope.

**Woodland description:** *Type 086 , Dbh 6 , BA 40 , 0 bf/Ac, Active management: even aged*

Another former crop lease which was retired around 1995 and planted to green ash, silver maple, and hybrid poplar with a few pin oaks which did not survive. This field is periodically flooded, but the silver maple is doing exceedingly well here, despite the beaver activity. The hybrid poplar is doing well (10") on the higher parts of the field. Many of the maple are multiple stemmed from being eaten off by the beavers. Stand could use TSI. Vines are becoming a problem in some places.

**Management recommendations:** Forest stand improvement, 2015.

#### **Stand 7:**

**Site description:** 4.4 acres bottomland with Orion soils, 0 - 2% slope.

**Woodland description:** *Type 110 , Dbh 14 , BA 55 , 3575 bf/Ac, Active management: even aged*

Planted stand of walnut with boxelder and grass. This looks like a good quality site setting well above the creek bottom, but judging by recruitment of other species, must be fairly wet although the walnuts have survived for the most part. Some of these trees suffered the dieback of the mid 90's. There is still grass on the ground here. I think this was once part of the Donahue crop fields, not sure of planting date. Could be thinned in places.

**Management recommendations:** Forest stand improvement, 2015.

#### **Stand 8:**

**Site description:** 27.6 acres bottomland site with Orion soils 0 - 2% slope.

**Woodland description:** *Type 083 , Dbh 20 , BA 70 , 6860 bf/Ac, Limited management: salvage only*

Large stand of cottonwood in the Paint Creek Bottoms. BA is variable here, and areas closest to the creek should be limited mgt in the riparian zone. Some of this is pretty swampy, especially in spring, and equisetum has taken over much of the ground layer. There is a 6" elm understory in some places.

**Management recommendations:** None.

### **Stand 16:**

**Site description:** 8.6 acres upland site with Fayette, Village, and LaCrescent soils 14 - 35% soil.

**Woodland description:** *Type 064 , Dbh 16 , BA 90 , 8280 bf/Ac, Active management: even aged*

Small sawtimber, mostly white oak, mixed with cherry, shagbark hickory, ironwood, black oak, red oak, basswood. There are some stumps around here. White oak volume is heavier nearer the point. There is a pocket of 12" aspen which may have been a landing area at one time. There are a lot of pole sized WO, hickory, and cherry. There may be enough poles to make a stand if the larger trees were removed. Looks almost like the red oak was picked out of this stand years ago. There is an old skid trail that goes out toward the west. Other access would be from Hefferns.

**Management recommendations:** Forest stand improvement, 2015.

### **Stand 19:**

**Site description:** 17.0 acres valley bottom with Spillville and Arenzvil-volney soils 0 - 5% slope.

**Woodland description:** *Type 079 , Dbh 6 , BA 110 , 0 bf/Ac, Active management: even aged*

This area looks like an old pasture with a sprinkling of large poorly formed bur oaks, and a gob of elm and boxelder in the 6 inch range. Fall of 2007 this area was hit pretty hard with water coming down the valley, and a lot of scouring and pooling of water took place. There is a small spring stream flowing through this area, and also a trail that is drivable all the way to the east fence, although it may be blocked after the flooding. A few walnuts show up here and there, but for the most part, this stand should be started over.

**Management recommendations:** Regeneration, 2025.

### **Stand 20:**

**Site description:** 4.5 acres bottomland site with Huntsville soil 0 - 2% slope.

**Woodland description:** *Type 110 , Dbh 8 , BA 80 , 0 bf/Ac, Active management: even aged*

This stand is a mid to late 70's walnut and pine planting. There are some decent stems here, and the pines have all but died out except in a couple of spots. There are some fair 12" trees, but also a lot of 2 - 4" stuff that is not doing well, probably variations in soil or grass competition. Both red and white pine were planted here, towards the center of the stand there are some left standing. This stand could be thinned to encourage the better trees. Would be nice to try to establish something else besides walnut.

**Management recommendations:** Forest stand improvement, 2015.

### **Stand 23:**

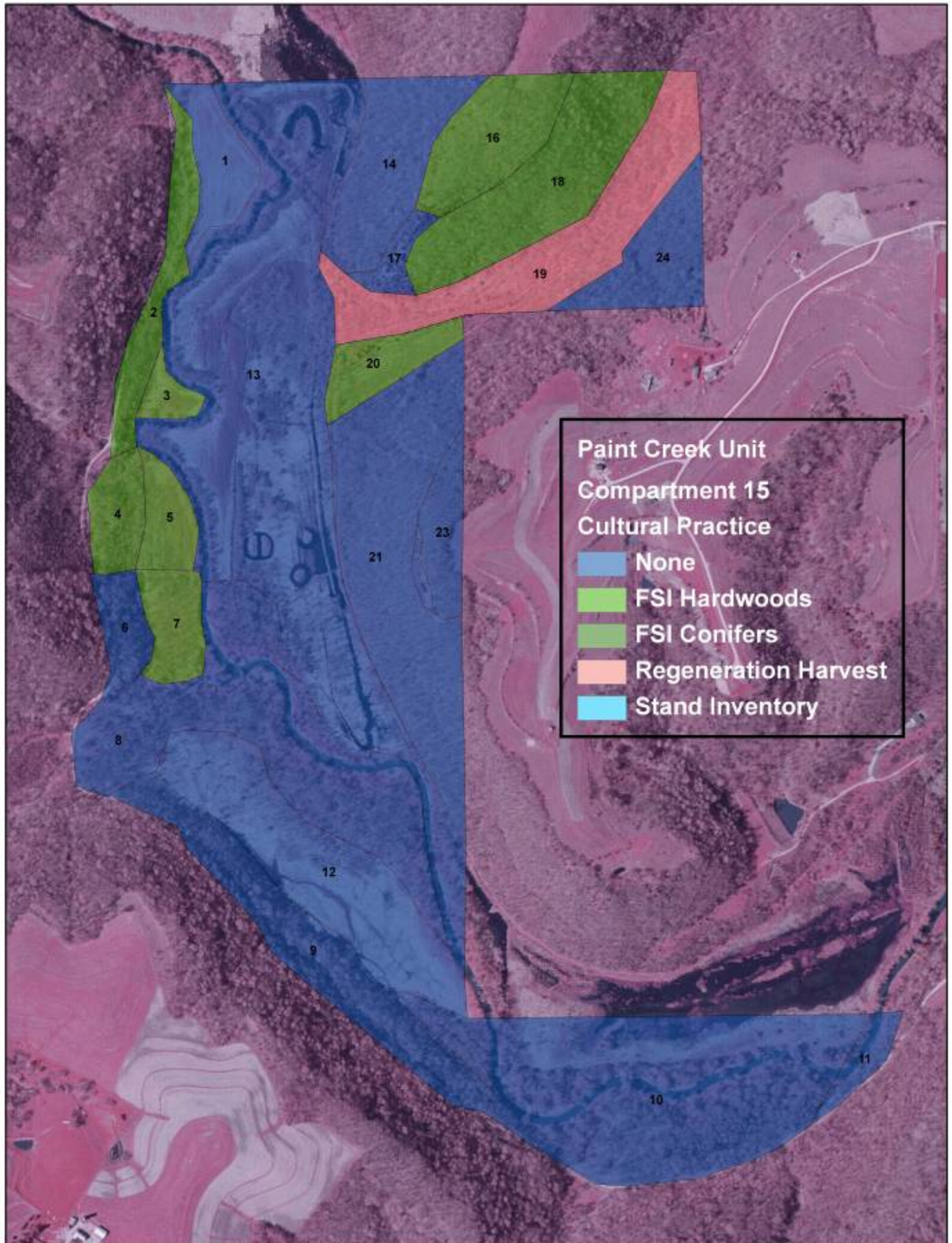
**Site description:** 4.2 acres upland site with Fayette and LaCrescent soils, 9 - 35% slope.

**Woodland description:** *Type 064 , Dbh 22 , BA 50 , 3650 bf/Ac, Limited management: salvage only*

Ancient white oaks mixed with red, black, and bur. Understory is 6" basswood, elm, cherry. The old stand degrades into a stand of smaller black oak with oak wilt towards the south end. this stand should probably be overlooked in timber sale calculations due to the age of the white oak. TSI should be limited here to keep these old savanna trees growing.

**Management recommendations:** None.





**FY 2016:**

Yellow River Unit, Compartment 1:

**Stand 2, 3, 7, 9, 11, 20:**

**Site description:** 187.4 acres bottomland sites with various prairie soils on flat to gently sloping ground. Soils include Ion, Lawson, Richwood, Hawick, Rowley, Waukee, Spillville, and Arnezhvil.

**Woodland description:** *Type 001, 002, 009 , Dbh 0 , BA 0 , 0 bf/Ac, Non-forest:*

All stands enrolled in the crop lease program or are protected archaeological sites. Crop fields are being cultivated for prairie species, except that a 5 acre wildlife food plot is grown here also.

**Management recommendations:** None.

**Stand 13, 17, 19, 22, 24, 25:**

**Site description:** Sites comprising 220.1 acres, all upland slopes with LaCrescent soils 35 - 70% slope.

**Woodland description:** *Type 093 , Dbh 18 , BA 55 , 3850 bf/Ac, Limited management: salvage only*

These 6 stands all in the uplands on steep slopes above the flood plain, Most of these timbers have had a long history of grazing, and the trees are not good quality, except for the young maple with is shooting up since grazing was stopped around 1990. 5 of these stands have not yet been mapped and will appear as NSCP 15 on the cultural practices schedule for 2016.

**Management recommendations:** Stand inventory 2016. No mgt..

**Stand 1, 4, 5, 8:**

**Site description:** Sites comprising 74.9 acres, all bottomland sites with variable soil types, no slope.

**Woodland description:** *Type 005, 088 , Dbh 0 - 4 , BA 0 - 30 , 0 bf/Ac, Limited management: salvage only*

These 4 stands are combinations of narrow tree plantings and native bottomland species like boxelder, cottonwood, and shrubs. Tree plantings were all done around 1991 to protect the streambanks from erosion due to row crop agriculture which was conducted here for many years right up to the stream bank.

**Management recommendations:** None.

**Stand 6:**

**Site description:** 7.2 acres bottomland site with Ion soils 0 - 2% slope.

**Woodland description:** *Type 088 , Dbh 0 , BA 0 , 0 bf/Ac, Active management: even aged*

Bottomland hardwoods. No data on this stand.

**Management recommendations:** Stand inventory, 2016.



### **Stand 10:**

**Site description:** 22.1 acres lower slope with Arenzvil-volney and Churchtown soils 2 - 14% slope.

**Woodland description:** *Type 007 , Dbh 4 , BA 70 , 0 bf/Ac, Active management: even aged*

Transitional woody area, formerly pasture. Walnut, hackberry, elm, prickly ash, Multiflora rose and garlic mustard. This area could be worked with, maybe some supplemental tree planting with some crop tree release.

**Management recommendations:** Tree planting, 2016.

### **Stand 12:**

**Site description:** 9.0 acres lower slope with Yellow River and LaCrescent soils 14 - 35% slope.

**Woodland description:** *Type 093 , Dbh 18 , BA 55 , 3850 bf/Ac, Active management: even aged*

Maple basswood stand with low BA. Should be thinned to promote maple. Larger trees are mostly poor quality. Understory is maple, ironwood, 2 - 6".

**Management recommendations:** Forest stand improvement, 2016.

### **Stand 14:**

**Site description:** 13.6 acres upland site with Fayette, Village, and LaCrescent soils 9 - 35% slope.

**Woodland description:** *Type 081 , Dbh 16 , BA 80 , 7360 bf/Ac, Active management: even aged*

White oak, shagbark hickory, and maple/basswood, 14 - 20", good quality. There is maple regeneration, but the understory is sparse due to past grazing history. Possible shelterwood or group selection.

**Management recommendations:** Forest stand improvement, 2016.

### **Stand 15:**

**Site description:** 30.1 acres upland site with Fayette, Village, and Paint Creek soils 14 - 30% slope.

**Woodland description:** *Type 080 , Dbh 10 , BA 45 , 0 bf/Ac, Active management: even aged*

This is mostly a formerly heavily grazed area that was probably bulldozed at one time. It is now growing up in mostly 8 - 14" elm, with some maple regeneration outside of the grassy areas. This could be cleared and planted, or TSI'ed to encourage maple. There is a lot of prickly ash and Multiflora rose that will need to be dealt with if planting is anticipated.

**Management recommendations:** Tree planting, 2016.

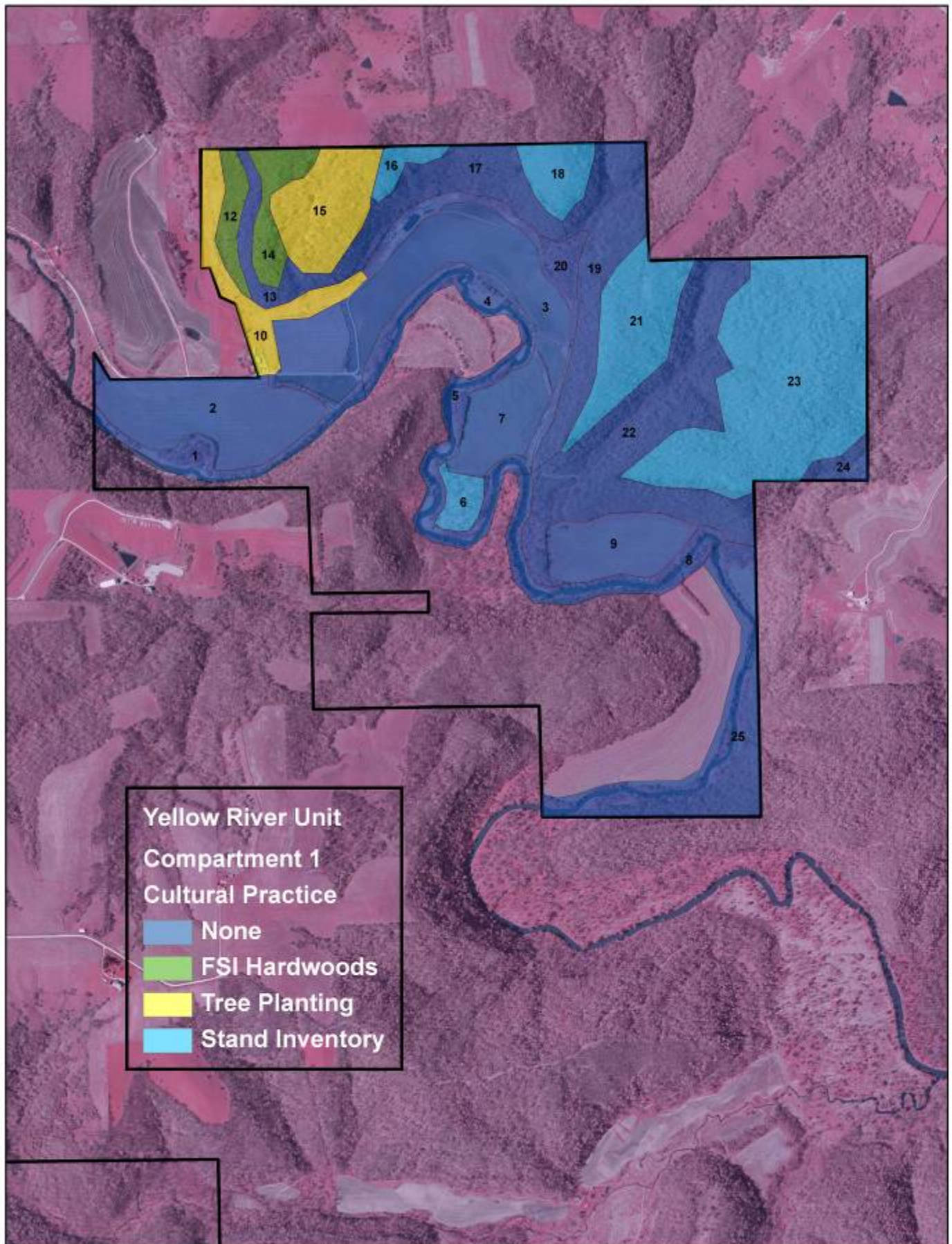
### **Stand 16, 18, 21, 23:**

**Site description:** 165.9 acres, upland sites with variable upland soils on slopes up to 35%.

**Woodland description:** *Type 0 , Dbh 0 , BA 0 , 0 bf/Ac, Active management: even aged*

These stands not yet mapped.

**Management recommendations:** Stand inventory, 2016.



## **FY 2016:**

Yellow River Unit, Compartment 2:

### **Stand 3, 9, 13, 15, 18, 19:**

**Site description:** 40.9 acres upland slopes with LaCrescent soils 35 - 70% slope.

**Woodland description:** *Type 063, 092, 093 , Dbh 10 - 18 , BA 70-110 , 4690-12980 bf/Ac, Limited management: salvage only*

All stands with over mature and declining oak-hickory forest which is succeeding to maple-basswood. Mostly north facing slopes which are rocky. Stands above the Yellow River should be checked for unique species such as native White Pine and Canada Yew.

**Management recommendations:** None.

### **Stand 5, 20:**

**Site description:** 52.9 acres upland and bottomland sites with Ion and Fayette soils 0 18% slope.

**Woodland description:** *Type 001, 002 , Dbh 0 , BA 0 , 0 bf/Ac, Non-forest:*

Both sites former ag fields. Bottomland site is being cropped with prairie species. Upland site is being encroached upon by woody species.

**Management recommendations:** None.

### **Stand 1:**

**Site description:** 6.9 acres upland site with Fayette, Village, Paint Creek, and LaCrescent soils 14 - 35% slope.

**Woodland description:** *Type 093 , Dbh 3 , BA 30 , 0 bf/Ac, Active management: even aged*

This is a stand that was clearcut back in 1996. The original stand had about 150 sq. ft. of basal area with an average diameter of 20.32 in the marked stumpage. By volume, the stand was 66% red oak, 26% white oak, the remainder was maple, basswood, and ash. A total of 67 mbf was sold here (conservative estimate) for a price of \$37280.....\$.553/bf. The understory was primarily small maple. There were a few residual stems around 10" that were left by the loggers. Due to an adjacent landowner problem, these logs were skidded to the east along the ridge and down into the ag field, then across the river to a decking area.

Residual stems in the harvest area were never cut, leaving the stand to grow up in hard maple. Most of the small trees left on the site have since uprooted or blown down. The stand is now 2 - 4 inch maple, with large areas still in a brushy condition. There are a couple of volunteer oak towards the northeast edge of the cut. There will be some good quality maple here in the future.

**Management recommendations:** Forest stand improvement, 2016.

## **Stand 2:**

**Site description:** 14.8 acres upland site with Village, paint creek, and LaCrescent soils 14 - 35% slope.

**Woodland description:** *Type 063 , Dbh 18 , BA 110 , 12980 bf/Ac, Active management: even aged*

Over mature red oak with white oak and maple. This is a large area much of it on a north facing slope that should have been harvested years ago. Some of the ground is too steep for equipment so skidding will be a problem. A quick cruise estimates 7mbf/acre. Many of these trees will have poor butt logs with good top logs. There is quite a bit of breakage and some oak wilt on the flat knob to the northwest side of the stand. This site should be a candidate for harvest in 2006.

NOTE: 3/18/08 Upper part of this stand was clearcut in 2006 harvest sale. More details of sale available in hard copy file. The site was planted in fall of 2007. Data on this stand needs updating to reflect the harvest area.

**Management recommendations:** Forest stand improvement, 2016.

## **Stand 4:**

**Site description:** 3.5 acres upland site with Fayette and Village soils 9 - 18% slope.

**Woodland description:** *Type 063 , Dbh 8 , BA 130 , 0 bf/Ac, Active management: even aged*

This is a small stand of red & white oak with lots of aspen. Also some hickory, ash, maple, and a few walnuts.

Could use a TSI job to thin the aspen and give some oaks with potential more room to grow. Aspen gets very heavy toward the north. This was probably an old field that has simply grown up over the years. There are some ancient oaks on the east edge of this ridge. Drops off steeply to the south.

**Management recommendations:** Forest stand improvement, 2016.

## **Stand 6:**

**Site description:** 4.7 acres upland site with Fayette, Village, and Paint creek soils 9 - 30% slope.

**Woodland description:** *Type 063 , Dbh 18 , BA 100 , 7000 bf/Ac, Active management: even aged*

Red oak conversion stand. This is an over mature red oak stand which should have been harvested a couple decades ago. Many of the oaks on the good (upper) portion of the stand are dead and decaying on the ground. There are at least 5 good mature walnuts in this stand, mostly toward the top where it is more level. Red oaks are being succeeded by pole-sized maple, basswood, and white ash. This is a fairly steep south facing slope which is pretty rocky and looks dry.

