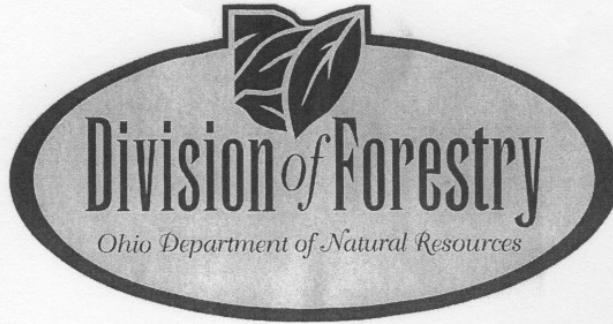


Woodland Stewardship Management Plan



Owner's Information:

Owner: Missy Kroninger

Signed: _____

Date: _____

Case Number: 12-481

Preparer's Information:

Prepared by: Casey Burdick

Signature: *Casey Burdick*

Casey Burdick

Ohio Division of Forestry

777 Columbus Ave. Suite 5-A

Lebanon, OH 45036

Date: 12/1/2011

This plan is valid for the period beginning 12/1/2011 and ending 12/1/2021.

Plan Status: New

Woodland Stewardship Management Plan

Owner	Missy Kroninger		
Address	3336 Columbus Rd. Springfield, OH 45503		
Phone	Case Number	12-479	
Cell	937-505-6732	Email Address	rootdownacres@gmail.com
County	Clark	Township/Village/City:	Springfield, section 18
Parcel(s):	3000700018000008		
Location:	Property is located east of Springfield, on the northeast corner of Columbus and Croft Roads. Just south of Buck Creek SP Reservoir.		
Woodland Stewardship Acreage:	8.5	Non-woodland Stewardship Acreage*:	
Total Property Acres	17.4	<small>* Non-woodland acres for which stewardship recommendations are made.</small>	

This plan was written to qualify the landowner's woodland for the programs checked below:

- | | |
|---|---|
| <input type="checkbox"/> Ohio Forest Tax Law | <input type="checkbox"/> American Tree Farm Program |
| <input checked="" type="checkbox"/> Environmental Quality Incentives Program (EQIP) | <input type="checkbox"/> |

Property coordinates (report in WGS 84, decimal degrees.)

Longitude: -83.7479 Latitude: 39.9389

Landowner Objectives

1. Maintain and improve the health and productivity of this woodland.
2. Enhance and maintain the aesthetic, wildlife, and recreational value of the property for the future.
3. Select and manage tree species best suited to the soil and site's capability.
4. Leave this woodland in a better condition than received for future generations.
5. To grow tree species which will provide products for sale.

General Woodland Description

This property was recently purchased and there is a lot of interest in improving the woodland and keeping it productive. Currently it is overtaken by invasive bush honeysuckle and a large patch of tree-of-heaven. This some hard work, and probably a little tree planting, this area will provide great habitat, soil protection and water protection for years to come.

MAP

Case Number: 12-481

Landowner's Name: Missy Kroninger

County: Clark

Township: Springfield

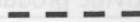


Legend

Property Lines



Woodland boundary



Patch of Tree of Heaven



Total Acres: 68.96

Wooded Acres: 8.5

Map Not to Scale

Property boundaries are roughly drawn

Woodland Stand Description and Management Recommendations

Stand # A - 8.5 acres

Dominant Species: Cottonwood, Sycamore, Boxelder, Elm, Hackberry, Ash

Forest Type or Dominant Vegetation: Bottomland Hardwoods - better drained site

Stand Diameter or Size Class: Small/Medium sawtimber

Stocking Level: Fully stocked **and/or Basal Area :** (ft²/acre)

Stand History: No Prior Management

Topography: Rolling Stream side and flood plain

Invasive plants or insects impacting this stand: Bush Honeysuckle, Tree of Heaven, Grapevines

Present conditions for you to consider: This stand of woods contains pockets of heavy infestation of the non native invasive plants bush honeysuckle and grapevine. Apply control techniques to the invasives by cutting and applying herbicides or just applying herbicides. There was also a spot of Tree of Heaven found that needs to be treated quickly before it spreads further. I recommend doing a basal bark spray on the bottom 12-18 inches of the trunk or hacking with a small ax or hatchet into the tree and spraying into the cuts.