**Management recommendations:** Recon for harvest 2016.

## **Stand 7:**

**Site description:** 3.8 acres upland site with Paint Creek and LaCrescent soils, 18 - 35% slope.

**Woodland description:** *Type 063 , Dbh 22 , BA 75 , 5475 bf/Ac, Active management: even aged*

Very old red oak stand breaking up. Big RO & hard maple with lots of breakage and other defect. These large crowns can be seen on the aerial photos of this unit. There are still a few decent RO but they are way past their prime. Some decent maple poles getting started in the holes caused by breaking up of large trees. This is a pretty rocky east facing slope.

**Management recommendations:** Recon for harvest, 2016.

## **Stand 8:**

**Site description:** 12.1 acres upland site with Fayette, Paint Creek, and LaCrescent soils 14 - 35% slope.

**Woodland description:** *Type 065 , Dbh 15 , BA 120 ,           bf/Ac, Active management: even aged*

This is a decent stand of small sawtimber hardwoods including red & black oak, walnut, ash, maple, and basswood. There are some ancient white oaks near the north and south edges of the stand, these are declining. There are some young walnuts with good potential, and some others that should be culled out of the stand. This would be a good TSI candidate for 2006. A few PQ ash and white oak could be removed during the TSI. The site runs out to and east facing bluff with a 20 ft cliff. This outcrop was covered with garlic mustard probably brought there by deer.

**Management recommendations:** Forest stand improvement, 2016.

## **Stand 10:**

**Site description:** 13.7 acres bench site with LaCrescent and Bertrand-Chelsea soils 18 - 35% slope.

**Woodland description:** *Type 065 , Dbh 12 , BA 120 , 7320 bf/Ac, Active management: even aged*

A good looking pole to small sawtimber red oak stand with a good mix of maple, ash, cherry, aspen, hickories, and basswood, as well as some walnut. This stand should be crop tree released ASAP and is located on a workable slope.

**Management recommendations:** Forest stand improvement, 2016.

## **Stand 11:**

**Site description:** 7.4 acres upland site with Fayette soil 25 - 35% slope.

**Woodland description:** *Type 065 , Dbh 10 , BA 130 , 0 bf/Ac, Active management: even aged*

Decent young even aged stand of RO, maple, walnut. Some of these red oaks haven't pruned very well, and there are some black oak around so they may be crossed. This would be a good stand to TSI as soon as possible. There

is an old road toward the bottom of the slope that runs between the drainages. Could be opened up as needed.

**Management recommendations:** forest stand improvement, 2016.

### **Stand 14:**

**Site description:** 13.9 acres upland site with Fayette, Village, Paint Creek, and LaCrescent soils 14 - 35% slope.

**Woodland description:** *Type 063 , Dbh 18 , BA 100 , 7000 bf/Ac, Active management: even aged*

This was a nice young red oak stand prior to 1996. In the past 10 years this stand has suffered a devastating loss of red oak in one of the biggest oak wilt pockets I have ever seen. About 90% of the red oak is affected, many of these trees are already falling over on the skid trail that was used in the '96 clearcut to the west. Most of the dead trees are 12" and up. The residual stand will be mostly maple, cherry, and aspen.

This stand should be broken up across the ridge to stop root graft spread of the OW. There are some larger RO on the north side of the ridge which could be harvested.

NOTE: 3/18/08 This stand was broken up in a 2006 sale of red oak. More info available in file on this sale area. Data for this stand needs updating .

**Management recommendations:** Stand inventory, Forest stand improvement, 2016.

### **Stand 16:**

**Site description:** 24.2 acres bottomland site with Ion soils, 0 - 2% slope.

**Woodland description:** *Type 079 , Dbh 3 , BA 60 , 0 bf/Ac, Active management: even aged*

This is a tree planting area that was planted back in the late 90's to red and white oak, green ash, hybrid poplar, and walnut. The site was retired from the crop lease program, the idea was to stop the farm cooperators from crossing the river here and cut down on erosion, as well as reducing the cost of maintaining the crossings. This planting has not fared well except for the walnut. Boxelder has encroached horribly on this site, crowding out much

of the nursery stock. To make matters worse, beavers have picked heavily on anything which was not boxelder, including much of the ash, which was doing fairly well. In 2006 we planted 250 swamp white oak into this site using tree shelters with herbicide follow-up. We also killed the boxelder using basal bark treatment. A forestry contractor, Tom Brown, was used for this job.

**Management recommendations:** Forest stand improvement, 2016.

### **Stand 17:**

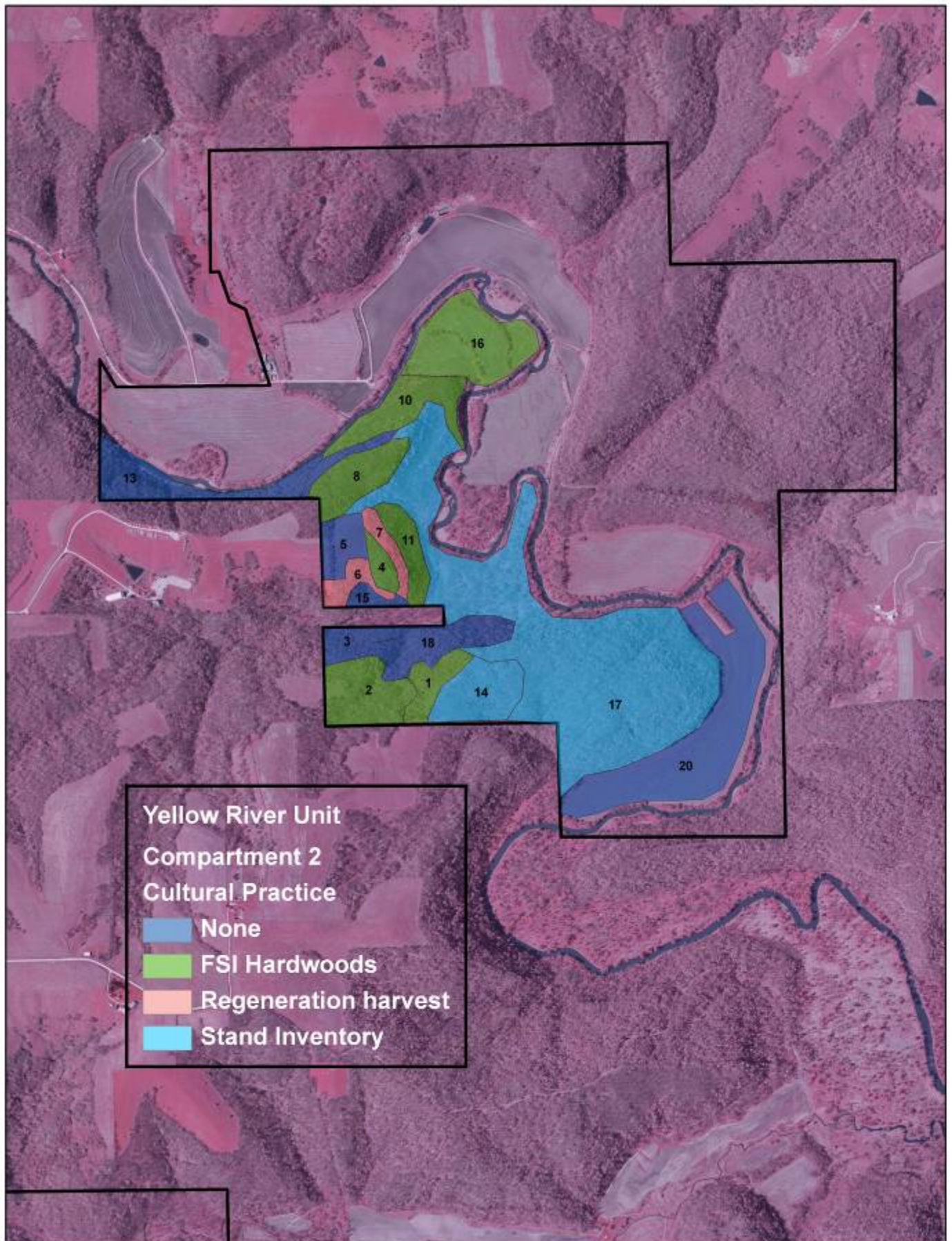
**Site description:** 124.2 acres mostly upland sites, soils and slopes variable.

**Woodland description:** *Type 0 , Dbh 0 , BA 0 , 0 bf/Ac, Active management: even aged*



No data on this stand.

**Management recommendations:** Stand inventory, 2016.



**FY 2016:**

Lost 40 Unit, Compartment 1:

**Stand 1:**

**Site description:** 19.9 acres upland site with LaCrescent soils 25 - 70% slope.

**Woodland description:** *Type 063 , Dbh 16 , BA 100 ,           bf/Ac, Limited management: salvage only*  
Mature oak-hickory on steep west facing slope. No comment file on this stand, needs stand inventory.

**Management recommendations:** Stand inventory, 2016.

**Stand 2:**

**Site description:** 12.1 acres, upland site with Boone and LaCrescent soils on 20-35% slope.

**Woodland description:** *Type 093 , Dbh 4 , BA 40 , 0 bf/Ac, Active management: even aged*  
No comment file available. This stand was marked for timber harvest in 1996. No subsequent work was ever done after the sale and the stand is succeeding to maple basswood. Need stand inventory for better data.

**Management recommendations:** Stand inventory, 2016.

**Stand 3:**

**Site description:** 10.9 acres upland site with Boone and LaCrescent soils on 20 - 35% slopes.

**Woodland description:** *Type 089 , Dbh 18 , BA 70 , 0 bf/Ac, Active management: even aged*  
Upland hardwoods with a few walnuts. No comment file available. Need more data.

**Management recommendations:** Stand inventory, 2016.

**Stand 4:**

**Site description:** 13.4 acres creek bottom with Arenzvil-volney soils 2 - 5% slope.

**Woodland description:** *Type 087 , Dbh 0 , BA 0 , 0 bf/Ac, Limited management: salvage only*  
Bottomland hardwoods with walnut. No data available on this stand. Inventory needed. Limited management due to riparian area.

**Management recommendations:** No management, Stand Inventory, 2016.

**Stand 5:**

**Site description:** 17.5 acres upland site with north facing slope, LaCrescent soils 35 - 70% slope.

**Woodland description:** *Type 089 , Dbh 18 , BA 70 ,           bf/Ac, Limited management: salvage only*  
Upland hardwoods with walnut. No comment file. There are some good walnuts in this stand. Slope may preclude management in this stand.

**Management recommendations:** Stand Inventory, 2016.

### **Stand 6:**

**Site description:** 6.6 acres upland site with Dubuque and LaCrescent soils, 14 - 35% slope.

**Woodland description:** *Type 089 , Dbh 18 , BA 70 , 0 bf/Ac, Active management: even aged*  
Upland hardwoods with walnut. Need more data on this stand.

**Management recommendations:** Stand inventory, 2016.

### **Stand 7:**

**Site description:** 8.3 acres creek bottom with Arenzvil-volney soils 0 - 2% slope.

**Woodland description:** *Type 087 , Dbh 0 , BA 0 , 0 bf/Ac, Limited management: salvage only*  
Creek bottom stand with walnuts, elm, etc. Need more data.

**Management recommendations:** None....stand inventory, 2016.

### **Stand 8:**

**Site description:** 48.5 acres upland site with Dubuque, Yellow River, and LaCrescent soils 14 - 35% slope.

**Woodland description:** *Type 089 , Dbh 16 , BA 100 ,           bf/Ac, Active management: even aged*  
Upland stand with small sawtimber red and white oak. Need more data on this stand.

**Management recommendations:** Stand inventory, 2016.

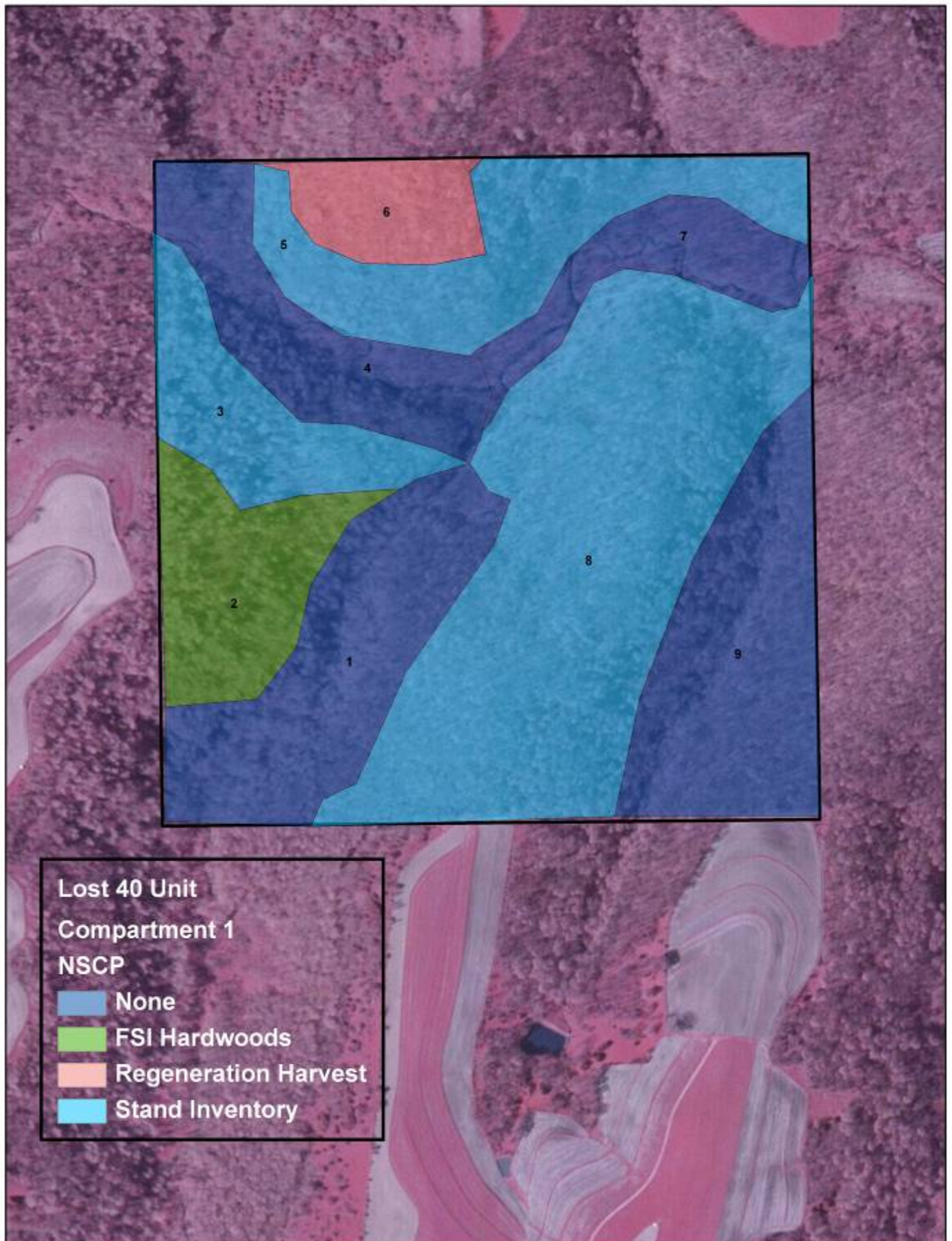
### **Stand 9:**

**Site description:** 20.2 acres upland site with Nordness and LaCrescent soils 25 - 35% slope.

**Woodland description:** *Type 089 , Dbh 16 , BA 80 ,           bf/Ac, Limited management: salvage only*  
Upland hardwoods with walnut. Need more data on this stand. Limited management due to slope restriction.

**Management recommendations:** Stand Inventory, 2016.





## **FY 2017:**

Paint Rock Unit, Compartment 1:

### **Stand 1:**

**Site description:** 22.5 acres upland site with Fayette, Village, Paint Creek, and LaCrescent soils 9 - 35% slope.

**Woodland description:** *Type 089 , Dbh 16 , BA 100 , 6700 bf/Ac, Active management: even aged*

This is an all aged stand of walnut and oak with lots of walnuts from poles to sawtimber. The larger walnuts are not real good quality and some have damage & should be harvested. Many of the larger oaks are decadent and concentrated on the south facing slope. The smaller size classes are in aspen, elm, and basswood, with a few red and black oak and hackberry. A lot of past erosion as evidenced by the many shallow gullies below the crop field. There is a lot of gooseberry in the stand, so it probably has a long history of livestock grazing. This may be the reason for the large number of walnuts in the stand also. It almost looks as though the stand was managed for walnut, although there are no stumps indicating any harvest. There is one incredibly old white oak about half way out the point on the ridge just north of the power line cut.

11/30/06

This stand was marked for a walnut sale to take place this winter. A total of 86 trees were marked, average diameter of 18.6", total volume of 11.46mbf, average volume of 133bf/tree. Most of the trees marked were marginal quality, and were removed as a thinning to enhance the growth of residual trees. A few large high quality trees were removed to improve the sale statistics. After the walnut harvest, YRSF crews will finish thinning the stand by selectively harvesting low quality trees to bring the BA down to a tolerable level.

2/1/07

Walnuts in this stand sold for \$28,750, \$2.51/bf. Some of the bidders remarked that we didn't mark enough of the good trees here, so the last 10 trees probably made this sale coz they were pretty nice. Still a lot of good big walnut in this stand.

11/27/07

Walnuts were harvested in September of this year, tops were broken down by YRSF crew. Loggers did a good job of keeping damage to residual trees at a minimum. The stand prescription here is to selectively harvest poor quality aspen, basswood, and elm to stimulate growth on young oak and walnut.

**Management recommendations:** Forest stand improvement, 2017.

### **Stand 2:**

**Site description:** 1.4 acres upland site with Fayette soils 5 - 14% slope.

**Woodland description:** *Type 019 , Dbh 2 , BA 40 , 0 bf/Ac, Active management: even aged*  
About one acre of red & white pine, and white spruce with some lilac & other shrubs planted along the fence in 1990 or 91. These are now about 15 ft in height and doing OK. Spruce is still lagging behind somewhat. Could probably use a thinning.

2007: this stand was weeded to remove hardwoods and defective conifers. No BA target was specified.

**Management recommendations:** Forest stand improvement, 2017.

### **Stand 3:**

**Site description:** 6.9 acres upland site with Fayette and Village soils 9 - 18% slope.

**Woodland description:** *Type 007 , Dbh 0 , BA 0 , 0 bf/Ac, Active management: even aged*  
this is an old field edge that has been encroached upon by aspen, oak, and pine over the years. About 10 years prior to this date, we cut some larger aspen on this edge to try to get this encroachment going. In 2006, we got a grant from the Ruffed Grouse Society to enhance grouse habitat on the state forest, and in conjunction with the DNR wildlife biologist, entered into a contract agreement to cut all this encroaching vegetation and allow it to sprout back for increased stem density and more aspen, which is good for grouse habitat. There was a fair number of oak seedlings as well as pine and some red cedar growing throughout. Our hope is that this will come through as the new stand develops and we will end up with a decent oak component.

11/30/06

We are seeing very good results from the grouse habitat project. Lots of aspen root sprouts intermixed with oak seedlings, some cedar, and even a few pines. Stem density is very good, especially closest to the timber edge.

**Management recommendations:** Forest stand improvement, 2017.

### **Stand 4:**

**Site description:** 16.0 acres upland site with Fayette soils 9 - 18% slopes.

**Woodland description:** *Type 001 , Dbh 0 , BA 0 , 0 bf/Ac, Non-forest:*  
Crop lease area with rotation of corn/beans/alfalfa.

**Management recommendations:** None.

### **Stand 5:**

**Site description:** 6.9 acres upland site with Fayette and Village soils 9 - 18% slope.

**Woodland description:** *Type 069 , Dbh 14 , BA 90 , 5850 bf/Ac, Active management: even aged*  
Black locust stand probably planted shortly after gov. ownership of this parcel. There was a tendency to believe that worn out farm fields would benefit from the nitrogen



fixation properties of black locust. Now considered a weed tree species, this stand has merchantable sized trees but most are riddled with locust borers. From the look of these stands, they may also have some allelopathic properties, as there are few other trees growing here. Black locust is also a prolific sprouter and colonizer as evidenced by the encroachment into the adjacent clearcut to the east.

1/22/07

About two acres of the south end of this locust stand is being harvested for firewood and for lumber, in an attempt to eradicate this species from what would otherwise be a good timber growing site. The 10 year old clearcut to the east of this locust stand came up in almost a black locust monoculture and virtually none of the oak we planted survived. All stumps will be treated with Tordon RTU to suppress sprouting. We will follow with tree planting in spring to try to establish some oak and other species.

**Management recommendations:** Forest stand improvement....weed out black locust, 2009.

### **Stand 6:**

**Site description:** 6.0 acres upland site with Fayette soils, 9 - 18% slope.

**Woodland description:** *Type 063 , Dbh 4 , BA 20 , 0 bf/Ac, Active management: even aged*

1997 clearcut which was done poorly. Approximately 75mbf was sold here to Tracy Export as part of a 133mbf sale which included another clearcut in PR-2. This site contained about 46% red oak and 35% white oak by volume and sold for about 32 cents per bf. The site was clear cut except that a few residual trees were left in places. Nursery stock in short supply and only a few large red oak were planted into the clearcut. Many of these didn't do well and encroachment from the adjacent black locust stand soon filled the site and shaded out the red oaks that were planted. There are still a few red oak toward the north end of this harvest area, but the south end is a virtual monoculture of locust. It might be good to try to eliminate this species and replant, but I'm not sure about the allelopathic qualities of locust which might prevent establishment of seedlings. I am sure there is also a large seed bank for locust.

2/1/07

About one acre at the south of this stand was cleared of black locust. Trees were stump treated with Tordon RTU to suppress sprouting. Plans are to follow up with tree planting in spring, hopefully encouraging some species other than locust. Also, about 2 acres of the more mature black locust stand to the west was cut and treated with Tordon to discourage sprouting and establish some oak. This is an experiment we are hoping will work to establish native hardwoods.

**Management recommendations:** Forest stand improvement, 2009. Weed out black locust.

### **Stand 7:**

**Site description:** 6.2 acres upland site with Fayette and Village soils 9 - 25% slope.

**Woodland description:** *Type 063 , Dbh 19 , BA 115 , 14030 bf/Ac, Active management: even aged*

Decent stand of red and white oak. One oak wilt pocket with 4 dead trees. Some very old white oaks near the fence line. Most of these red oaks look OK at this time, they appear to have good growth rate and not much breakage except for a few individuals. Looks like

a good site and fairly easily worked, except that it gets a bit steep to the west and north. This stand has a maple understory which will be something to contend with at regen. time. Recommend that if we cut this, we leave a buffer between the black locust stand to the south.

**Management recommendations:** Recon for regeneration harvest, 2017.

### **Stand 8:**

**Site description:** 7.5 acres upland site with Fayette soils 9 - 25% slope.

**Woodland description:** *Type 079 , Dbh 14 , BA 105 , 6825 bf/Ac, Active management: even aged*

Along the field edge there was some harvesting done in this stand. The only reference found is in 1977 which is consistent with the apparent age of the stumps. McSweeney's notes indicate that Schultz & Bublitiz cleaned this up after a commercial harvest. There is a ref. to 17000 board feet but I'm not sure if this was the commercial harvest or the salvage operation.

It looks as if the large red oak was cut throughout the stand, but there are still a few remaining. There was surprisingly little recruitment of maple after the harvest but a lot of elm, ash, and bitternut hickory along with a few hackberry came through into the canopy. In places where there were small openings, the grape vines are huge and hanging off the trees. The stand has an almost 2 aged character but the younger trees are a poor mix of upland hardwoods. The harvesting tapers off towards the steeper ground to the north and east and a lot of large red oak still remain.

At the least this stand could be cleaned up from vines and undesirable trees. There is a fair amount of stocking, but a lot of elms and bitternuts that will probably not last long. I assume this is the result of poor harvest planning and not looking for decent understory component before selective harvesting.

**Management recommendations:** Forest stand improvement, 2017.

### **Stand 9:**

**Site description:** 8.2 acres upland site with Fayette, Village, and LaCrescent soils 9 - 35% slope.

**Woodland description:** *Type 065 , Dbh 20 , BA 120 , 14880 bf/Ac, Active management: even aged*

Comment File - Paint Rock Unit - Compartment 1, Stand 9

4:43 PM 2/24/2006

A typical old stand of red oak with OK health. some oak wilt pockets with a few trees lost. Trees have been harvested in a few places as part of a sale in 1977, but there is still a lot of volume here. The stand goes out to some great views of the Mississippi and on the edges there are some very old white oaks still clinging to the bluffs. This might be a good candidate for a group selection or small clearcut away from the bluff side. The site is fairly level except near the drainage on the northwest corner and on the east and north where it drops off fast.

**Management recommendations:** Recon for harvest, 2017.

### **Stand 10:**

**Site description:** 3.3 acres upland site with Fayette soils 18 - 25% slope.

**Woodland description:** *Type 079 , Dbh 16 , BA 70 , 4690 bf/Ac, Active management: even aged*

Small stand covering a drainage area near a pond and crop field. RO, WO, and cottonwood make up the bulk of large trees here. Cottonwoods are about at the end of their run and are dying out. They are being succeeded by elm, ash, and hackberry poles. There is some merchantable timber here, but not high value or volume. Might be a good sawmill harvest area.

**Management recommendations:** Regeneration harvest, 2017.

### **Stand 11:**

**Site description:** 6.8 acres upland site with Fayette soils 9 - 25% slope.

**Woodland description:** *Type 118 , Dbh 11 , BA 65 , 0 bf/Ac, Active management: even aged*

Poor stand of bitternut hickory, boxelder, and elm with a few good stems of basswood, elm, and ash. Probably a good candidate for a cleanup and regeneration cut. This stand near a pond would provide some good wildlife cover if some decent trees were introduced.

2007: Part of this stand was clearcut by Luster Hts for firewood and replanted to oak and walnut in spring of 2008. This operation will hopefully continue until this stand is completely converted. Any harvestable logs will be brought into the mill.

**Management recommendations:** Regeneration harvest, 2009.

### **Stand 12:**

**Site description:** 16.2 acres upland site with Fayette, Village, Paint Creek, and LaCrescent soils 9 - 35% slope.

**Woodland description:** *Type 063 , Dbh 17 , BA 120 , 8280 bf/Ac, Active management: uneven aged*

This is a decent stand of mixed oak, with a lot of what looks like second growth stems originating from stump sprouts. There is no evidence of harvesting here at all. This stand has experienced a lot of mortality from oak wilt and blow down, to the extent that white oak is now the dominant species here, with some scattered red oak in pockets. Harvesting should have been done here about 20 years ago. In places where red oak has succumbed, there are pole sized elm and ironwood, with a few scattered maples. There are also places of low volume due to loss of the red oak. There are several extremely old white oak wolf trees here. Walnut is also scattered in the stand, none particularly high quality that I noticed.

this might be a good stand to try a group selection since there is a good white oak component which is in the small sawtimber class. Pockets of large red oak could be removed, and scatter poor quality and recently dead trees could be salvaged.

1/22/07

This stand was marked for a group selection harvest in November of '06. Three groups of about one acre in size were selected based on the quality and species of trees. A total of

39,940 bf was marked and subsequently sold to Grau Logs & Lumber for \$19,003. The majority of the volume was red & black and white oak. The salvage or "cleaning" operation will be done by the sawmill crew, weather and time permitting. Group areas will be regenerated by tree planting, hoping to get some oak component.

**Management recommendations:** Forest stand improvement on the groups, Regeneration harvest, 2027.

### **Stand 13:**

**Site description:** 5.7 acres upland site with Fayette soils 5 - 18% slope.

**Woodland description:** *Type 013 , Dbh 12 , BA 160 , 20320 bf/Ac, Active management: even aged*

White pine plantation on an old crop field. There might be a record of when this was planted, but I have yet to find it in McSweeney's files. It seems odd that this white pine was never pruned, but the red pine adjacent to it seems to have been. BA is pretty high, and there are some very small 6" stems that should be removed along with a thinning. Some blister rust here, but overall, not too bad. No signs of lodging or mortality that I would consider threatening to the overall health of the stand.

**Management recommendations:** Forest stand improvement, 2017.

### **Stand 14:**

**Site description:** 4.2 acres upland site with Fayette soils 5 - 14% slope.

**Woodland description:** *Type 012 , Dbh 10 , BA 175 , 0 bf/Ac, Active management: even aged*

Red pine which was pruned and probably thinned many years ago, judging by the size of it. There are some walnuts encroaching on the stand from the edge which will cause some mortality, but overall, this looks pretty good considering lack of management over many years. This stand deserves high priority for thinning compared with many of the stagnant stands at Luster Hts.

**Management recommendations:** Forest stand improvement, 2017.

### **Stand 15:**

**Site description:** 3.0 acres upland site with Fayette soils 9 - 14% slope.

**Woodland description:** *Type 089 , Dbh 12 , BA 180 , 10980 bf/Ac, Active management: even aged*

This area is an apparently failed planting of spruce or possibly jack pine that has grown up with aspen, cottonwood, paper birch, and walnut. There are enough walnut here to work with and that should be the direction for this small area. I would crop tree release these if we ever get into this area to do a harvest or pine thinning.

**Management recommendations:** Forest stand improvement, 2017.

### **Stand 16:**

**Site description:** 2.6 acres upland site with Fayette soils 9 - 18% slope.

**Woodland description:** *Type 012 , Dbh 10 , BA 210 , 0 bf/Ac, Active management: even aged*  
Red pine, horribly overstocked with average dbh of around 10". There is some walnut encroachment here which is already killing pines. This stand should be thinned or eliminated.  
**Management recommendations:** Regeneration harvest, 2017.

### **Stand 17:**

**Site description:** 1.8 acres upland site with Fayette soils 14 - 18% slope.

**Woodland description:** *Type 079 , Dbh 12 , BA 75 , 4575 bf/Ac, Active management: even aged*

Small stand of crappy looking pole timber with scattered large poor quality RO and a few basswood. This stand is below a large planting of pine which was formerly a crop field so there is a lot of erosion and abuse of the timber. There are some small white oak and a few walnut that could be worked with. This is very near our property boundary which is not marked well here, so care should be taken when working in this area.

**Management recommendations:** Forest stand improvement, 2017.

### **Stand 18:**

**Site description:** 13.1 acres upland site with Fayette, Village, and LaCrescent soils 9 - 35% slope.

**Woodland description:** *Type 064 , Dbh 16 , BA 80 , 5360 bf/Ac, Active management: even aged*

Predominantly white oak with scattered walnut and a few red oak. There is some white oak mortality here, possibly from oak wilt. Definite evidence that the red oak has been killed out of the stand. No stumps that I can see indicates any logging history. Probably a grazed timber at one point judging by gooseberry and an occasional mf rose. Overall, there is some nice WO here, not real high volume.

**Management recommendations:** Recon for harvest in 2017.

### **Stand 19:**

**Site description:** 17.4 acres low lying ravine and adjacent slope with LaCrescent soils 25 - 70% slope.

**Woodland description:** *Type 088 , Dbh 16 , BA 85 , 5695 bf/Ac, Limited management: salvage only*

This is a long ravine of bottomland hardwoods with walnut. Most of the walnut is average quality, however, there are 6 beauties on the south end of the stand below Cota's farm buildings. A lot of the larger walnut seems to have basal scarring. The remainder of the trees in the stand are a mix of 6 to 10" elm, ash, cottonwood, maple, hackberry, and basswood. The walnuts extend some distance up the slopes on either side. Given the 2 aged character of the stand and the difficulty of regenerating good species on these low-lying sites, the walnut is generally managed selectively, but it would be nice to be able to clearcut some of this to get new trees established, but this is a limited management due to the riparian aspect as well as steep slopes.

**Management recommendations:** Monitor walnuts for possible salvage, stand inventory 2017.

## **Stand 20:**

**Site description:** 3.9 acres upland site with LaCrescent soils 25 - 70% slope.

**Woodland description:** *Type 089 , Dbh 20 , BA 90 , 6480 bf/Ac, Limited management: salvage only*

Decadent stand of red oak and walnut just below Cota farm buildings. Understory is elm and boxelder. This is a fairly steep site, but some trees could be salvaged.

**Management recommendations:** None.

## **Stand 21:**

**Site description:** 5.2 acres upland site with Fayette soils 5 - 25% slope.

**Woodland description:** *Type 063 , Dbh 20 , BA 100 , 9800 bf/Ac, Active management: even aged*

Nice stand of red oak being marked for 06-07 timber sale. This stand averages over 20" dbh and has some oak wilt pockets in it. There is a decent acorn crop here, so it would be a good year to clear cut this stand.

A total of 52mbf was marked here, 82% red oak, 7% white oak by volume. This was sold to Grau Logs & Lumber of Elkader for \$540/mbf. Since Grau could not log this winter, YRSF crew felled some of the understory trees and scraped around with the crawler to bury acorns in an attempt at natural regen. There was some concerns about leaving small stumps that might puncture a skidder tire.

12/07 Harvest started here in October and was finished up late in December. A recon of the stand prior to harvest showed that every place the crawler was able to scrape, there was adequate red oak regeneration. Not sure how these will survive the harvest, so the plan is to supplement with white oak and walnut following spring.

2/08 Clean up of this site has been hampered by deep snow and cold weather. It is hoped that after some of the snow melts, we will still have time to get the site ready for planting.

2008. spring, the site was planted with white oak and walnut seedlings. I is hoped that naturally seeding of red oak will take place here. May wish to check for release in 2009.

**Management recommendations:** Seedling release, 2009.

## **Stand 22:**

**Site description:** 34.6 acres upland site with LaCrescent soils 35 - 70% slope.

**Woodland description:** *Type 063 , Dbh 18 , BA 80 , 5600 bf/Ac, Limited management: salvage only*

Large stand of oak hickory on very steep, rocky slopes above the Mississippi River corridor. Many bluffs and rock outcrops here, impossible to work on. No management is anticipated on these slopes.

**Management recommendations:** None.

## **Stand 23:**



**Site description:** 3.3 acres upland site with LaCrescent soils 35 - 70% slope.

**Woodland description:** *Type 063 , Dbh 17 , BA 120 , 8280 bf/Ac, Limited management: salvage only*

This is a decent stand of mixed oak, with a lot of what looks like second growth stems originating from stump sprouts. There is no evidence of harvesting here at all. This stand has experienced a lot of mortality from oak wilt and blow down, to the extent that white oak is now the dominant species here, with some scattered red oak in pockets. Harvesting should have been done here about 20 years ago. In places where red oak has succumbed, there are pole sized elm and ironwood, with a few scattered maples. There are also places of low volume due to loss of the red oak. There are several extremely old white oak wolf trees here. Walnut is also scattered in the stand, none particularly high quality that I noticed. This stand was cut from stand 12 due to severity of slope.

**Management recommendations:** None.

### **Stand 24:**

**Site description:** 74.8 acres river island site with Caneek-channeled soil 0 -2% slope.

**Woodland description:** *Type 086 , Dbh 12 , BA 150 , 12600 bf/Ac, Limited management: salvage only*

This is an island just off Harpers Slough. This stuff has never been mapped, but as with most of these Miss. River islands, it is mostly silver maple. Doubtful that we will ever do any mgt here, except that there may be a possibility of working to get swamp white oak to re-colonize some of the higher elevated portions of the island.

**Management recommendations:** None.

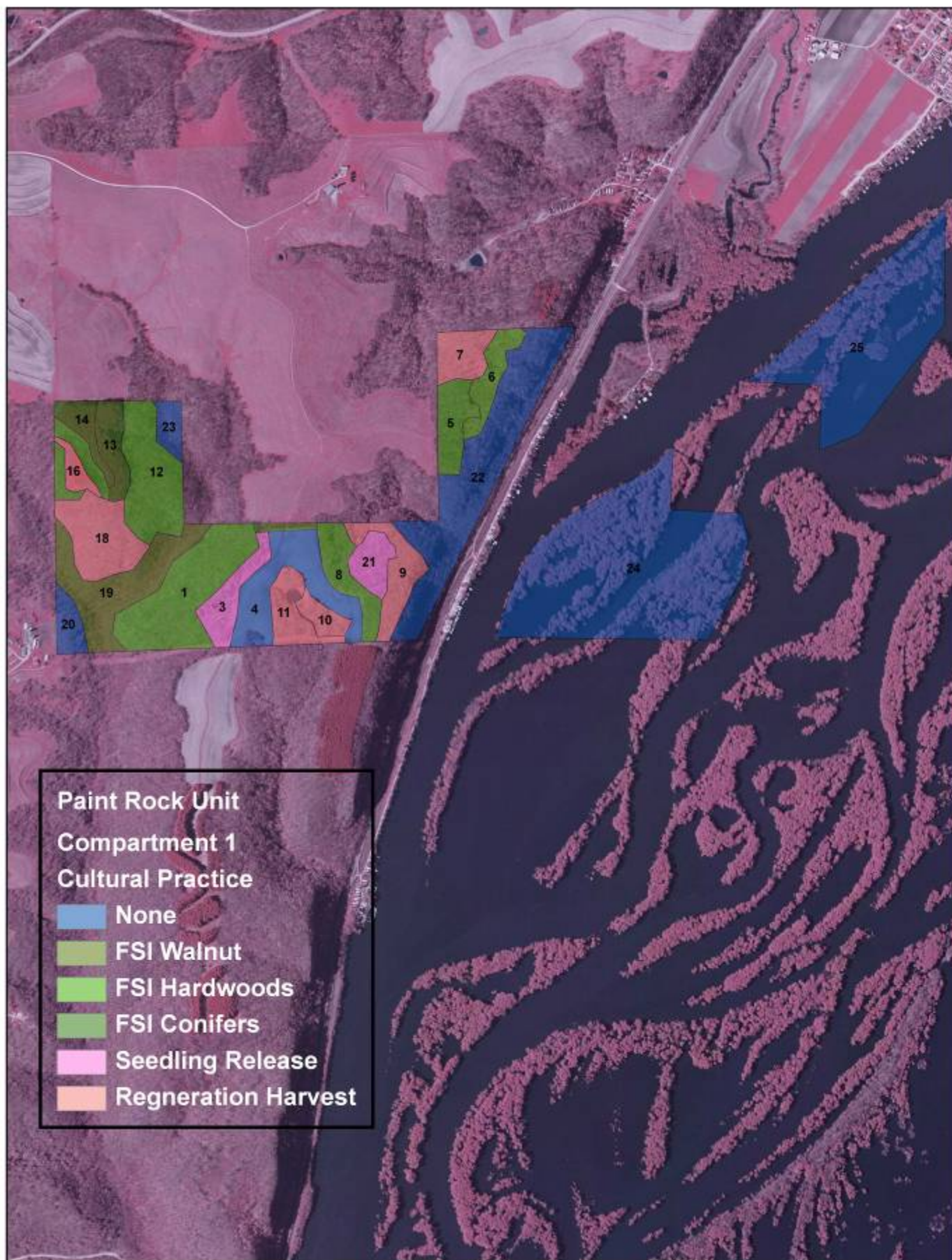
### **Stand 25:**

**Site description:** 48.9 acres river island site with Caneek-channeled soils 0 -2% slope.

**Woodland description:** *Type 086 , Dbh 12 , BA 150 , 12600 bf/Ac, Limited management: salvage only*

This is an island just off Harpers Slough. This stuff has never been mapped, but as with most of these Miss. River islands, it is mostly silver maple. Doubtful that we will ever do any mgt here, except that there may be a possibility of working to get swamp white oak to re-colonize some of the higher elevated portions of the island.

**Management recommendations:** None.



## **FY 2017:**

Paint Rock Unit, Compartment 2:

### **Stand 1:**

**Site description:** 3.4 acres upland site with Fayette soils 9 - 14% slope

**Woodland description:** *Type 079 , Dbh 10 , BA 70 , 0 bf/Ac, Active management: even aged*

A narrow band of aspen and other hardwoods, probably encroaching from the timber edge towards the ag field above. Aspen is not doing that well here, and the other hardwoods are starting to crowd it out. There are scattered walnut saplings, as well as scattered larger oak and cottonwood.

**Management recommendations:** Forest stand improvement, 2017.

### **Stand 2:**

**Site description:** 18.2 acres, upland site with Fayette soils 9 - 18% slope

**Woodland description:** *Type 001 , Dbh 0 , BA 0 , 0 bf/Ac, Non-forest:*

Ag field.

**Management recommendations:** None.

### **Stand 3:**

**Site description:** 42.4 acres upland site with Fayette, Village, and Paint Creek soils 9 - 18% slope.

**Woodland description:** *Type 063 , Dbh 16 , BA 90 , 8280 bf/Ac, Active management: even aged*

Fairly large stand on workable slope with mature red and white oak. Other species include hickory, basswood, walnut, and elm. Notes indicate that the red oak is beginning to break up in this stand. This should be looked at for a possible harvest area in the next rotation.

**Management recommendations:** Regeneration harvest, 2017.

### **Stand 4:**

**Site description:** 46.1 acres upland site with Paint Creek and LaCrescent soils 18 - 70% slope.

**Woodland description:** *Type 089 , Dbh 12 , BA 90 , 5490 bf/Ac, Limited management: salvage only*

Red oak, hickory, walnut, and bur oak with elm and basswood on a steep slope. Understory is bitternut hickory, ahs, elm, and some hackberry. Patches of decent quality red oak, but too steep to manage. this stand is in limited management area.

**Management recommendations:** None.

### **Stand 5:**

**Site description:** 50.2 acres riparian site in deep drainage, Arenzvil-volney soils 0 - 5% slope

**Woodland description:** *Type 087 , Dbh 16 , BA 40 , 3680 bf/Ac, Limited management: salvage only*

Large bottomland area following the old Indian trail. This stand is a mixture of walnut with elm, cottonwood, basswood, and a few others. A walnut sale was done here in 2001 to remove trees which had signs of dieback and bole sprouting. This dieback may have been associated with a unique spring weather event which occurred in the mid-90's as this was not the only place we have seen these symptoms through the mid and late 90's. 150 trees mostly in the 12 -16 inch size class were sold, as well as a few larger trees which had breakage or were otherwise in danger of losing volume in the next 10 years. Many of the marked trees were already completely dead. This stand was subsequently placed into the limited management zone as a riparian area, although water does not normally flow in this drainage except for in spring and times of torrential rain.