Management Recommendations:

Apply for Forestry EQIP at the Clark County NRCS office

Control invasive plants

Monitor for Emerald Ash Borer

Consider planting in area currently infested with tree of heaven

Is a timber harvest recommended? No

Comments: Work should be done to control invasive plants. Bush or shrub species can be cut and the stump treated with herbicide or treated by a foliar spray (in late fall). Tree of Heaven can be treated by basal spray or hack and squirt. Enclosed you will find a factsheet from Ohio State Extension describing the latest concentrations of herbicide recommended.

It was also mentioned that there is interest in doing a tree planting to start more desirable plants in this area. According to the soil information the trees that will do best are; black walnut, swamp white oak, sweetgum, pin oak, burr oak, red maple, silver maple, bitternut hickory, river birch, and bald cypress. If you would also like to plant some shrub or lower growing species you could include; red osier dogwood, spicebush, silky dogwood, black chokeberry, and serviceberry. You can order a variety of seedlings in small quantities from local soil and water conservation offices in the spring or you can order from a larger nursery in the fall. If you need any more guidance on tree planting feel free to contact a consulting forester or me.

Management Activity Schedule

Year(s) Suggested	Mgmt. Unit	Required Task?	Acres	Recommendations
2011-2012	A	<input type="checkbox"/>	8.5	Sign up for Forestry EQIP at Clark County NRCS office
2012-2014	A	<input type="checkbox"/>	8.5	Once accepted into Forestry EQIP, begin work to control bush honeysuckle and grapevines
2012-2015	A	<input type="checkbox"/>	1	When you finish your invasive control, do tree/shrub planting in area
2014-2015	A	<input type="checkbox"/>	8.5	Monitor and maintain control over invasive plants
2011-2021	A	<input type="checkbox"/>	8.5	Monitor for Emerald Ash Borer
		<input type="checkbox"/>		
		<input type="checkbox"/>		
		<input type="checkbox"/>		
		<input type="checkbox"/>		
2021	Whole Property	<input type="checkbox"/>		Next Site Visit – Woodland reviews are recommended at least once every five years, and plan updates once every ten years, based upon the date of the last woodland evaluation conducted by your forester

Before entering a timber sale agreement, or conducting other forestry work that is not listed in your activity schedule, contact your forester first to ensure compliance with your approved woodland stewardship management plan

Woodland Resource Descriptions

General Soils Information – a general description of the soil type(s) and the general productive capacity of the soil:

- **Soil Type(s):** Sloan silt loam, Ross silt loam, Lippincott silty clay loam, Eldean silt loam
- **Soil Drainage Class:** A range of drainage conditions
- **Site Class: (using Woodland Productivity):** Good

- **General Description of Main Soils:** The Sloan series consists of very deep, very poorly drained soils formed in loamy alluvium on flood plains. The Ross series consists of very deep, well drained soils formed in loamy alluvium on flood plains and low terraces.

Timber Information - a general description of the timber characteristics of quality and potential:

Timber production is practical and possible for this property. The woodlands are stocked with a variety of marketable timber species that can produce valuable wood products now and into the future. Timber stand improvement (TSI) management practices such as grapevine control, cull tree & undesirable hardwood species control, and crop tree release will certainly enhance the quality and value of your timber resources over time, and are important tasks to implement in order to maximize the timber potential in your woodland.

Wildlife – a general description of the wildlife habitat quality and potential:

Your forestland provides valuable habitat for wildlife, including mammals, birds, and amphibians. Many of the tree species are used by this wildlife for food, cover and nesting sites. Some of the more valuable wildlife food tree species include oaks, beech, cherry, dogwood and hickory. Many other tree species are critically important to certain species of wildlife. Grapevines also are an important food and cover for birds.

Cover, food and water are all necessary to attract wildlife. Different species use different cover types, and maintaining a diversity of cover is key to attracting a wide variety of wildlife. A mixture of sapling areas, pole areas and sawtimber areas will help meet the need for habitat diversity. Small openings in the forest and/or open areas along woodland roads help provide areas for birds and their young to come and catch insects. Openings can also be seeded to grass and clover mixes to provide an additional variety of food.

Please note all habitats don't necessarily have to be present on your property...your neighbor's land may offer a habitat type different than what is available at your forest. You can extend habitat benefits using complimentary cover types beyond your boundaries...the wildlife don't mind.

Water - a general description of the water resources on the property:

Soil and water conservation practices can be applied to this property. Perennial streams should always be buffered with trees. Livestock should be kept out of streams. Water control structures should be used in areas where access trails and roadways are present.

The water and soil resources on your property should be protected and enhanced. Using the information in this plan and information available through your local Soil and Water Conservation District you can implement sound soil and water conservation practices on your property.

Best Management Practices – maintaining the integrity and productivity of woodland sites:

Basic protection measures used to guard your forest soils against problems related to soil/site limitations and equipment usage - rutting, excessive disturbance and compaction, erosion, and sedimentation - are commonly referred to as Best Management Practices (BMP'S). One very easy BMP landowners may use is simply to limit heavy equipment access to dry weather periods.

Hilly to steeply sloped terrain is more subject to site disturbance and subsequent soil erosion and sedimentation. Forest management often may still be accomplished on these steep areas with the use of BMP's. Even when the forest terrain is nearly level to gently rolling, and where slope does not present a hindrance to access for management activities, it is important to keep the trails up away from the small drainages where possible. This helps protect water quality by providing a buffer strip of undisturbed soil and leaf litter where any sediment can be trapped before reaching the drainage, if some should get washed off the path.

During timber harvest activities, follow the Best Management Practices outlined in the Ohio State University Bulletin #916 – BMPs for Erosion Control for Logging Practices in Ohio. This booklet is available online at www.ohiodnr.gov/forestry/ or at your local Division of Forestry office.

Practically speaking, the use of BMP's to prevent soil loss is a sound agricultural practice that helps maintain site & timber productivity. Also, implementing BMP's helps you comply with Ohio's Agricultural Pollution Abatement Law (HB 88) standards for Silvicultural Operations.

Forest Health – a general description of the health of the woodland:

No problematic insect pests or diseases were noted during the woodland review. This woodland shows good overall health and vigor. Control of grapevines on selected crop trees will guard those crop trees from the damage risks posed by this woody native vine. However, native grapevines are part of the forest ecosystem; keeping selected vines may be considered a part of maintaining overall forest health.

Oak species are preferred food sources for the Gypsy moth. The good news is that after the initial wave of Gypsy moths showed up in Ohio, a fungus showed up that keeps these critters in pretty good check. The fungus is named *Entomophaga miamaiga*... "Em" for short. Still, it's a

good idea to keep tabs on any oaks present in the forest to see if any egg masses start to show up in July-August - identified as a characteristic tan fuzzy oval mass that looks like Velcro. If you see egg masses, and can count more than 50 during a five minute walk around the oaks, then your trees are at risk of being partially or completely defoliated if the Spring is very dry and therefore not conducive to development of the Em fungus for natural control. There are options for control of Gypsy moth using aerial application of pesticides to the tree leaves, so that larvae ingesting such pesticides then die. One such pesticide is actually a "biocide" - the bacteria *Bacillus thuringiensis* (Bt).

Another woodland pest of great concern is the emerald ash borer (EAB), an invasive insect from Asia that only attacks ash trees. The larvae eat the living tissue of ash trees just underneath the bark. With a large enough infestation, this process essentially chokes off the flow of water and nutrients within the tree which leads to the tree's mortality. This insect can spread naturally from tree to tree, as well as artificially through the movement of ash material such as firewood.

You can reduce the risk of losses by gradually reducing the ash component of your woodlot. When doing a forest thinning or a crop tree release, if you have a choice between an ash and another desirable species, you may choose to cut the ash and let the other species grow. By gradually doing this ash reduction throughout your woods, you can avoid any serious impact on your woods if the emerald ash borer does eventually get there.

The best thing you can do now is to stay informed. The following websites should be checked periodically for the most up to date information on the emerald ash borer:

<http://www.agri.ohio.gov/eab>

<http://www.emeraldashborer.info/>

<http://ashalert.osu.edu/>

<http://www.ohiodnr.com/forestry/health/eab.htm>

Wetlands – a general description of any wetland resources and/or vernal pools:

Wetlands are extremely important for water quality, and they provide unique habitats for fish and wildlife. These are an important forest resource component for overall health of the forest system. Ephemeral or seasonal wetlands – also called vernal pools - are typically small in size, and tucked within the forest cover. Vernal pools periodically dry up and do not contain fish. This drying may occur annually or just during drought years. However, these ephemeral pools provide unique habitat for amphibians like salamanders and frogs, as well as many other species of wildlife. Many landowners find that wetlands improve the aesthetics and overall enjoyment value to their land. It is very important to protect permanent and ephemeral wetland areas for the health of the forest and the environment.