**Management recommendations:** None.

### **Stand 6:**

**Site description:** 6.2 acres upland site with Village and LaCrescent soils 18 - 70% slope.

**Woodland description:** *Type 079 , Dbh 16 , BA 120 , 8040 bf/Ac, Limited management: salvage only*

A steep east facing slope with red oak, ash, & basswood. Understory is maple, elm, hackberry, bitternut, basswood, ironwood in the pole size class. This is too steep to do any management, and is in limited management due to slope.

**Management recommendations:** None.

### **Stand 7:**

**Site description:** 7.2 acres upland site with LaCrescent soils 25 - 35% slope

**Woodland description:** *Type , Dbh , BA , bf/Ac, Active management: even aged*

I have no data on this stand, but it appears to be just on the break of the 35% slope restriction. This should be looked at for possible management. Evidently this small corner was missed in the stand mapping phase in 1999.

**Management recommendations:** Stand inventory, 2017.

### **Stand 8:**

**Site description:** 5.1 acres upland site with LaCrescent soils 25 - 35% slope.

**Woodland description:** *Type 063 , Dbh 18 , BA 90 , 10620 bf/Ac, Active management: even aged*  
mature red and white oak on workable slope. this is a small cove of harvestable timber with ash/maple understory. Probably should look here for a harvest next rotation.

**Management recommendations:** Regeneration harvest, 2017.

### **Stand 9:**

**Site description:** 14.8 acres upland site with Medary and LaCrescent soils 35 - 70% slope.

**Woodland description:** *Type 063 , Dbh 12 , BA 80 , 6720 bf/Ac, Limited management: salvage only*

Very steep rocky slope with red oak, white oak, walnut, basswood, hickory, elm, etc. This area is in limited management because of the slope.

**Management recommendations:** None.

### **Stand 10:**

**Site description:** 11.3 acres upland site with Fayette soils 9 - 14% slope.

**Woodland description:** *Type 013 , Dbh 10 , BA 220 , 0 bf/Ac, Active management: even aged*

This stand is comprised of 4 small stands of white pine, all in need of thinning. These stands have been sorely neglected over the years due to lack of markets for pine, but should either be managed in the hope that the lumber is useful someday, or clearcut and converted to hardwoods. At this point, the ave diameter is around 10, edge trees are horribly branchy. There is some open ground between these stands containing some planted hardwoods and some volunteer oak etc. Edge trees should probably be removed to give these hardwoods a chance.

**Management recommendations:** Forest stand improvement, 2017.

### **Stand 11:**

**Site description:** 3.2 acres upland site with Fayette soils 9 - 18% slope

**Woodland description:** *Type 012 , Dbh 10 , BA 140 , 0 bf/Ac, Active management: even aged*

Small linear stand of red pine. This was thinned back in the mid 90's, but could use another thinning.

**Management recommendations:** Forest stand improvement, 2017, thin to recommended BA for red pine.

### **Stand 12:**

**Site description:** 10.0 acres upland site with Fayette and Village soils 9 - 18% slope.

**Woodland description:** *Type 065 , Dbh 14 , BA 80 , 8720 bf/Ac, Active management: even aged*

Red oak dominated small sawtimber. Basswood and ironwood understory. Moderate slope.

**Management recommendations:** Forest stand improvement, 2017.

### **Stand 13:**

**Site description:** 1.9 acres upland site with Fayette soils 9 - 14% slope.

**Woodland description:** *Type 002 , Dbh 0 , BA 0 , 0 bf/Ac, Non-forest:*

Small grassy area used as log landing area. There is a small pond here as well.

**Management recommendations:** None

### **Stand 14:**

**Site description:** 6.3 acres upland site with Fayette soils 9 - 18% slope.

**Woodland description:** *Type 013 , Dbh 10 , BA 190 , 0 bf/Ac, Active management: even aged*

2 more blocks of 10" white pine in need of thinning. Sandwiched between these is a 1981 planting of walnut and larch which would be doing better if the pines on the edges of these blocks were removed.

**Management recommendations:** Forest stand improvement, 2017.

### **Stand 15:**

**Site description:** 12.8 acres upland site with Fayette soils 9 - 18% slope.

**Woodland description:** *Type 093 , Dbh 8 , BA 150 , 0 bf/Ac, Active management: even aged*

Maple basswood filling in an oak stand which was harvested. There are a few remaining 14 - 16 inch oaks here, but the stand is converting to maple basswood with other shade tolerant hardwoods. NOTE: there was a large sale here in 1980. The sale covered 37 acres, so it was significantly larger than this stand and included stands to the north and south as well. A total of 133.5 mbf mostly red and white oak. The harvest was considered a "selection" harvest and some areas were cut much harder than others.

**Management recommendations:** Forest stand improvement, 2017.

### **Stand 16:**

**Site description:** 10.1 acres upland site with Fayette soils 9 - 18% slope

**Woodland description:** *Type 063 , Dbh 18 , BA 90 , 8460 bf/Ac, Active management: even aged*

Mature red and white oak with pole maple understory. "Nice big trees".

**Management recommendations:** Recon for harvest, 2017.

### **Stand 17:**

**Site description:** 3.9 acres upland site with Fayette, Village, and Paint Creek soils 9 - 25% slope.

**Woodland description:** *Type 089 , Dbh 12 , BA 70 , 5880 bf/Ac, Active management: even aged*

This is an old farmstead with a white pine windbreak and a bunch of walnut which has probably crept into a barnyard or pasture land. There is an abandoned well on this site.

**Management recommendations:** Forest stand improvement, 2017.

### **Stand 18:**

**Site description:** 5.7 acres upland site with Village soil 14 - 18% slope.

**Woodland description:** *Type 063 , Dbh 2 , BA 20 , 0 bf/Ac, Active management: even aged*

A clearcut area resulting from a sale totaling 133 mbf on both PR-1 & PR 2. The sale was overwhelmingly red and white oak. Following the 1997 harvest, this area was planted to red and white oak and walnut. Some TSI has been done on this in 2006 and 2007, but it could use more work to release oak.

**Management recommendations:** Forest stand improvement, 2017.

### **Stand 19:**



**Site description:** 9.6 acres upland site with Village and Fayette soils 9 - 14% slope.

**Woodland description:** *Type 063 , Dbh 6 , BA 60 , 0 bf/Ac, Active management: even aged*

1987 clearcut. This is probably the largest actual clearcut we have on the forest....around 14 acres total. I can find nothing in the files on this sale, but remember planting this site. The area was covered with seedlings 10 x 10.....red and white oak, walnut, and white pine. Today, there is a good mix of species here, but early release would have increased the amount of oak present. Aspen has been prolific in some areas, but there is still a good oak component over most of the area. This stand has seen some release over the years, most notably in 2005.

**Management recommendations:** Forest stand improvement, 2017.

### **Stand 20:**

**Site description:** 4.2 acres upland site with Village, Paint creek, and LaCrescent soils 9 - 35% slope.

**Woodland description:** *Type 063 , Dbh 18 , BA 80 , 7520 bf/Ac, Limited management: salvage only*

This is an over mature stand of red and white oak, with some very old trees. This site is protected because of the native American mound group which runs out this ridge to the site of Painted Rock. Some of these trees should probably be removed from the mounds to prevent damage to them in the event of windthrow, but we do not have authorization to do it. This stand is in limited management.

**Management recommendations:** None.

### **Stand 21:**

**Site description:** 8.9 acres upland site with Village and LaCrescent soils 18 - 35% slope.

**Woodland description:** *Type 063 , Dbh 12 , BA 80 , 4880 bf/Ac, Active management: even aged*

Small sawtimber red oak and white oak with basswood, walnut, and elm on a moderate slope.

**Management recommendations:** Forest stand improvement, 2017.

### **Stand 22:**

**Site description:** 0.7 acres upland site with LaCrescent soils 25 - 35% slope.

**Woodland description:** *Type 004 , Dbh 0 , BA 0 , 0 bf/Ac, Non-forest:*

Non forest land, this is paint rock prairie, a small goat prairie which probably extended all the way to the bottom of the hill, or close to it at one time. Sometime in the late 90's some of the encroaching cedars were cut from this prairie, but little maintenance has been done to it over the years due to the steepness of the terrain here.

There are some interesting plants here including prickly pear and others.

**Management recommendations:** None, possible burn.

### **Stand 23:**

**Site description:** 14.9 acres upland site with Fayette, Village, and LaCrescent soils 14 - 35% slope.

**Woodland description:** *Type 080 , Dbh 8 , BA 70 , 0 bf/Ac, Active management: even aged*



This stand is a peculiar mix of maple, aspen, hickory, and cherry. Most of it is not very good quality and only averages 1/2 log. Should TSI this or get rid of it in a firewood harvest.

**Management recommendations:** Forest stand improvement, 2017.

### **Stand 24:**

**Site description:** 8.2 acres upland site with Village and Fayette soils 9 - 25% slope.

**Woodland description:** *Type 064 , Dbh 16 , BA 110 , 10120 bf/Ac, Active management: even aged*

Predominantly white oak stand with some scattered larger red oaks. Understory is mostly ironwood with maple regeneration. Other species include hickory, ash, and bitternut. There are some harvest sized trees here.

**Management recommendations:** Forest stand improvement, 2017.

### **Stand 25:**

**Site description:** 16.9 acres bottomland site with Medary and Arenzvil-volney soils 0 - 14% slope.

**Woodland description:** *Type 087 , Dbh 14 , BA 80 , 7200 bf/Ac, Active management: even aged*

Bottomland hardwoods including soft maple, cottonwood, basswood, and some walnut. This is part of an acquisition in the late 90's, and the larger walnut was removed prior to our possession. This area gets flooded periodically and the drainage carries a lot of rock and other debris. This site may possibly be better in limited management for the riparian wetland it occupies.

**Management recommendations:** Stand inventory, 2017.

### **Stand 26:**

**Site description:** 29.5 acres upland site with LaCrescent soils 35 - 70% slope.

**Woodland description:** *Type 063 , Dbh 0 , BA 0 , 0 bf/Ac, Active management: even aged*

Extremely steep slope with remnant oak hickory timber type. Not mapped due to severity of slope, but would be nice to have info on this.

**Management recommendations:** Stand inventory 2017.

### **Stand 27:**

**Site description:** 3.7 acres upland site with Fayette, Village, and Paint Creek soils 9 - 30% slope.

**Woodland description:** *Type 063 , Dbh 22 , BA 100 , 10100 bf/Ac, Active management: uneven aged*

Two aged stand of very large red oak & white oak with smaller edge trees near the field.

Some trees salvageable. Slope drops quickly to the ditch. Understory is bitternut hickory, maple, ash with heavy garlic mustard.

**Management recommendations:** Recon for selective harvest, 2017.

### **Stand 28:**

**Site description:** 3.1 acres upland site with Fayette, Village, and LaCrescent soils 14 - 35% slope.

**Woodland description:** *Type 079 , Dbh 16 , BA 100 , 9200 bf/Ac, Active management: even aged*  
shagbark hickory, Ash, cherry, aspen, and white oak. This is a small pole to sawtimber sized stand of mixed hardwoods with bitternut hickory, ironwood, elm understory. There has been some logging here as well as an oak wilt pocket that is being colonized by undesirable species.

**Management recommendations:** Forest stand improvement, 2017.

### **Stand 29:**

**Site description:** 41.4 acres upland site with LaCrescent soils 35 - 70% slope.

**Woodland description:** *Type 063 , Dbh 18 , BA 80 , 5600 bf/Ac, Limited management: salvage only*  
No text file on this stand, need inventory data.

**Management recommendations:** Stand inventory, 2017.

### **Stand 30:**

**Site description:** 2.5 acres upland site with LaCrescent soils 25 - 35% slope.

**Woodland description:** *Type 063 , Dbh 16 , BA 110 , 10120 bf/Ac, Limited management: salvage only*  
No text file on this stand, archaeological site.

**Management recommendations:** None.

### **Stand 31:**

**Site description:** 12.7 acres upland site with Fayette soils 9 - 14% slope.

**Woodland description:** *Type 012 , Dbh 12 , BA 150 , 16950 bf/Ac, Active management: even aged*  
Very overstocked red pine, probably planted in the 60's or 70's. This stuff was thinned in the early 90's but needs thinning again. 2006 a small amount of mortality was noted on the east side of this stand. These pockets were cut out and replanted with oak spring of '07.

**Management recommendations:** Forest stand improvement, 2017.

### **Stand 32:**

**Site description:** 6.0 acres upland site with Village, Paint Creek, and LaCrescent soils 14 - 35% slope.

**Woodland description:** *Type 100 , Dbh 16 , BA 100 , 9200 bf/Ac, Active management: even aged*  
Odd stand of mature trees with lots of pole sized hickory, basswood, maple, aspen, ironwood, and cherry. There has been some logging here, and the stand is more pole sized where the logging was heavier. Otherwise, it is all aged in character. Some TSI could be done here.

**Management recommendations:** Forest stand improvement, 2017.

### **Stand 33:**

**Site description:** 13.0 acres upland site with Village Paint Creek, and LaCrescent soils 14 - 35% slope.

**Woodland description:** *Type 063, Dbh 18, BA 100, 9400 bf/Ac, Active management: even aged*

Mature red oak with basswood and maple. There is a narrow strip of pole sized aspen and red & black oak poles near the pine planting above. Pine stand was probably a crop field at one time. Mixed in with these poles are ancient white oak. Some of the younger trees here could benefit from a crop tree release. Some decent red oak about mid slope in this stand.

**Management recommendations:** Forest stand improvement, 2017.

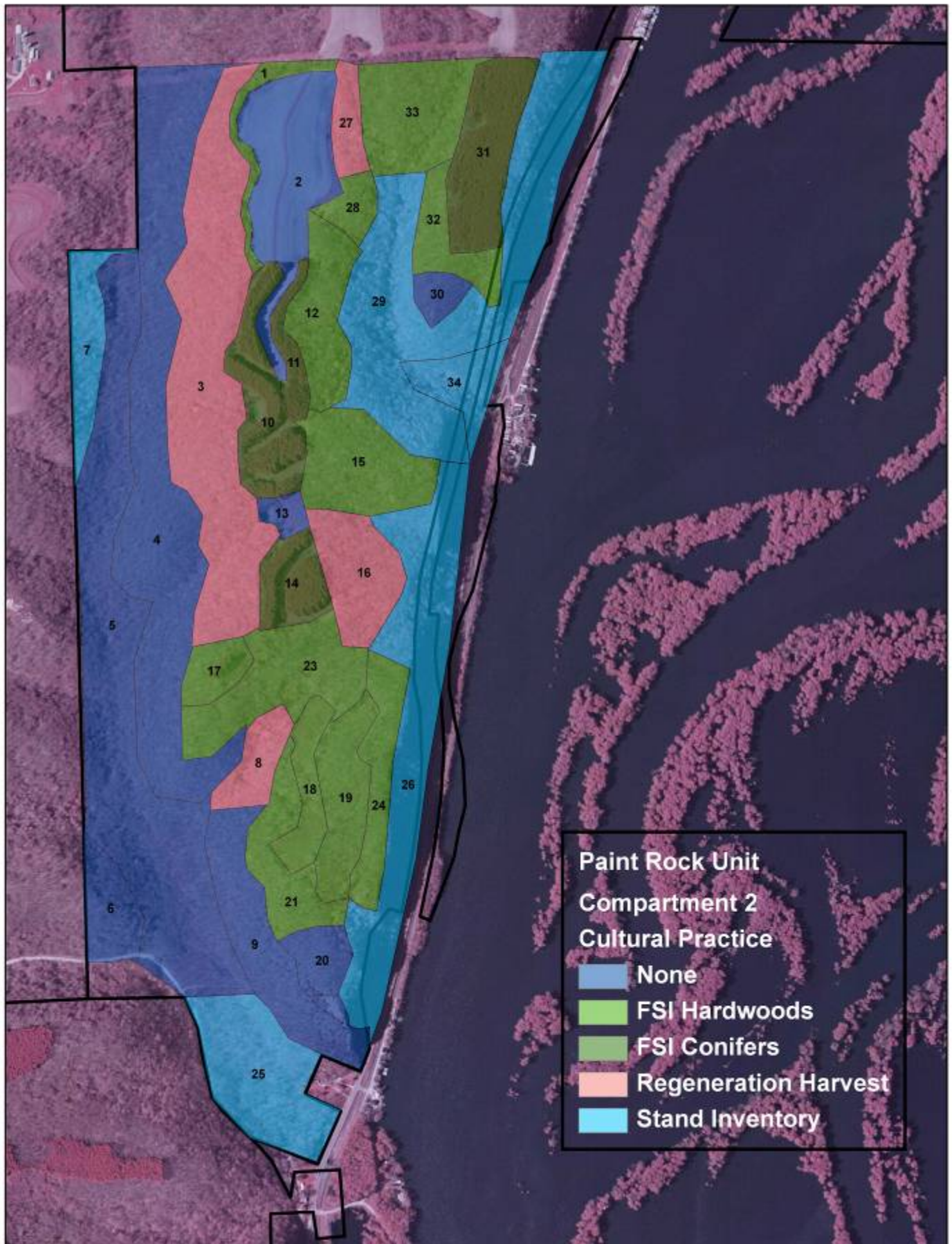
### **Stand 34:**

**Site description:** 5.8 acres upland site with LaCrescent soils 25 - 70% slope.

**Woodland description:** *Type 0, Dbh 0, BA 0, 0 bf/Ac, Limited management: salvage only*

No text file on this stand, need inventory data. Limited for archaeological site.

**Management recommendations:** Stand inventory, 2017.



## **FY 2018:**

Paint Creek Unit, Compartment 6:

### **Stand 1:**

**Site description:** 10.7 acres bottomland site with Arenzvil-volney and Spillville soils, 0 - 2% slope.

**Woodland description:** *Type 087 , Dbh 12 , BA 100 , 6100 bf/Ac, Limited management: salvage only*

Mixed stand of boxelder, cottonwood, and willow with a few walnuts and hackberries mixed in. The walnuts are not doing well and some of the larger ones could be salvaged. There are parts of this stand which could be worked with to get a better mix of hardwoods. The existing trees form a canopy over the ROW trail which is attractive to trail users, so that will be a consideration in mgt. Some species which could be introduced here include swamp white oak and pin oak, silver maple, green ash. Arenzvil-volney and canek soils, frequently flooded, native cover is timber.

**Management recommendations:** None

### **Stand 2:**

**Site description:** 5.0 acres bottomland site with Spillville soils 0 - 2% slope.

**Woodland description:** *Type 005 , Dbh 0 , BA 0 , 0 bf/Ac, Active management: even aged*

This is a former crop field which has been planted to trees several times. This has a Spillville soil which is occasionally flooded. Once again, I believe the lack of tree cover success is attributable to poor species to site match. Much of the tree planting done here was walnut and white pine, neither of which did very well. In the late 80's, the state nursery used this site as a replication of several plantings of superior walnuts which were grafted on to bed run root systems using cuttings from superior trees. These were intensively cared for, protected from deer by electric fence, weeded, etc. Success was dismal and eventually, the project was abandoned. We have seen the steady decline of walnuts grown in these types of settings, so walnut is no longer recommended on these low lying sites. In the late 90's, several rows of green ash, willow, and silver maple were planted. These did not fare well either mostly due to weed competition. In fall of 2000, weeds were mown off at about 12" and Oust was sprayed to see its effectiveness in establishing trees on these tough sites.

**Management recommendations:** Stand inventory, 2018.

### **Stand 3:**

**Site description:** 3.2 acres bottomland site with Volney soils 5 - 9% slope.

**Woodland description:** *Type 089 , Dbh 12 , BA 80 , 4880 bf/Ac, Active management: even aged*

A small stand of mixed hardwoods with quite a few walnuts of varying size. We considered harvesting a few walnuts here in mid 90's. Most of the larger walnuts are close to the road and some have been damaged by cars or road maintaining equipment. Lots of elm, some hackberry and bur oak mixed in. Should probably manage walnuts here as they are well above the floodplain and might do OK. this is a Volney soil type on 5 - 9% slope.

**Management recommendations:** Forest stand improvement....walnut.

#### **Stand 4:**

**Site description:** 13.9 acres lowland site with Spillville, Otter, Volney, Lawson soils 0 - 2% slope.

**Woodland description:** *Type 008 , Dbh 0 , BA 0 , 0 bf/Ac, Non-forest:*

Area containing the 2 equestrian campgrounds. Most of this site is a bottomland which slopes off toward the trout streams to the south and west. The better drained areas of this site are maintained as camp areas. Some trees have been spaded into the areas over the years as the large sycamores which dominated the site died back in 1993 due to weather conditions. Some of these are sprouting back and doing OK so far. Other dominant tree species here are boxelder and willow, which are not good species for a rec. area.

**Management recommendations:** None

#### **Stand 5:**

**Site description:** 11.5 acres bottomland site with Lawson and Orion soils, 0 - 2% slope.

**Woodland description:** *Type 088 , Dbh 6 , BA 30 , 0 bf/Ac, Limited management: salvage only*

This is a rather swampy bottomland site containing mostly shrub willow, with a sprinkling of cottonwood and boxelder. There is an interesting planting of white pine which seems to do OK here despite the apparent flooding frequency of the site. This is a Lawson soil type.

**Management recommendations:** None.

#### **Stand 6:**

**Site description:** 4.1 acres mid-slope site with Yellow River soils 18 - 25% slope.

**Woodland description:** *Type 013 , Dbh 10 , BA 160 , 0 bf/Ac, Active management: even aged*

White pine planted in 1966 thinned and pruned in the late 1980's. Typical pine planting with very close spacing. There are 2 blocks around 1 acre in size planted on some sloping ground above the

bottomland. These pines have done pretty well here and make a nice backdrop for the pond below them. These pines were thinned in the mid 90's but could be thinned again.

**Management recommendations:** Forest stand improvement, 2018.

## **Stand 7:**

**Site description:** 11.9 acres water.

**Woodland description:** *Type 006 , Dbh 0 , BA 0 , 0 bf/Ac, Non-forest:*

This is an acreage containing a pond and wetland around it. Most of the drier ground is occupied by grass, with a lot of cedar encroachment. The pond was designed to be filled by runoff from the hill ground to the west but not much gets into it and the water level is fairly constant. I think this pond was supposed to be for waterfowl nesting and cover but the road adjacent to it keeps most nest wannabes away. The depth throughout the pond is about 4 to 5 ft, and it contains a fair population of fish, including bullhead, bluegill, and northern pike. We have never been able to figure out how to get the depth of water deeper than it is without considerable expenditure of \$\$, so we are at present working with what we have. Fisheries people have committed to spraying herbicide to make it more fishable, as well as checking oxygen levels in winter and adding northern pike to keep the bluegill population from stunting too badly. The pond is mostly spring fed which keeps it viable in winter. The most water we have ever seen in the pond came in the spring of 2000, when Little Paint Creek over flowed into it. The pond is designed to overflow into Little Paint. We think there is a seep in one corner of the pond which keeps the water level fairly constant with the spring flow.

**Management recommendations:** None.

## **Stand 8:**

**Site description:** 9.8 acres water.

**Woodland description:** *Type 006 , Dbh 0 , BA 0 , 0 bf/Ac, Non-forest:*

Paint Creek Marsh.....need to look up more info on this marsh area. The stand includes area around the marsh, which is mostly swampy and filled with mixes of grass and shrub willows, cottonwoods, and boxelders. This is a quiet marsh area which raises a lot of waterfowl. It is pretty shallow and some goose nesting areas were built into it. We see lots of wood ducks here, but not may geese. We have some beaver problems here periodically. They like to plug up the draw down tube on the dike and let the water level climb up quite a ways. Muskrats also like to burrow through the dike on this thing potentially causing a breach in the dike. Below the dike, there are several springs which are full of watercress. Management around the marsh is limited to burning to control brush on the dike, and



trying to keep the overflow tube clear.  
**Management recommendations:** None.

### **Stand 9:**

**Site description:** 0.9 acres creek bottom site with Eitzen soil, 0 - 2% slope

**Woodland description:** *Type 110 , Dbh 4 , BA 20 , 0 bf/Ac, Active management: even aged*  
Failed walnut plantation next to Little Paint Creek. These trees have suffered since they were planted probably due to soil that is wet much of the year. We did thin some of these in 2008, but did not update the database. Need stand inventory.

**Management recommendations:** Stand inventory, 2018.

### **Stand 10:**

**Site description:** 7.8 acres bottomland site with Eitzen and Orion soils 0 - 2% slope.

**Woodland description:** *Type 002 , Dbh 0 , BA 0 , 0 bf/Ac, Non-forest:*  
Large grassy area adjacent to the pond. This area can be very swampy during wet weather and is mostly grass with red cedar encroachment. Seems odd that the cedars tolerate this wet condition, but they persist. Water will back up into this area during periods following a flood in Little Paint Creek.  
**Management recommendations:** None.

### **Stand 11:**

**Site description:** 4.9 acres lowland site with Eitzen soils 0 - 2% slope.

**Woodland description:** *Type 118 , Dbh 12 , BA 30 , 1830 bf/Ac, Active management: even aged*

North of Little Paint between creek and road. This is an area they have tried to improve over the years with tree planting, but with little luck. Several white pines near the road are chlorotic and near death. Deformed boxelders and some cottonwoods still tolerate the soil conditions here, there are a couple of remnant sycamores that didn't winter kill in '93. It looks like an area you might be able to start some bottomland trees. Soil type is Eitzen, which is a fair farmland soil, with occasional flooding, although I don't recall ever seeing water standing here.  
**Management recommendations:** Tree planting, 2018.

### **Stand 12:**

**Site description:** 16.4 acres with Eitzen and Spillville soils 0 - 2% slope.

**Woodland description:** *Type 087 , Dbh 12 , BA 100 , 6100 bf/Ac, Active management: uneven aged*

Mixed stand of boxelder, cottonwood, and willow with a few walnuts and hackberries mixed in. The walnuts are not doing well and some of the larger ones could be salvaged. There are parts of this stand which could be worked with to get a better mix of hardwoods. The existing trees form a canopy over the ROW trail which is attractive to trail users, so that will be a consideration in mgt. Some species which could be introduced here include swamp white oak and pin oak, silver maple, green ash. Soils, frequently flooded, native cover is timber.

**Management recommendations:** Forest stand improvement, weeding.

### **Stand 13:**

**Site description:** 2.5 acres lowland site with LaCrescent soils....relatively flat.

**Woodland description:** *Type 118 , Dbh 12 , BA 80 , 4880 bf/Ac, Active management: even aged*  
Road ditch with boxelder and elm. Would like to maintain this cover next to the road but would prefer better mix of species.

**Management recommendations:** Regeneration harvest and tree planting.

### **Stand 14:**

**Site description:** 16.9 acres lowland site with Huntsville and Spillville soils 0-2% slope.

**Woodland description:** *Type 001 , Dbh 0 , BA 0 , 0 bf/Ac, Non-forest:*

This is a good bottomland ag field which has been in row crop as long as I can remember. Refer to Hertz files for details on rotations and crop history.

**Management recommendations:** None.

### **Stand 15:**

**Site description:** 1.2 acres lowland site with Huntsville and volney soils 0 - 5% slope.

**Woodland description:** *Type 110 , Dbh 6 , BA 60 , 0 bf/Ac, Active management: even aged*

Another walnut planting which has not fared too well. These trees are about 20 years old and have not shown good growth. Some of them have symptoms of canker with bole sprouting and top dieback. This planting extended the entire length of the adjacent crop field until 1999 when the most severely affected trees were removed and replaced with other hardwoods. Some of the problems these walnuts may be having could be with herbicide drift, but the soils on this site are not that conducive to walnut growth. This stand was thinned slightly in 2008.

**Management recommendations:** forest stand improvement, 2018.

### **Stand 16:**

**Site description:** 1.5 acres lowland site with Volney and Spillville soils 0 - 5% slope.

**Woodland description:** *Type 005 , Dbh 0 , BA 0 , 0 bf/Ac, Active management: even aged*

This 1999 tree planting is a replacement of species from the cankered and declining walnuts which were removed from the site in 1998. A mix of pin oak, green ash, and silver maple was planted here. Some of the overhanging boxelders still need to be removed to let more light into the site.

**Management recommendations:** Seedling release, 2018.

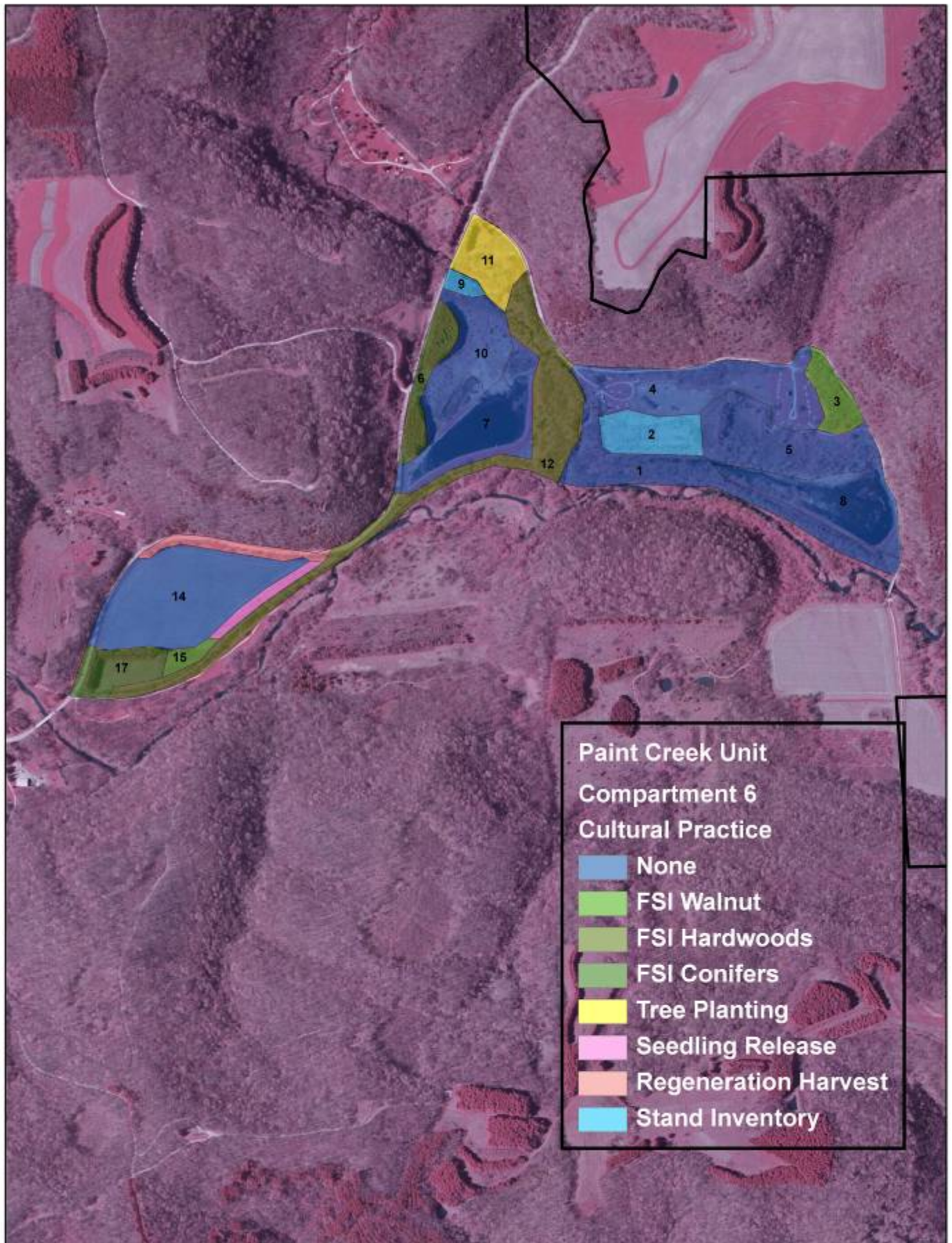
### **Stand 17:**

**Site description:** 4.4 acres lowland site with Volney and Spillville soils 0 - 5% slope.

**Woodland description:** *Type 119 , Dbh 0 , BA 0 , 0 bf/Ac, Active management: even aged*

A curiosity of mine....looks like a windbreak demonstration surrounding a grassy field. Trees are a mix of white pine and white and Norway spruce which really should be thinned. Outside rows are honeysuckle. The grassy space could really be planted to trees, but would make a nice temporary camping area or day use area for equestrians. The windbreak was thinned in 2007.

**Management recommendations:** Forest stand improvement, 2018.



## **FY 2018:**

Paint Creek Unit, Compartment 14:

### **Stand 1:**

**Site description:** 9.8 acres upland site with LaCrescent soils 24 - 70% slope.

**Woodland description:** *Type 093 , Dbh 18 , BA 110 , 10340 bf/Ac, Limited management: salvage only*

Narrow stand containing a bench area which is workable. Mature red oak succeeding to maple/basswood. There is some red oak which could be salvaged here, but it is over-mature for the most part. There is a small pocket of 16 - 20" black locust here, one nice cherry, and lots of pole sized maple. Above the ground is rocky and steep. Not a lot of volume here.

**Management recommendations:** None.

### **Stand 2:**

**Site description:** 2.5 acres upland site with LaCrescent soils 25 - 35% slope.

**Woodland description:** *Type 063 , Dbh 12 , BA 160 , 13340 bf/Ac, Active management: even aged*

small pole stand with some good looking red oak, maple, basswood, and aspen. There is some evidence of oak wilt here with deadfalls being replaced by pole sized maple.

**Management recommendations:** Forest stand improvement, 2018.

### **Stand 3:**

**Site description:** 36.6 acres upland site with Fayette and Village soils, 5 - 35% slope.

**Woodland description:** *Type 063 , Dbh 20 , BA 120 , 11760 bf/Ac, Active management: even aged*

Large stand of what looks like second growth red oak with WO, walnut, ash, elm, & basswood. Quite a lot of oak wilt so this stand should be looked at for a clearcut later this year. There is a fairly heavy maple understory here, so regeneration might be a challenge. Looks like there may have been one attempt to salvage red oaks in an oak wilt pocket. This small clearing was taken over by maple and is now pole sized. Much of the remaining red oak is pretty good. This is a high volume stand, probably much like the timber that was sold to the east in 1983. A commercial sale was marked here in 2008 but has yet to be cut. Sale data is available in hard file. This stand will need updating after the harvest and replanting.

**Management recommendations:** Stand inventory, 2018.

### **Stand 4:**

**Site description:** 9.2 acres with Fayette, Village, and LaCrescent soils 9 - 35% slope

**Woodland description:** *Type 063 , Dbh 19 , BA 130 , 12480 bf/Ac, Active management: even aged*  
Mature upland hardwoods with red oak, maple, basswood, and white oak. No evidence of harvest work. Some windthrow in the stand, and a fresh oak wilt pocket near the west fence, otherwise healthy. Pretty high volume with some basal defects in the red oak. Size tapers off towards the north facing slope.  
**Management recommendations:** Regeneration harvest, 2018.

### **Stand 5:**

**Site description:** 2.7 acres upland site with Fayette and Village soils, 5 - 14% slope.

**Woodland description:** *Type 093 , Dbh 8 , BA 120 , 0 bf/Ac, Active management: even aged*

A virtual clearcut about 20 years old. Heavily stocked with nice maple poles. There are still a few red oaks here, probably too small for the logging crew. This stand could be TSI'ed to reduce stocking and increase growth on the better quality trees.

**Management recommendations:** Forest stand improvement, 2018 or sooner.

### **Stand 6:**

**Site description:** 1.9 acres upland site with Fayette and Village soils, 5 - 25% slope.

**Woodland description:** *Type 089 , Dbh 4 , BA 160 , 0 bf/Ac, Active management: even aged*

A clearcut about 20 years old. Heavily stocked with maple, aspen, basswood, and cherry poles. I believe this stand was an actual clearcut, as opposed to the other small clearcut stand to the north, in that all the trees were felled on this site. Today, there is very little if any oak. Vines are a problem in this stand, and it is in need of some TSI.

**Management recommendations:** Forest stand improvement, 2018 or sooner.

### **Stand 7:**

**Site description:** 8.8 acres upland site with Village, Paint creek, and lacrescent soils 9 - 35% slope.

**Woodland description:** *Type 063 , Dbh 16 , BA 130 , 11960 bf/Ac, Active management: even aged*

Small sawtimber stand with some good quality red and white oak, mixed with aspen which accounts for the high BA here. There is a fairly good sized oak wilt pocket with some blow down...about 15 trees. No stumps in this stand. Heavy maple understory.

**Management recommendations:** Recon for harvest 2028.

### **Stand 8:**

**Site description:** 12.9 acres upland site with Fayette, Paint Creek and Village soils 5 - 30% slope.

**Woodland description:** *Type 089 , Dbh 17 , BA 100 , 9300 bf/Ac, Active management: even aged*



Upland mixed hardwood stand from which 108mbf was removed in 1983. The harvest was selective except for a few pockets of heavier cutting which are now occupied by maple poles. A couple of small areas were virtually clearcut and are now mapped as individual stands. Average volume of red oaks sold was 216 bf and I assume the average diameter must have been over 20". Red oak made up for 78% of the volume sold with white oak at 7%, so 85% of the volume sold was oak. The way this was cut indicates an attempt to cut out oak wilt pockets as well as reduce the amount of red oak in the stand. Webster Lumber was the high bidder with \$11,300, about 10 cents per bf.

Today there are several pockets of 4 to 10" hard maple occupying places where large red oaks were removed. There is still a fair amount of oak in the stand, with aspen, basswood, and a few ash. Vines are a problem in some places and there is at least one active oak wilt pocket in the small sawtimber stand towards the southeast corner.

**Management recommendations:** Recon for selective harvest, 2018.

### **Stand 9:**

**Site description:** 7.4 acres upland site with Fayette and Village soils 5 - 25% slope.

**Woodland description:** *Type 093 , Dbh 9 , BA 135 , 0 bf/Ac, Active management: even aged*

Pole stand of maple with basswood, white oak, aspen, and ash. There are scattered residual trees left from the 1983 commercial sale. High basal area in places where aspen is a component. This is fairly good lying ground and a fertile site on a northwest slope.

**Management recommendations:** Forest stand improvement, 2018.

### **Stand 10:**

**Site description:** 13.8 acres with Fayette and Village soils 5 - 35% slope.

**Woodland description:** *Type 089 , Dbh 16 , BA 125 , 11500 bf/Ac, Active management: even aged*

Small Sawtimber stand from which some harvesting was done in the early 80's. Scattered larger trees and pockets of aspen. Mix of maple, red & white oak, aspen, and basswood. Lots of maple poles in areas. Could be selectively managed.

**Management recommendations:** Recon for selective harvest, 2028.

### **Stand 11:**

**Site description:** 6.8 acres upland site with Fayette and village soils 5 - 25% slope.

**Woodland description:** *Type 063 , Dbh 16 , BA 150 , 13800 bf/Ac, Active management: even aged*

Curious mix of maple, aspen, and oak. There are some mature sized (20") red oaks here, but mostly 16" trees. Quite a bit of aspen in this stand and some good looking stems of red oak. Fairly healthy looking stand.

**Management recommendations:** Forest stand improvement, 2018.

### **Stand 12:**



**Site description:** 14.8 acres upland site with Fayette, Village, Lacrescent soils 5 - 35% slope.

**Woodland description:** *Type 063 , Dbh 20 , BA 110 , 10780 bf/Ac, Active management: even aged*  
4/20/07

Mature red oak with aspen, maple, basswood, ash. Aspen here is over mature and punky. Some very nice red oaks in this stand. Along the cliff towards the east size tapers off probably due to rocky soils and the white oak component increases. In some places the red oak is almost 100% with aspen dropping out. A few windthrown trees and a couple of dead RO looks like oak wilt. A good place for a small clearcut.

**Management recommendations:** Regeneration harvest, 2018.

### **Stand 13:**

**Site description:** 14.2 acres upland site with mostly Lacrescent soils, 35 - 70% slope.

**Woodland description:** *Type 093 , Dbh 14 , BA 80 , 7200 bf/Ac, Limited management: salvage only*

North facing slope up to 60% with no skid trails or roads. This is probably not a workable slope for conventional equipment. The east part of this stand is almost 100% rock with cliff outcrops near the top. The west end lies better and has the better timber. Mostly a degraded oak timber, although it probably had a sizable maple component due to its position on the north facing slope. Some of the maple and basswood is good quality, and there are gobs of pole sized maple in the understory. An occasional sawtimber sized red oak still hanging in there, but the stand is definitely succeeding into climax.

**Management recommendations:** None.

### **Stand 14:**

**Site description:** 41 acres upland site with LaCrescent soils 35 - 70% slope

**Woodland description:** *Type 093 , Dbh 15 , BA 110 , 0 bf/Ac, Limited management: salvage only*

No text file on this stand, but this is a steep and rocky north facing slope succeeding to hard maple. Need stand inventory here.

**Management recommendations:** Stand inventory, 2018.

### **Stand 15:**

**Site description:** 14.9 acres upland site with Fayette, Paint Creek, and LaCrescent soils 14 - 35% slope.

**Woodland description:** *Type 063 , Dbh 14 , BA 130 , 11700 bf/Ac, Active management: even aged*

Typical looking second growth red and white oak with aspen pockets. Aspen is about the perfect size to be harvesting right now (14-18") and is still healthy for the most part. Oaks could benefit from TSI including aspen removal. There is one old oak wilt pocket involving about 6 trees, but I didn't see any fresh or active OW here. There is a small

pond in the southwest corner below Mathis' fields with a blown out spillway resulting in a gully that is cut to the bedrock most of the way down the slope. This could be repaired by scooping silt out of the pond and repairing the spillway. Looks like this carries quite a bit of water.