Threatened & Endangered Species – considerations for threatened and endangered species, including the direct relationship with biological diversity:

No specific threatened or endangered species were noted within your forestland, but I did not conduct a complete biological survey. Some threatened or endangered species found in Ohio include the Timber rattlesnake, the Northern Harrier, the Indiana bat, and the American Burying Beetle. Habitat requirements for threatened and endangered species may or may not be found on this forestland; such species have certain habitat requirements. Specific information on threatened or endangered species may be obtained by contacting the Ohio Department of Natural Resources Division of Wildlife directly to access the "Ohio Biodiversity Database":

ODNR - Division of Wildlife
2045 Morse Road, Bldg. G-3,
Columbus, OH 43229-6693
Phone: (614) 265-6452

Archeological/Historical Resources – a general consideration and description of such resources:

Historical and cultural resources are nonrenewable and can never be replaced once destroyed. These resources provide us a unique glimpse into the past and a look at the people and how they cared for the land. Good stewardship involves recognizing these resources and protecting them. These resources should be conserved whenever possible when they are present on the property.

Recreation – current and potential recreational activities at property:

Each forest has a unique history and character...and this continues to build under your stewardship. This forest could be used for hunting, picnicing, or wildlife watching. Many landowners find enjoyment in doing improvement work in their woods. Others find pleasure in watching the birds. Some folks gain gourmet foods from the woods, gathering fruits, nuts, or wild mushrooms. Flowering trees like dogwood, redbud and serviceberry, whenever present, add to the beauty of the forest. Maintaining some trails will improve access and your opportunities for use of the area. A walk in the forest provides a time of learning but also a time to relax. The woodlands can be a quiet place of solitude after a busy day at work, or anytime for that matter.

Aesthetics – current or future aesthetic considerations for the woodland:

Forest aesthetics is often associated with older, more mature forests. However, it also has been said that beauty is in the eye of the beholder. Many folks enjoy mature forests with big trees...yet other folks find beauty in a young forest vibrant with the songs of early successional forest songbirds, or where they can take their favorite bird dog for an autumn hunt for ruffed grouse. Forest stewardship management addresses these and other various aesthetic tastes, and may weigh in visual goals of the neighbors. When you are weighing aesthetic goals, consider as a "group" 1) visual aesthetics, 2) the aesthetics of a dynamic functioning forest ecosystem, and 3) the particular wildlife species you hope to encourage at your property.

Other Resources – a general description of any other notable woodland resources:

Associated forest resources vary somewhat from forest to forest, but typically include a variety of herbaceous plants present within the woodlands or old fields within a property. Spring, summer, and fall wild flowers provide non-timber benefits to anyone who takes the time to enjoy the blossoms. Along with the flowers, there is a vast array of insect life – pleasant and sometimes unpleasant – that is essential to good ecosystem function. Native and non-native honey bees and butterflies are examples of beneficial insects. Medicinal shrubs and herbs and maple syrup are more examples of other beneficial forest resources.

Fire – identify hazards, fire breaks, safety zones, note dead trees from insects or disease, etc.:

Properties and homes in Ohio are not immune to the risks of fire and fire-related damage. Spring and fall are Ohio's main "fire seasons". A step one may take to protect one's forest is to have a system of paths that may double as fire breaks. For the home site, maintain good access for fire vehicles, create a defensible space around your home and outbuildings by removing flammable materials such brush, leaves, sticks, and twigs; remove these from roofs and gutters too. Landscape around buildings with less flammable plants and materials, avoid evergreens by or near the home, keep an outdoor water source, and avoid outdoor burning. For more information on outdoor fire safety and fire safety around your home, Firewise brochures are available from the Ohio Division of Forestry (toll-free 877-247-8733). You may also contact your local fire department with questions about Firewise and home safety regarding wildfire.

Ohio Fire Laws: ORC 1503.18 regarding kindled fires prohibits outdoor open burning statewide in unincorporated areas during the months of March, April, May, October, and November between the hours of 6:00 am and 6:00 pm. ORC 1503.18 is administered by the Ohio Division of Forestry; call toll-free 877-247-8733 with questions. OAC 3745.19 regarding outdoor burning is administered by the Ohio Environmental Protection Agency (EPA); EPA notification is required for many types of open burns in Ohio. Call 614-644-2270 with questions, or visit www.epa.ohio.gov/dapc/general/openburning.aspx.

Carbon Cycle – Healthy, sustainably managed forests can help to reduce atmospheric carbon:

When you as a forest landowner choose to maintain your forest land rather than convert it a non-forest use, you are making a significant contribution to the carbon cycle equation; healthy forests generally take in (sequester) more carbon than they release. Forest landowners that hold an interest or focus upon the carbon cycle have opportunities to enhance carbon sequestration on the property by conducting various silvicultural practices that enhance the forest's ability to capture and hold carbon, and by re-establishing woodlands on non-forested land.

Efforts to reduce carbon dioxide emissions have resulted in carbon now being a priced environmental commodity in the global marketplace. Active forest managers may find opportunities for carbon trading under participation in "ecosystem services" markets. For further information about carbon sequestration and voluntary carbon markets, plus other potential forest ecosystem services, visit the US Forest Service web site at <http://www.fs.fed.us/ecosystemservices/>.

Forestry Terms – Forestry terminology for landowners, professional foresters, and others:

Consistent forestry terminology is essential to anyone interested and involved in the science, management, and conservation of forests. The Society of American Foresters (SAF) offers a great resource for such forestry terminology: "The Dictionary of Forestry". This dictionary is an excellent tool available for anyone to learn more about the language used in forestry. The dictionary provides precision, clarity, and consistency in communication of forestry terms. You may access "The Dictionary of Forestry" for free at SAF at www.dictionaryofforestry.org. If internet access is not available, one may purchase a printed version from SAF (toll free 866-897-8760).

Fire – identify hazards, fire breaks, safety zones, note dead trees from insects or disease, etc. Properties and homes in Ohio are not immune to the risks of fire and fire-related damage. Spring and fall are Ohio's main "fire seasons". A step one may take to protect one's forest is to have a system of paths that may double as fire breaks. For the home site, maintain good access for fire vehicles, create a defensible space around your home and outbuildings by removing flammable materials such as brush, leaves, sticks, and twigs; remove trees from roofs and gutters too. Landscape around buildings with less flammable plants and materials, avoid evergreens by or near the home, keep an outdoor water source, and avoid outdoor burning. For more information on outdoor fire safety and the safety around your home, firewise brochures are available from the Ohio Division of Forestry (toll-free 877-247-8733). You may also contact your local fire department with questions about firewise and home safety regarding wildfire.

Ohio Fire Laws: ORC 1503.18 regarding kindled fires prohibits outdoor open burning statewide in unincorporated areas during the months of March, April, May, October, and November between the hours of 6:00 am and 6:00 pm. ORC 1503.18 is administered by the Ohio Division of Forestry; call toll-free 877-247-8733 with questions. OAC 3745.19 regarding outdoor burning is administered by the Ohio Environmental Protection Agency (EPA). EPA notification is required for many types of open burns in Ohio. Call 614-644-3270 with questions, or visit www.epa.ohio.gov/dsp/general/openburning.aspx.

Carbon Cycle – Healthy, sustainably managed forests can help to reduce atmospheric carbon. When you as a forest landowner choose to maintain your forest land rather than convert it to a non-forest use, you are making a significant contribution to the carbon cycle equation; healthy forests generally take in (sequester) more carbon than they release. Forest landowners that hold an interest or focus upon the carbon cycle have opportunities to enhance carbon sequestration on the property by conducting various silvicultural practices that enhance the forest's ability to capture and hold carbon, and by re-establishing woodlands on non-forested land.

Efforts to reduce carbon dioxide emissions have resulted in carbon now being a priced environmental commodity in the global marketplace. Active forest managers may find opportunities for carbon trading under participation in "ecosystem services" markets. For further information about carbon sequestration and voluntary carbon markets, plus other potential forest ecosystem services, visit the US Forest Service web site at <http://www.fs.fed.us/ecosystemservices/>.