**Management recommendations:** Forest stand improvement, 2018.....pond repair ASAP.

### **Stand 16:**

**Site description:** 9.4 acres upland site with LaCrescent soils 35 - 70% slope.

**Woodland description:** *Type 089 , Dbh 20 , BA 90 , 8820 bf/Ac, Limited management: salvage only*

This stand is workable in places and has some decent quality red oaks as well as hard maple. A couple of walnuts on the slope. Stand includes a fairly large area of bench that leads out to the Donahue Road. There is also a service road that leads from the road towards the southwest above the valley. Might be a good harvest area for the sawmill. I would opt for a selective harvest where you may be able to salvage some good trees by cabling them off the slope. Understory is maple.

**Management recommendations:** None.

### **Stand 17:**

**Site description:** 0.8 acres gully site with Arenzvil-volney soil 2 - 5% slope.

**Woodland description:** *Type 006 , Dbh 0 , BA 0 , 0 bf/Ac, Non-forest:*

Small holding pond which has silted in over the years. 2008, there is a project request in to have this dredged out. In '07, the failure of this pond to hold water contributed to the road and trail damage downstream, as well as much damage to walnut timbers from flooding.

**Management recommendations:** None.

### **Stand 18:**

**Site description:** 4.9 acres bench area with Medary and LaCrescent soils 14 - 35% slope.

**Woodland description:** *Type 089 , Dbh 20 , BA 90 , 8820 bf/Ac, Active management: even aged*

This stand is workable and has some decent quality red oaks as well as hard maple. A couple of walnuts on the slope. Stand includes a fairly large area of bench that leads out to the Donahue Road. There is also a service road that leads from the road towards the southwest above the valley. Might be a good harvest area for the sawmill. I would opt for a selective harvest where you may be able to salvage some good trees by cabling them off the slope. Understory is maple.

**Management recommendations:** Recon for harvest, 2018.

### **Stand 19:**

**Site description:** 5.3 acres gully site with Arenzvil-volney soil 2 - 5% slope

**Woodland description:** *Type 0 , Dbh 0 , BA 0 , 0 bf/Ac, Limited management: salvage only*  
No information on this stand. It is in limited mgt for now pending evaluation.

**Management recommendations:** Stand inventory, 2018.

### **Stand 20:**

**Site description:** 4.5 acres upland site with Village and LaCrescent soils.

**Woodland description:** *Type 0 , Dbh 0 , BA 0 , 0 bf/Ac, Limited management: salvage only*  
No information on this stand. Limited mgt pending evaluation.

**Management recommendations:** Stand inventory, 2018.

### **Stand 21:**

**Site description:** 3.6 acres upland site with Village and LaCrescent soils 9 - 335% slope.

**Woodland description:** *Type 089 , Dbh 17 , BA 100 , 9300 bf/Ac, Active management: even aged*

Upland mixed hardwood stand from which 108mbf was removed in 1983. The harvest was selective except for a few pockets of heavier cutting which are now occupied by maple poles. A couple of small areas were virtually clearcut and are now mapped as individual stands. Average volume of red oaks sold was 216 bf and I assume the average diameter must have been over 20". Red oak made up for 78% of the volume sold with white oak at 7%, so 85% of the volume sold was oak. The way this was cut indicates an attempt to cut out oak wilt pockets as well as reduce the amount of red oak in the stand. Webster Lumber was the high bidder with \$11,300, about 10 cents per bf.

Today there are several pockets of 4 to 10" hard maple occupying places where large red oaks were removed. There is still a fair amount of oak in the stand, with aspen, basswood, and a few ash. Vines are a problem in some places and there is at least one active oak wilt pocket in the small sawtimber stand towards the southeast corner.

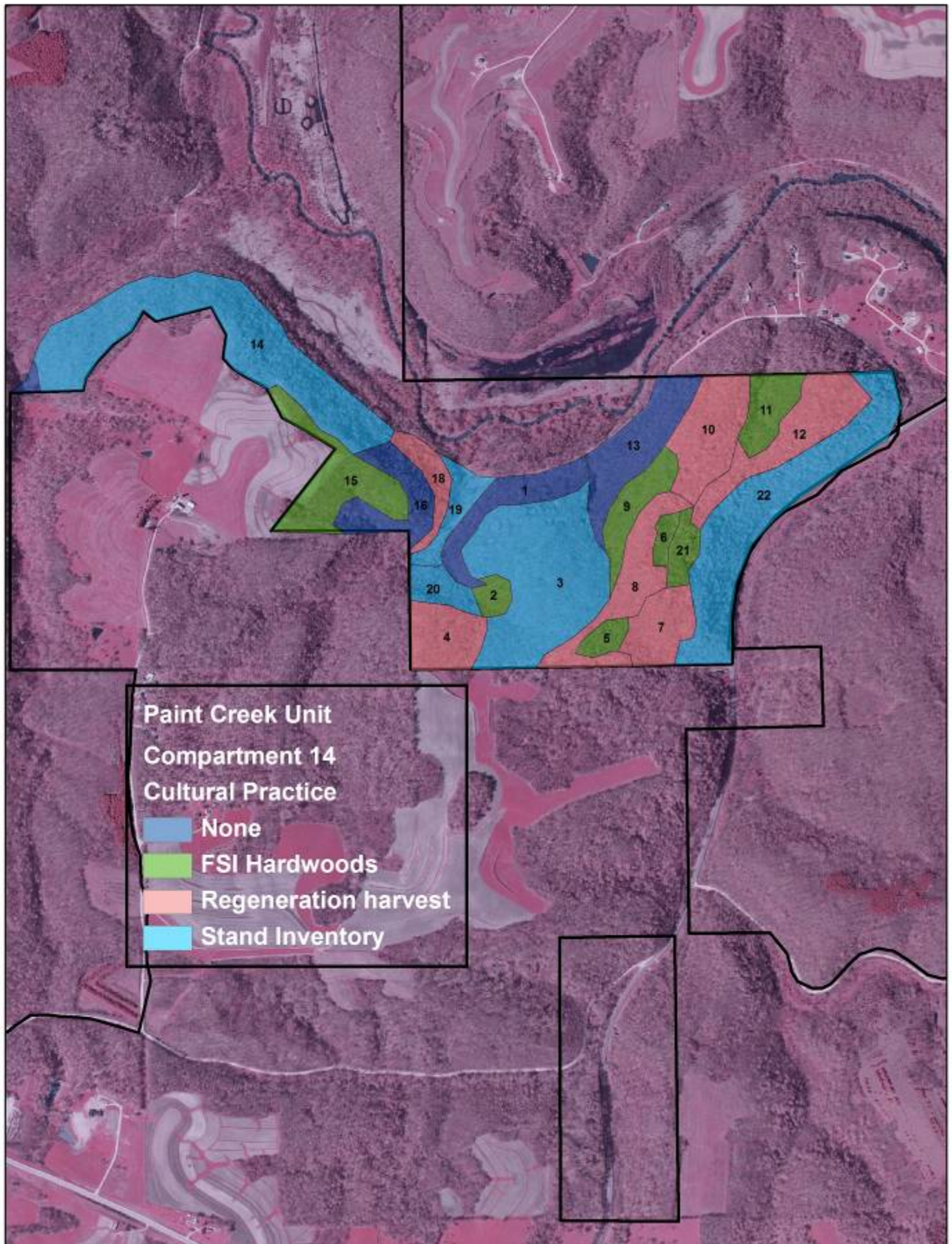
**Management recommendations:** Forest stand improvement, 2018.

### **Stand 22:**

**Site description:** 32.3 acres east facing slope with LaCrescent soils 35 - 70% slope.

**Woodland description:** *Type 0 , Dbh 0 , BA 0 , 0 bf/Ac, Limited management: salvage only*  
No information on this stand. Limited mgt.

**Management recommendations:** Stand inventory, 2018.



## **FY 2018:**

Waukon Junction Unit, Compartment 1:

### **Stand 1:**

**Site description:** 2.0 acres mid-slope site with LaCrescent soils 25 - 35% soil.

**Woodland description:** *Type 079 , Dbh 14 , BA 60 , 3960 bf/Ac, Limited management: salvage only*

10:11 AM 3/7/2008

This stand is right next to the road and includes a catalogued archaeological site. Looks to me like the site has been damaged by excavation in the past. Some young trees are encroaching on the site. No management here.

**Management recommendations:** None.

### **Stand 2:**

**Site description:** 15.3 acres upland site with LaCrescent soils 35 - 70% slope.

**Woodland description:** *Type 079 , Dbh 14 , BA 60 , 3960 bf/Ac, Limited management: salvage only*

10:11 AM 3/7/2008

Very steep ground for the most part, but a decent stand of red oak, maple, and basswood. There may be places to conduct management here, but most is too steep to do anything with. There is also a protected species listed on the point near the top of the ridge. This stand is in limited mgt.

**Management recommendations:** None.

### **Stand 3:**

**Site description:** 2.4 acres upland site with Village soil 9 - 14% slope

**Woodland description:** *Type 079 , Dbh 14 , BA 60 , 3960 bf/Ac, Active management: even aged*

10:11 AM 3/7/2008

Small stand of OK red oak, maple, and basswood. TSI, or harvest?

**Management recommendations:** Forest stand improvement, 2018.

### **Stand 4:**

**Site description:** 3.3 acres upland site with Village and Fayette soils, 9 - 25% slope.

**Woodland description:** *Type 079 , Dbh 14 , BA 60 , 3960 bf/Ac, Active management: even aged*

10:11 AM 3/7/2008

red oak, maple, and basswood with aspen on the edge. A few trees were taken out of here

around 2002. Not a high volume stand, but some harvestable stems.

**Management recommendations:** Forest stand improvement, 2018.

### **Stand 5:**

**Site description:** 4.2 acres upland site with Village soils 18 - 25% slope.

**Woodland description:** *Type 063 , Dbh 8 , BA 100 , 0 bf/Ac, Active management: even aged*  
10:11 AM 3/7/2008

red oak, white oak, hickory, and ash. large pole to small sawtimber size, could use TSI.

**Management recommendations:** Forest stand improvement, 2018.

### **Stand 6:**

**Site description:** 15.1 acres upland site with LaCrescent soils 35 - 70% slope.

**Woodland description:** *Type 089 , Dbh 20 , BA 50 , 4900 bf/Ac, Limited management: salvage only*  
10:11 AM 3/7/2008

red oak, walnut, elm overstory. This stuff is old and falling apart. There is a sub canopy developing here in basswood, maple, hickory, and some oaks with walnut. These trees are around 8" dbh. This ground is pretty steep for the most part. There may be some areas that are workable, but stand is in limited mgt..

**Management recommendations:** none.

### **Stand 7:**

**Site description:** 9.8 acres upland site with LaCrescent soils 35 - 70% slope.

**Woodland description:** *Type 081 , Dbh 8 , BA 110 , 0 bf/Ac, Limited management: salvage only*  
No description available. Need stand inventory.

**Management recommendations:** Stand inventory, 2018.

### **Stand 8:**

**Site description:** 5.7 acres upland site with Fayette, Village, and LaCrescent soils 14 - 35% slope.

**Woodland description:** *Type 081 , Dbh 8 , BA 110 , 0 bf/Ac, Active management: even aged*  
No text file available. Need stand inventory.

**Management recommendations:** Stand inventory, 2018.

### **Stand 9:**

**Site description:** 13.1 acres upland site with LaCrescent soils 35 - 70% slope.

**Woodland description:** *Type 063 , Dbh 18 , BA 70 , 6580 bf/Ac, Limited management: salvage only*



10:11 AM 3/7/2008

Over mature red & white oak with maple, basswood, ash in a deep ravine area. This is all in limited mgt. Many trees have been lost here due to uprooting and windthrow.

**Management recommendations:** None.

### **Stand 10:**

**Site description:** 3.5 acres upland site with LaCrescent soils 25 - 35% slope.

**Woodland description:** *Type 063 , Dbh 18 , BA 70 , 6580 bf/Ac, Active management: even aged*

10:11 AM 3/7/2008

Over mature red & white oak with maple, basswood, ash above a deep ravine area. Many trees have been lost here due to uprooting and windthrow. This should probably be selective mgt.

**Management recommendations:** Recon for harvest, 2018.

### **Stand 11:**

**Site description:** 8.5 acres upland site with Fayette and Village soils 14 - 25% slope.

**Woodland description:** *Type 101 , Dbh 6 , BA 80 , 0 bf/Ac, Active management: even aged*

10:11 AM 3/7/2008

Aspen, boxelder, elm, and ash, not a good mix. Should be looked at for a TSI, might be some oak or walnut in there somewhere.

**Management recommendations:** Forest stand improvement, 2018.

### **Stand 12:**

**Site description:** 16.7 acres upland site with Fayette soils 9 - 18% slope.

**Woodland description:** *Type 010 , Dbh 8 , BA 150 , 0 bf/Ac, Limited management: salvage only*

10:11 AM 3/7/2008 Larry Maslo

Mixed pine planting....little info available on species so this needs to be checked. There is an archaeological site covering this area, so this is a limited mgt zone.

**Management recommendations:** None.

### **Stand 13:**

**Site description:** 6.1 acres upland site with Village and LaCrescent soils 18 - 35% slope.

**Woodland description:** *Type 062 , Dbh 10 , BA 80 , 0 bf/Ac, Active management: even aged*

10:11 AM 3/7/2008

Young bur oak with aspen, cherry, and walnut. There is one steep area on this stand. This should be looked at for TSI in next cutting cycle.

**Management recommendations:** Forest stand improvement, 2018.



### **Stand 14:**

**Site description:** 39.6 acres upland site with Fayette soils 9 - 18% slope.

**Woodland description:** *Type 010 , Dbh 10 , BA 150 , 0 bf/Ac, Active management: even aged*

10:11 AM 3/7/2008

Mixed pine plantings with red and white primarily. There are some Austrian pine hanging in there but diseased. Also a small pocket of black locust imbedded here. Some of this has been thinned in 2000, but most of it needs thinning badly.

**Management recommendations:** Forest stand improvement, 2018.

### **Stand 15:**

**Site description:** 1.4 acres upland site with Village and LaCrescent soils 14 - 35% slope.

**Woodland description:** *Type 063 , Dbh 12 , BA 80 , 4880 bf/Ac, Active management: even aged*

10:11 AM 3/7/2008

Red oak, White oak, cherry, basswood....small sawtimber size. No other info available. Need stand inventory.

**Management recommendations:** Stand inventory, 2018.

### **Stand 16:**

**Site description:** 6.3 acres upland site with LaCrescent soils 35 - 70% slope.

**Woodland description:** *Type 063 , Dbh 12 , BA 80 , 4880 bf/Ac, Limited management: salvage only*

0:11 AM 3/7/2008

Red oak, White oak, cherry, basswood....small sawtimber size. No other info available. Same as stand 15 but with slope restriction.....limited mgt.

**Management recommendations:** None.

### **Stand 17:**

**Site description:** 13.1 acres upland site with Fayette and LaCrescent soils 14 - 35% slope.

**Woodland description:** *Type 079 , Dbh 6 , BA 80 , 0 bf/Ac, Active management: even aged*

10:11 AM 3/7/2008

Aspen, ash, Red oak, White oak, not good quality. Need more info on this stand.

**Management recommendations:** Stand inventory, 2018.

### **Stand 18:**

**Site description:** 2.6 acres with Paint Creek soil 14 - 18% slope

**Woodland description:** *Type 002 , Dbh 0 , BA 0 , 0 bf/Ac, Non-forest:*

Electric right of way which has a lot of prairie grass in it. Non forest land.

**Management recommendations:** None.

### **Stand 19:**

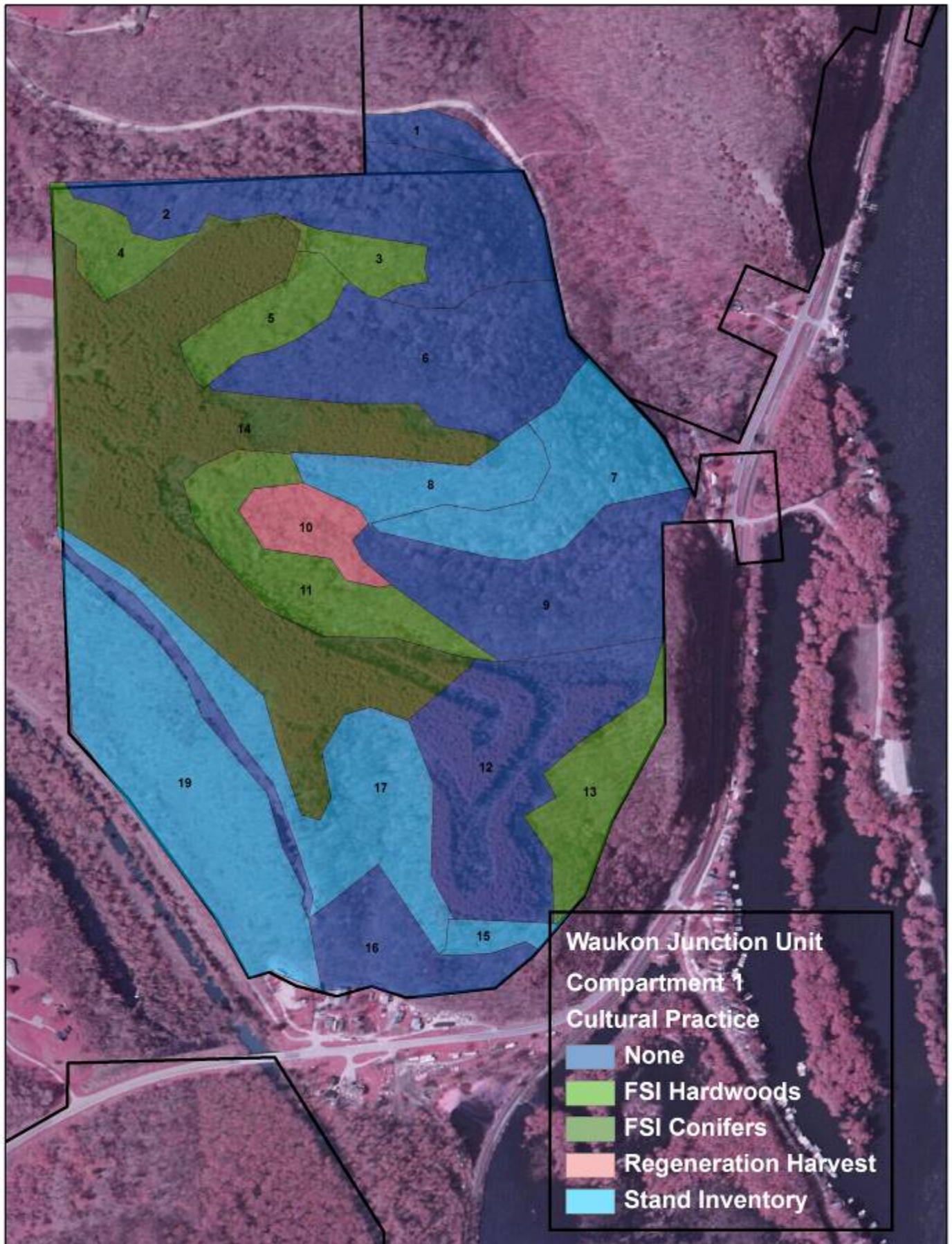
**Site description:** 18.9 acres upland site with LaCrescent soils 35 - 70% slope.

**Woodland description:** *Type 079 , Dbh 10 , BA 60 , 0 bf/Ac, Limited management: salvage only*

10:11 AM 3/7/2008

Maple, basswood, aspen, red oak on a south facing slope. I don't think this data can be right because this is a place where a clearcut was done in mid 80's. This should be checked.

**Management recommendations:** Stand inventory, 2018.



## **FY 2018:**

Luster Heights Unit, Compartment 2:

### **Stand 1:**

**Site description:** 10.1 acres upland site with Fayette, Village, and Paint Creek soils 5 - 30% slope.

**Woodland description:** *Type 064 , Dbh 16 , BA 80 , 7360 bf/Ac, Active management: even aged*

11/30/99

Mostly white oak with aspen and some red/black oak. some of the larger oaks could be salvaged or this stand could be harvested soon and regenerated. Understory is maple, cherry, and ash. Fire may work as a tool to get some oak regeneration. There is one 22 inch veneer walnut. Maple/basswood component is higher near the north end, with more aspen on the ridge top.

6/6/07

Aspen and red oak. This aspen is mature and should be cut as soon as possible. Most of the larger merchantable trees are on the slope facing the county road. The stand has an all-aged character in places. On the west ridge, some of the aspen has died out leaving large holes which are being recruited by hard maple. Quite a bit of white oak could be released by aspen harvest.

**Management recommendations:** Commercial thinning, 2018.

### **Stand 2:**

**Site description:** 3.6 acres upland site with Fayette, Boone, and Nordness soils 5 - 35% slope.

**Woodland description:** *Type 063 , Dbh 6 , BA 80 , 0 bf/Ac, Active management: even aged*

11/30/99

Red & white oak with hickory, ash, maple, and basswood. Mostly small poles but some larger trees that could be salvaged. Lots of stumps. This is a south facing slope and a ridge that should grow oak and should be TSI'ed for oak.

**Management recommendations:** Forest stand improvement, 2018.

### **Stand 3:**

**Site description:** 10.7 acres upland site with Fayette, Boone, and Nordness soils 5 - 35% slope.

**Woodland description:** *Type 089 , Dbh 16 , BA 140 , 12880 bf/Ac, Active management: uneven aged*

11/30/99

Maple, basswood, ash. All aged stand after much harvesting. Some harvestable stems remain. Lots of pole sized maple/basswood.

4/27/07

This stand has had varying degrees of harvesting, almost resembling group selection. There is a small clearcut at one place and the remainder of the stand has had some salvage harvesting. The group harvest is in dire need of TSI as the planted stock is suppressed by aspen. I suspect the original stand had a lot of aspen which was harvested at one point, leaving the larger oak and maple we see now. We could continue with the selection harvest method here picking heavily on the older red oak.

**Management recommendations:** Recon for group selection, 2018.

#### **Stand 4:**

**Site description:** 5.3 acres upland site with Fayette, Village, and Paint Creek soils 5 - 30% slope.

**Woodland description:** *Type 064 , Dbh 19 , BA 110 , 10560 bf/Ac, Active management: even aged*

11/30/99

Maple, basswood, ash. All aged stand after much harvesting. Some harvestable stems remain. Lots of pole sized maple/basswood.

6/6/07

A pretty decent stand of large white oak with maple, red oak, and aspen. There is some nice white oak here with a pretty heavy maple understory in places, as well as some aspen in pockets. A little blow down near the west fence on the ridge. White oak looks healthy at this point.

**Management recommendations:** Recon for regeneration harvest, 2018.

#### **Stand 5:**

**Site description:** 4.0 acres upland site with Boone and Dubuque soils 9 - 35% slope.

**Woodland description:** *Type 063 , Dbh 18 , BA 130 , 12220 bf/Ac, Active management: uneven aged*

6/6/07 - Honeywell

Not a bad 2 aged stand of 6 - 8 inch maple and larger red oak and aspen. Looks like some selective harvesting has taken place here. The maple understory is shading out most of the light so there is very little ground cover and virtually no seedlings of any kind.

Red oak here looks good.

**Management recommendations:** Recon for selective harvest, 2018.

#### **Stand 6:**

**Site description:** 1.6 acres upland site with Fayette soils 14 - 18% slope.

**Woodland description:** *Type 010 , Dbh 16 , BA 80 , 10960 bf/Ac, Active management: even aged*

6/6/07

this was a stand of mixed red and white pine which was damaged in a storm in 1985. good trees were salvaged and used in the YRSF sawmill. Salvage areas were replanted with red oak and walnut, which didn't do too well due to the advanced size of the pines surrounding them. The hardwoods are now pole sized 4 - 6 inch and a few are doing OK.

**Management recommendations:** Forest stand improvement, 2018.

### **Stand 7:**

**Site description:** 1.6 acres upland site with Fayette soils, 9 - 14% slope.

**Woodland description:** *Type 063 , Dbh 4 , BA 40 , 0 bf/Ac, Active management: even aged*

10:54 AM 3/5/2008

This was a planted red pine plantation similar to the red pine still covering much of the flat ground on the LH Unit. This stand was heavily damaged in a storm in 1986 and most of the red pine was salvaged and removed. There was a good acorn crop that year, and an attempt to direct seed red oak into this was made. Acorns were worked in with a small dozer. Spring of '87, McSweeney also planted red oak seedlings here. Today, there is a good representation of red oak both from seed and from seedlings. There are also some planted walnuts, mixed with aspen, ash, and other stuff. This stand could use a good crop tree release.

**Management recommendations:** Forest stand improvement, 2018.

### **Stand 8:**

**Site description:** 2.0 acres upland site with Dubuque, Boone, and Paint Creek soils 9 - 35% slope.

**Woodland description:** *Type 013 , Dbh 14 , BA 150 , 16350 bf/Ac, Active management: even aged*

White Pine plantation. Not a bad stand of pine. This was thinned back in 2002 but could use another thinning now.

**Management recommendations:** Forest stand improvement, 2018.

### **Stand 9:**

**Site description:** 8.9 acres upland site with Fayette, Dubuque, Nordness, Yellow River, and Boone soils on 9 - 35% slopes.

**Woodland description:** *Type 063 , Dbh 16 , BA 105 , 9660 bf/Ac, Active management: even aged*

10:54 AM 3/5/2008

A good young oak stand right along the county road. This stand was thinned slightly back in 2002, and there is some oak wilt in the larger red oak toward the south end of the stand. Most of the trees removed were aspen and maple but a few red oaks were also removed, mostly intermediate sized.

About 3000 bf of red oak was salvaged in 2008, most of these trees were dead from oak wilt. We will need to monitor this to prevent further stumpage losses on this ridge, as there are some very nice red oaks to the east.

**Management recommendations:** Forest stand improvement, 2028.

### **Stand 10:**

**Site description:** 6.4 acres upland site with Dubuque and Boone soils on 9 - 35% slopes.

**Woodland description:** *Type 063 , Dbh 16 , BA 105 , 9660 bf/Ac, Limited management: salvage only*

10:54 AM 3/5/2008

This is basically the same stuff as stand # 9, but this site is under archaeological protection for a catalogued site.

**Management recommendations:** None.

### **Stand 11:**

**Site description:** 4.3 acres upland site with Yellow River soils 18 - 25% slope.

**Woodland description:** *Type 063 , Dbh 0 , BA 0 , 0 bf/Ac, Active management: even aged*

10:54 AM 3/5/2008

This stand had the understory and small sawtimber removed back in 1990 as an attempt to try the shelterwood technique. The following spring, red and white oak seedlings were planted to try to establish some advance regeneration for the next harvest cycle. These were released the first year or two, but did not develop well.

This stand developed a chronic oak wilt pocket through the 90's and was marked for a commercial sale in 1999. This was harvested in 2000, and the sawmill crew finished off the clearcut and scarified the site using a dozer. Regeneration was established by planting red and white oak and walnut on the site, with mixed results. The stand is in need of TSI to release the oak that survived the tree planting.

**Management recommendations:** Forest stand improvement, weeding and release, 2018.

### **Stand 12:**

**Site description:** 5.3 acres upland site with Yellow River soils 18 - 25% slope.

**Woodland description:** *Type 063 , Dbh 4 , BA 40 , 0 bf/Ac, Active management: even aged*

10:54 AM 3/5/2008

An ill advised clearcut from 1990. This operation was not well supervised and the grade was too steep to do a good job of cleaning up after the 47mbf hardwood sale. The site was replanted to red oak and white oak with some walnut. The oak did miserably and is not well represented today. This site needs work, even sumac seems to have become a problem here.

**Management recommendations:** Forest stand improvement, 2018.

### **Stand 13:**

**Site description:** 17.6 acres upland site with Village, Paint Creek, and LaCrescent soils 9 - 35% slope.

**Woodland description:** *Type 063 , Dbh 20 , BA 120 , 11760 bf/Ac, Active management: even aged*

10:54 AM 3/5/2008 Honeywell



This is a very nice stand of red oak with a few white scattered around. The stand was actually marked for a commercial sale in 1999, but this stand was never sold. A couple of oak wilt trees were salvaged here in 2002. There is still a lot of volume here and this stand should be reviewed for a harvest next cutting cycle.  
**Management recommendations:** Regeneration harvest, 2018.

### **Stand 14:**

**Site description:** 9.9 acres upland slope with LaCrescent soils 25 - 70% slope.

**Woodland description:** *Type 0 , Dbh 0 , BA 0 , 0 bf/Ac, Limited management: salvage only*  
No text file on this stand. Need inventory data.

**Management recommendations:** Stand inventory, 2018.

### **Stand 15:**

**Site description:** 11.0 acres river bottom site with Caneek Channeled soil 0 - 2% slope.

**Woodland description:** *Type 086 , Dbh 12 , BA 110 , 9240 bf/Ac, Limited management: salvage only*  
Bottomland site with soft maple and elm. No text file on this stand, need inventory data. This stand is listed as limited because it is in the riparian zone for the Mississippi.

**Management recommendations:** Stand inventory, 2018.

### **Stand 16:**

**Site description:** 3.8 acres upland site with Paint Creek and LaCrescent soils 18 - 35% slope.

**Woodland description:** *Type 063 , Dbh 14 , BA 100 , 9000 bf/Ac, Active management: even aged*  
10:54 AM 3/5/2008

Decent stand of upland mixed hardwoods with some red oak and maple, occasional walnut. This is in the old 364 unit and is fairly steep in spots but could be worked. BA is high here and there are some good opportunities to TSI red oak.

**Management recommendations:** Forest stand improvement, 2018.

### **Stand 17:**

**Site description:** 5.0 acres upland site with LaCrescent soils 35 - 70% slope.

**Woodland description:** *Type 063 , Dbh 14 , BA 100 , 9000 bf/Ac, Limited management: salvage only*

10:54 AM 3/5/2008

Decent stand of upland mixed hardwoods with some red oak and maple, occasional walnut. This steep part of stand 15 & 16 was removed and placed in limited mgt for slope.

**Management recommendations:** None.

### **Stand 18:**

**Site description:** 19.3 acres upland site with Paint Creek and LaCrescent soils 18 - 35% slope.

**Woodland description:** *Type 079 , Dbh 18 , BA 90 , 8460 bf/Ac, Active management: uneven aged*

10:54 AM 3/5/2008

Upland hardwoods dominated by red oak, ash, and maple. This is kind of a steep area with rocky outcrops and has highway frontage on the east side. Winter of 2000, we marked a group selection harvest here and had 2 cutting areas of less than one acre each. A total of 23mbf was marked and sold to Grau Logs & Lumber for \$12,570. These trees were harvested in the winter of 2001 and we planted red & white oak seedlings in 2002 on the group selection areas. This stand needs further recon.

**Management recommendations:** Forest stand improvement, 2018.

### **Stand 19:**

**Site description:** 22.5 acres upland and drainage site, with LaCrescent soils 25 - 70% slope.

**Woodland description:** *Type 079 , Dbh 16 , BA 80 , 5360 bf/Ac, Limited management: salvage only*

10:54 AM 3/5/2008

Upland hardwoods dominated by red oak, ash, and maple. Some harvesting has been done here over the years, but access is difficult unless one comes in from neighboring land. This stand is in limited mgt zone because the slope is difficult and there is a deep gulley running adjacent to the highway here. Any logging will be salvage only.

**Management recommendations:** none.

### **Stand 20:**

**Site description:** 13.0 acres upland site with Fayette, Village, and Paint Creek soils 9 - 30% slope.

**Woodland description:** *Type 079 , Dbh 16 , BA 80 , 5360 bf/Ac, Active management: even aged*

10:54 AM 3/5/2008

Upland hardwoods dominated by red oak, ash, and maple. Some harvesting has been done here over the years, but access is difficult unless one comes in from neighboring land. This stand includes the less steep lands near the fence at the east boundary of DNR property. Only good access is through McCormicks.

**Management recommendations:** Recon for harvest, 2018.

### **Stand 21:**

**Site description:** 1.1 acres upland site with Paint Creek soils 18 - 30% slope.

**Woodland description:** *Type 010 , Dbh 10 , BA 210 , 0 bf/Ac, Active management: even aged*

10:54 AM 3/5/2008

Mixed red & white pine, looks healthy, Could use thinning.

**Management recommendations:** Forest stand improvement, thin 2018.

### **Stand 22:**

**Site description:** 2.8 acres upland site with Village and Paint Creek soils 9 - 30% slope.

**Woodland description:** *Type 063 , Dbh 18 , BA 90 , 10620 bf/Ac, Active management: even aged*

10:54 AM 3/5/2008

Good quality red oak timber. Possible oak management harvest in the next 10 years. There is some maple understory but not out of hand yet.

**Management recommendations:** Regeneration harvest, 2018.

### **Stand 23:**

**Site description:** 7.4 acres upland slope with LaCrescent soils 35 - 70% slope.

**Woodland description:** *Type 079 , Dbh 16 , BA 70 , 4690 bf/Ac, Limited management: salvage only*

10:54 AM 3/5/2008

Poor quality red oak, maple, and basswood on very steep rocky slopes. Limited mgt.

**Management recommendations:** None.

### **Stand 24:**

**Site description:** 2.2 acres upland site with LaCrescent soils 25 - 35% slope.

**Woodland description:** *Type 063 , Dbh 14 , BA 90 , 8100 bf/Ac, Active management: even aged*

10:54 AM 3/5/2008

Youngish red oak, white oak, and maple on gentle slope, with maple basswood bitternut hickory understory. decent small sawtimber with 1.5 logs.

**Management recommendations:** Forest stand improvement, 2018.

### **Stand 25:**

**Site description:** 1.6 acres upland site with Fayette and Paint Creek soils 5 - 30% slope.

**Woodland description:** *Type 089 , Dbh 5 , BA 85 , 0 bf/Ac, Active management: even aged*

10:54 AM 3/5/2008 Dave Asche

This area is a small clearcut done in the mid to late 80's and replanted to red oak and walnut. The walnuts are doing well but the oak lags behind. Recruitment by aspen, maple, basswood, and bitternut hickory, as well as others is a lot of competition. this stand needs TSI now.

**Management recommendations:** Forest stand improvement, 2018.

### **Stand 26 – 31:**

**Site description:** upland sites comprising 87 acres with Village, Paint Creek, LaCrescent, and Arenzvil-volney soils on slopes from 9 - 70%.

**Woodland description:** *Type 0 , Dbh 0 , BA 0 , 0 bf/Ac, Active management: even aged*

These stands are all part of the Gingerich acquisition and have not yet been mapped except on the basis of slope. Need stand inventory which will probably be done in 2009.

**Management recommendations:** Stand inventory, 2018.

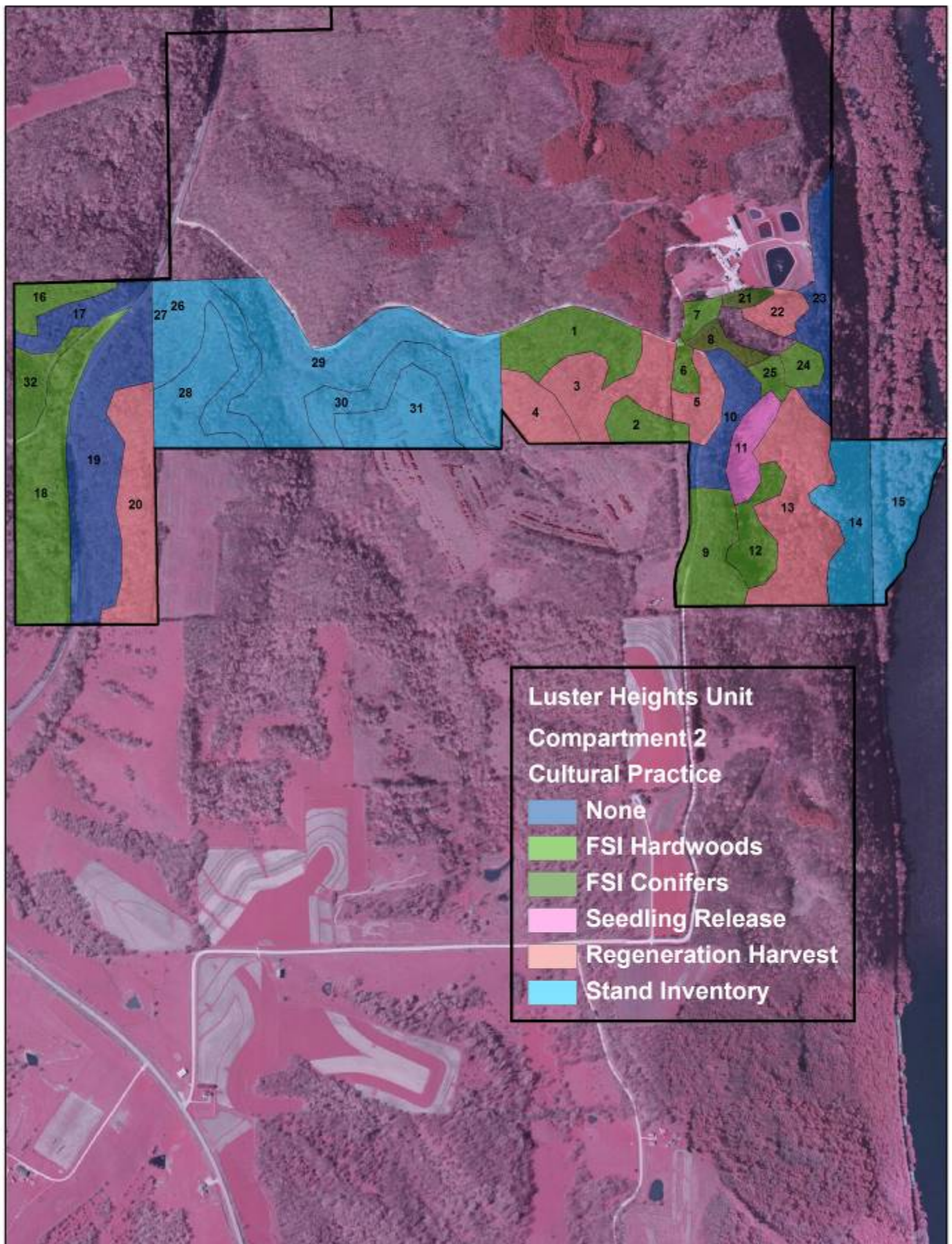
### **Stand 32:**

**Site description:** 4.3 acres upland site with LaCrescent soil 25 - 35% slope.

**Woodland description:** *Type 063 , Dbh 14 , BA 100 , 9000 bf/Ac, Active management: even aged*  
10:54 AM 3/5/2008

Decent stand of upland mixed hardwoods with some red oak and maple, occasional walnut. This is in the old 364 unit and is fairly steep in spots but could be worked. BA is high here and there are some good opportunities to TSI red oak.

**Management recommendations:** Forest stand improvement, 2018.



# **Glossary of Forestry Terms**

**Acre:** An area of land containing 43,560 square feet, roughly the size of a football field, or a square that is 208 feet on a side. A “forty” of land contains 40 acres and a “section” of land contains 640 acres.

**All-aged:** An uneven-aged stand that represents all ages or age classes from seedlings to mature trees.

**Annual ring:** Trees in climates where growths stops or slows during portion of the year will form annual rings which can be read to determine tree age and growth. The science of dendrochronology studies tree rings to infer knowledge about past climatic conditions, based on the fact that trees will form wider annual rings during seasons when growing conditions are favorable and narrow rings when not. Annual rings are highly visible in species that form less dense wood during favorable growing conditions early in the season and denser wood less favorable conditions later in the year. In some tree species this differentiation does not occur and annual rings are difficult to see. In tropical species, growth never, or seldom, ceases and annual rings may not be apparent.

**Bark:** The outer layer of the stems, limbs and twigs of woody plants. Often bark is characteristic of the species and can be used for identification.

**Basal area:** The cross sectional area of the base of any object. In forestry it means the cross sectional area of a tree at a point 4.5 feet above the ground line expressed in square feet. The sum of all the trees on an acre is a measure of the density of the population of trees growing on the acre and is useful for making forest management decisions. A helpful way to think of basal area is to imagine all the trees on an acre cut off with 4.5 foot stumps. Basal area on the acre could be measured by measuring and totaling the cross sectional area of all stumps. Fortunately, it is not necessary to cut trees to measure basal area. It can be calculated from tree diameter or can be easily measured with an angle gauge when certain relationships are known. Basal area will commonly range from 20 to 70 square feet per acre for poorly stocked stands to more than 200 square feet per acre for dense stands of conifers.

**Biodiversity (biological diversity):** The variety and abundance of species, their genetic composition, and the communities and landscapes in which they occur, including the ecological structures, functions, and processes occurring at all of these levels.

**Board foot:** A unit of measure wood 1” thick and 1 foot on each side equaling 1/12 cubic foot of wood. In practice, a board foot seldom contains 1/12 of a cubic foot due to loss from surfacing such as planing and sanding. For example, an 8 foot 2x4 would be said to have 5 and 1/3 board feet, but would actually be more like 4.08 board feet after losses from surfacing.

**Bole:** The stem or trunk of a tree; usually thought of as being that part without limbs, the merchantable part of the stem, the bottom part of the stem

**Canker:** An imperfection on the trunk, limb or twig of a tree caused by an organism that kills a part of the tree’s tissue. Canker causing organisms sometimes exist in some sort of a balance with the host, never killing enough tissue to cause death. Cankers tend to weaken trees to eventually break.

**Clearcut:** A method of regenerating a forest in which all trees on a given area are cut. Clearcutting results in conditions which allow the greatest amount of sunlight to reach the forest floor, a desirable condition for the re-growth of certain valuable tree species which need a lot of sunlight to grow, such as oaks and walnut. Clearcutting also confers certain benefits for many wildlife species.

**Competition:** The struggle between trees to obtain sunlight, nutrients, water, and growing space. Every part of the tree, from the roots to the crown, competes for space and food.

**Conversion:** A change though forest management from one tree species to another within a forest stand or site.



**Coppice:** All trees in the previous stand are cut and the majority of regeneration is from sprouts or roots suckers. Coppice selection-only selected stems of merchantable size are cut at each felling, giving uneven-aged stands. Coppice with reserves- reserve trees are retained to attain goals other than regeneration.

**Cord:** A unit of measure of wood that is equivalent to a pile of round wood 4 feet wide, 8 feet long and 4 feet high. A cord contains 128 cubic feet of wood and space.

**Cover type:** Expressed as the tree species having the greatest in a forest stand. A stand where the major species is oak would be called an oak cover type.

**Crop:** The vegetation growing on a forest area, more particularly the major woody growth having commercial value.

**Crop tree release:** Natural stands of trees start out with thousands of trees per acre. Planted stands may contain 500 to 1500 trees per acre. At maturity, due to constraints of space, nutrient availability and the increased size of individual trees, there can be only 50 to 70 trees per acre. Crop tree release is the practice of selecting the individual trees that are to remain in the stand until maturity and then removing the trees competing with them. Crop trees could be selected on the basis of any of the values associated with trees such as aesthetics or wildlife values, but are almost always selected on an economic basis. In Iowa selected trees would mostly likely consist of walnut and red and white oak. Selected trees would be straight with long, clear boles and would be the trees bringing the best dollar return upon maturity.

**Crown:** Refers to that part of the tree consisting of limbs, branches, twigs and leaves; in other words, the top of the tree.

**Cruise:** A survey of forest land to locate timber and estimate its quantity by species, products, size, quality, or other characteristics.

**Cubic foot:** A wood volume measurement. A cubic foot of wood contains approximately six to 10 usable board feet of wood. A cord of wood equals 128 cubic feet.

**Cull:** Refers to a tree having no commercial value, usually from having rot, holes, large knots or being crooked rather than from being too small or of a non-merchantable species. It is important to note that a cull, though having no commercial value may have wildlife, aesthetic or other value.

**Cultural practice:** The manipulation of vegetation to meet objectives of controlling stand composition or structure, such as site improvement, forest tree improvement, increased regeneration, increased growth, or measures to control insects or disease.

**D.B.H.:** Stands for diameter at breast high. Always taken as 4.5 feet above the ground, that being a convenient height at which to measure a tree's diameter. For trees on a slope, dbh is taken at 4.5 feet from the ground on one of the two sides of the tree that is at right angles to the direction of slope.

**Defect:** An imperfection in a tree making it less desirable for some purpose. The term is commonly used to refer to some imperfection that will reduce the value of a tree or log for a product, resulting in reduced monetary value.

**Den tree:** A tree that has a hole in its stem that can be used as shelter by wildlife such as birds and mammals.

**Disturbance:** Any event, either natural or human induced, that alters the structure, composition, or functions of an ecosystem. Examples include forest fires, insect infestation, windstorms, and timber harvesting

**Dominant (trees):** individuals or species of the upper layer of the forest canopy.

**Early successional forest:** The forest community that develops immediately following the removal or destruction of vegetation in an area. Plant succession is the progression of plants from bare ground (e.g., after a forest fire or timber harvest) to mature forest consisting primarily of long-lived species such as sugar maple and white pine. Succession consists of a gradual change of plant and animal communities over time. Early succession forests commonly depend on and develop first following disturbance events (e.g. fire, windstorm, or timber harvest). Examples of early successional forest tree species are aspen, paper birch, and jack pine. Each stage of succession provides different benefits for a variety of species.

**Endangered species:** A plant or animal species that is threatened with extinction throughout all or a significant portion of its native range.

**Even-aged stand:** A stand of trees composed of a single age class.

**Floodplain Forest:** Characterized by species such as silver maple, cottonwood, walnut, green ash, elm, hackberry and willows. This habitat factor will benefit wildlife such as songbirds and woodpeckers, furbearers, raptors, reptiles and amphibians on relatively level areas inundated by water periodically.

**Forest:** A forest is an ecosystem, an association of plants and animals. Trees are its dominant feature. They provide many of the benefits of forests like habitat, quality water, recreation, climatic amelioration and wood products. The plants and animals that make up a forest are inter-dependent and often essential to its integrity.

**Forester:** A professional engaged in the science and profession of forestry- note foresters are commonly credentialed by states or other certifying bodies, e.g., the Society of American Foresters, and may be licensed, certified, or registered indicating specific education and abilities; the requirements for credentialing differ and usually include earning a baccalaureate degree in forestry, sometimes equivalent experience, and usually passing a comprehensive examination.

**Forest cover:** All trees and other plants occupying the ground in a forest, including any ground cover.

**Forest fire:** An uncontrolled fire on lands covered wholly or in part by timber, brush, grass, grain, or other flammable vegetation.

**Forest floor:** The accumulated organic matter at the soil surface, including litter and unincorporated humus.

**Forest inventory:** A set of objective sampling methods designed to quantify the spatial distribution, composition, and rates of change of forest parameters within specified levels of precision for the purposes of management. The listing (enumeration) of data from such a survey- synonym cruise, forest survey- note inventories may be made of all forest resources including trees and other vegetation, fish, insects, and wildlife, as well as street trees and urban forest trees- see dynamic sampling, point sampling

**Forest management:** The practical application of biological, physical, quantitative, managerial, economic, social, and policy principles to the regeneration, management, utilization, and conservation of forests to meet specified goals and objectives while maintaining the productivity of the forest. Forest management includes management for aesthetics, fish, recreation, urban values, water, wilderness, wildlife, wood products, and other forest resource values.

**Forest stand** – A stand may loosely be defined as a contiguous group of trees sufficiently uniform in species composition, arrangement of age classes and general condition to be a homogeneous and distinguishable unit. A stand is usually treated as a basic silvicultural unit, but it seldom represents a natural ecological unit. Its composition and structure are most strongly affected by management, other disturbances and chance factors affecting seed distribution, germination and seedling survival.

**Forest Stand Improvement:** A practice in which the quality of a residual forest stand is improved by removing less desirable trees and large shrubs to achieve the desired stocking of the best quality trees or to improve the reproduction, composition, structure, condition, and volume growth of a stand.

**Fully-stocked stand:** A forest stand in which all growing space is effectively occupied but having ample space for development of the crop trees.

**Game species:** In this plan, game species include those terrestrial species that are hunted and trapped.

**Gap:** The space occurring in forest stands due to individual tree or groups of trees mortality or blown down. Gap management uses timber harvest methods to emulate this type of forest spatial pattern.

**Geographic information system (GIS):** Computer software used to manipulate, analyze, and visually display inventory and other data and prepare maps of the same data.

**Group selection:** A process of harvesting patches of selected trees to create openings in the forest canopy and to encourage reproduction of uneven-aged stands.

**Hardwood:** Hardwood as opposed to softwood is a relative term. Hardwoods are generally defined as the woods of deciduous trees, i.e., trees which shed their leaves in the winter.

**Harvesting vs. silvicultural treatment:** The meanings of these two terms are often confused by lay people and sometimes by professionals. Many silvicultural treatments involve harvesting, but not all harvesting is silvicultural treatment. Harvesting is a silvicultural treatment when its purpose is to shape the residual stand or to affect regeneration. Often the two purposes are accomplished simultaneously. Of course, harvesting can be done simply to remove an existing crop, but this is not management and therefore the operation cannot be called a silvicultural treatment.

**Landform:** Any physical, recognizable form or feature of the earth's surface having a characteristic shape and produced by natural causes. Examples of major landforms are plains, plateaus, and mountains. Examples of minor landforms are hills, valleys, slopes, eskers, and dunes. Together, landforms make up the surface configuration of the earth.

**Landscape:** A general term referring to geographic areas that are usually based on some sort of natural feature or combination of natural features. They can range in scale from very large to very small.

**Leave trees:** Live trees selected to remain on a site to provide present and future benefits, such as shelter, resting sites, cavities, perches, nest sites, foraging sites, mast, and coarse woody debris.

**Management goals:** Overall purpose for controlling (managing) the composition and structure of forest land. For example, to protect land from erosion, to maintain wildlife habitat, to grow wood for profit, etc.

**Management objectives:** Defined conditions for the property, or segments of property (e.g. stands or management units), that will achieve management goals. For example, maintenance of continuous forest cover

may be the only objective if watershed protection is the primary goal. Another objective may be to grow tree species with highest yields in order to maximize returns from wood production.

**Management plan:** A plan outlining the objectives for individual management units and describing steps for achieving them. Silvicultural procedures are identified in broad terms, but detailed prescriptions are developed in the field.

**Mast:** Nuts, seeds, catkins, flower buds, and fruits of woody plants that provide food for wildlife.

**Mature tree:** A tree that has reached the desired size or age for its intended use. Size or age will vary considerably depending on the species and the intended use.

**Merchantable timber:** Trees or stands having the size, quality, and condition suitable for marketing under a given economic condition, even if not immediately accessible for logging.

**Mesic:** Moderately moist.

**Multiple use:** Using and managing a forested area to provide more than one benefit simultaneously. Common uses may include wildlife, timber, recreation, and water.

**Native plant community:** A group of native plants that interact with each other and with its environment in ways not greatly altered by modern human activity or by introduced organisms. These groups of native plants form recognizable units, such as an oak forest, prairie, or marsh that tend to reoccur over space and time. Native plants communities are classified and described by physiognomy, hydrology, landforms, soils, and natural disturbance regimes (e.g., wild fires, wind storms, normal flood cycles).

**Natural disturbances:** Disruption of existing conditions by natural events such as wildfires, windstorms, droughts, flooding, insects, and disease.

**Natural regeneration:** The growth of new trees from one of the following ways: (a) seeds naturally dropped from trees or carried by wind or animals, (b) seeds stored on the forest floor, or (c) stumps that sprout or roots that sucker.

**Non-forest land:** Land that has never supported forests, and land formerly forested where use for timber management is precluded by development for other uses such as crops, improved pasture, residential areas, city parks, improved roads, and power line clearings.

**Non-game species:** In this plan, nongame species include amphibians, reptiles, and those mammal and bird species that are not hunted or trapped.

**Old-growth forests:** Forests defined by age, structural characteristics, and relative lack of human disturbance. These forests are essentially free from catastrophic disturbances, contain old trees (generally over 120 years old), large snags, and downed trees.

**Overstory:** The canopy in a stand of trees.

**Plantation:** A stand composed primarily of trees established by planting or artificial seeding.

**Pole or pole timber:** A young tree or stand of young trees between 3.5 inches and 12.9 inches in diameter at a point 4.5 feet above the ground. In referring to a stand of trees the upper limit holds, however, when referring to processed round wood, pieces larger than 12.9 inches in diameter could be correctly referred to as poles.

**Prairie:** An extensive tract of level or rolling land that was originally treeless and grass covered. A prairie is generally characterized by deep fertile soil.

**Prescribed burn:** To deliberately burn wild lands in either their natural or their modified state under specified environmental conditions, which allows the fire to be confined to a predetermine area and produces the fire line intensity and spread required to attain planned resource management objectives.

**Pruning:** The practice of removing tree limbs so that a straight, bole, free of limbs, will develop. Several years after pruning the resulting wound will have grown over and the wood that grows over the site of the former branch will be clear, that is knot free. Pruning is a component of FSI.

**Recreation:** Leisure activities involving the enjoyment and use of natural resources. This habitat factor will favor hunting activities while taking into consideration secondary activities such as wildlife watching, mushroom picking, photography, and hiking.

**Recreation facility:** The improvements within a developed recreation site offered for visitor's enjoyment.

**Regeneration:** The act of renewing tree cover by establishing generation usually maintaining the same forest type forest was removed. Regeneration may be artificial(direct seeding or planting) or natural (natural seeding, or planting).

**Release (release operation):** A treatment designed to free young trees from undesirable, usually over topping, competing vegetation.

**Restoration:** A new planting of seedlings, direct seeding, or regeneration of roots. This habitat factor will create new habitat that will be of higher quality for wildlife.

**Riparian:** Related to, living, or located in conjunction with a wetland, on the bank of a river or stream but also at the edge of a lake.

**Riparian Buffer-** Woodland next to streams, lakes and wetlands that is managed to enhance and protect aquatic resources from adjacent fields. This habitat factor will provide a woody cover buffer to enhance soil and water conservation while providing wildlife habitat.

**Rotation age:** The period of years between when a forest stand (i.e., primarily even-aged) is established (i.e., regeneration) and when it receives its final harvest. This time period is an administrative decision based on economics, site conditions, growth rates, and other factors.

**Round wood.** Wood products that are used in their original form, only being cut to length. Includes firewood, posts, and pulpwood and similar products.

**Salvage cut:** A harvest made to remove trees killed or damaged by fire, wind, insects, disease, or other agents. The purpose of salvage cuts is to use available wood fiber before further deterioration occurs to recover value that otherwise would be lost.

**Sanitation cut:** A cutting made to remove trees killed or injured by fire, insects, disease, or other injurious agents (and sometimes trees susceptible to such injuries).

**Sapling:** A young tree larger than a seeding but smaller than a pole. When a tree has grown to a diameter of a 3.5 inches in diameter at a point 4.5 feet above the ground it is no longer a sapling, having become a pole.

**Sapwood.** That wood found closest to the bark or outside of the bole and usually distinguished from heart wood by being lighter in color.

**Savanna:** Natural grassland, generally with a scattering of trees or shrubs.

**Saw log:** A log large enough to produce lumber or other products that can be sawed. Its size and quality vary with the utilization practices of the region.

**Sawtimber:** Trees that yield logs suitable in size and quality for the production of lumber.

**Scarify:** To break up the forest floor and topsoil preparatory to natural regeneration or direct seeding.

**Seedling:** A baby plant. In forestry the term usually used to refer to young trees that have grown beyond the stage where they have just emerged from the soil up to the point that they become saplings.

**Seed tree:** Any tree that bears seed; specifically, a tree left standing to provide the seed for natural regeneration.

**Seed tree method:** The harvest of all trees except for a small number of widely dispersed trees retained for seed production and to produce a new age class. Seed trees are usually removed after regeneration is established.

**Selective harvest:** Removal of single scattered trees or small groups of trees at relatively short intervals. The continuous establishment of reproduction is encouraged and an all-aged stand is maintained. A management option used for shade-tolerant species.

**Selection harvest:** A method of harvesting whereby individual trees are selected for harvest. A characteristic is that the form and appearance of the forest is maintained and the site is not exposed to sunlight and weathering. This scheme favors a tree species which tolerate shading such as maple and basswood. It also benefits certain wildlife species.

**Shade tolerance:** Relative ability of a tree species to reproduce and grow under shade. The capacity to withstand low-light intensities caused by shading from surrounding vegetation. Tolerant species tolerate shade, while intolerant species require full sunlight.

**Shelterwood:** A method of regenerating a forest whereby a portion of the stand is harvested and the rest of the stand is evenly distributed over the area to protect the site and provide seed to reseed the area. After the new stand is well established, the residual trees are harvested. This method is used to regenerate species not tolerate of shading.

**Shelterwood harvest:** A harvest cutting in which trees in the harvest area are removed in a series of two or more cuttings to allow the establishment and early growth of new seedlings under partial shade and protection of older trees. Produces an even-aged forest.

**Silvics:** The study of the life history and general characteristics of forest trees and stands, with particular reference to environmental factors, as basis for the practice of silviculture.

**Silviculture:** The art and science of controlling the establishment, growth, composition, health, and quality of forests and woodlands to meet the diverse needs and values of landowners and society on a sustainable basis.

**Silvicultural prescription:** Specific steps prescribed to achieve specific management objectives. Examples: If the management objectives is to maintain an oak component in a mixed stand, the silvicultural prescription may include opening up the forest canopy to initiate the establishment of seedlings of shade-intolerant oaks. If undesirable species are dominating the canopy and a desirable species is becoming in the understory, the silvicultural prescription may be to remove over story trees to release the suppressed species. Thinning and planting are other examples

**Single tree selection:** individual trees of all sizes classes are removed more or less uniformly throughout the stand, to promote growth of remaining trees and to provide space for regeneration- synonym individual tree selection.

**Site index:** A measure of the productive quality of an area where trees grow. Site index is based on the height of dominant and co-dominate trees at age 50. That is to say, if the average height of dominant and co- dominate trees on a site was 70 feet at age 50, 70 would be the site index. Graphs are developed to enable determination of site index over a range of tree ages.

**Site potential:** Collective physical resources (e.g., soil moisture, nutrients, light, heat) available for plant growth. Different potentials facilitate growth of some species and limit growth of others. Consequently, site potential has a strong effect on plant community development.

**Slash:** The non-utilized and generally unmarketable accumulation of woody material in the forest, such as limbs, tops, cull logs, and stumps that remain in the forest as residue after timber harvesting.

**Snag.** A snag tree is a dead tree; commonly a tall, limbless tree left a logging operation. Though of little or no commercial value, they can be very valuable wildlife resources.

**Softwood.** Generally considered to be the wood of conifers, although the wood of some conifers is harder than some hardwoods. See the definition of hardwood for a further explanation.

**Stand:** a contiguous group of trees similar in age, species composition, and structure, and growing on a site of similar quality, to be a distinguished forest unit. One stand will usually have characteristics that will distinguish it from other stands. Difference could be species, average diameter , density and location.

**Stumpage:** According to Webster, the value of standing timber. Also, the timber itself or the right to cut it.

**Succession:** The natural replacement, over time, of one plant community with another.

**Sucker:** A shoot rising from below ground level from a root. Aspen regenerates from suckers.

**Suppressed:** The condition of a tree characterized by low growth rate and low vigor due to competition from overtopping trees or shrubs.

**Sustainability:** Protecting and restoring he natural environment while enhancing economic opportunity and community well-being. Sustainability addresses three related elements: the environment, the economy, and the community. The goal is to maintain all three elements in a healthy state indefinitely. Meeting the needs of the present without compromising the ability of future generations to meet their own needs.



**Thinning:** A silvicultural treatment made to reduce the density of trees within a forest stand primarily to improve growth, enhance forest health, or recover potential mortality. Row thinning is where selected rows are harvested, usually the first thinning, which provides equipment operating room for future selective thinning. Selective thinning is where individual trees are marked or specified (e.g., by diameter, spacing, or quality) for harvest. Commercial thinning is thinning after the trees are of merchantable size for timber markets. Pre-commercial thinning is done before the trees reach merchantable size, usually done in overstocked (very high stems per acre) stands to provide more growing space for crop trees that will be harvested in future years.

**Threatened species:** A plant or animal species that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

**Tolerance (shade tolerance):** A plant's ability to tolerate conditions under a forest canopy. Normally thought of as tolerance to low light conditions, but other understory conditions, such as root competition for water and nutrients, are also factors.

**Two-aged stand:** A stand with trees of two distinct age class separated in age by more than 20 percent of the rotation age.

**Under plant:** The planting of seedlings under an existing canopy or over story.

**Under-stocked:** A stand of trees so widely spaced that even with full growth potential realized, crown closure will not occur.

**Under-story:** The shorter vegetation (shrubs, seedlings, saplings, small trees) within a forest stand that forms a layer between the over-story and the herbaceous plants of the forest floor.

**Uneven-aged stand:** A stand with trees of three or more distinct age classes, either intimately mixed or in small groups.

**Uneven-aged management:** A planned sequence of treatments designed to maintain and regenerate a stand with three or more age classes. Uneven-aged (selection) methods will maintain a multi-aged structure by removing some trees in all sizes classes either singly, in small groups, or in strips-synonym all-aged methods

**Viewshed:** A physiographic area composed of land, water biotic and cultural elements which may be viewed from one or more viewpoints and which has inherent scenic qualities and/ or aesthetic values as determined by those who view it. Viewsheds are a habitat factor that will be primarily a "hands-off" area for aesthetics, proper soil and water conservation, along with providing special wildlife habitats.

**Volume:** Refers to the amount of wood in a tree or log. Expressed as board feet, cords or other measures.

**Well-stocked:** The situation in which a forest stand contains trees spaced widely enough to prevent competition yet closely enough to utilize the entire site.

**Wolf tree:** A generally predominant tree with a broad, spreading crown that occupies more growing space than its more desirable neighbors.

**Woodland:** A plant community in which, in contrast to a typical forest, the trees are often small, characteristically short-boled relative to their crown depth, and forming only an open canopy with intervening area occupied by lower vegetation, commonly grass.

**Woodland edge:** An area of habitat transition that consists of vegetation (herbaceous and woody) of different heights and densities. This habitat factor will favor early successional vegetation for wildlife benefiting from edge cover.