



Partners News

April 2011

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PIF Board

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- Rod Sharka

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TERRESTRIAL INVASIVE PLANT SURVEY PROJECT UPDATE

I am pleased to announce that funding for the Terrestrial Invasive Plant Survey project to be done on participating PIF member lands in Vilas County this summer has been approved, thanks to a \$4000 supplemental grant provided by the Lumberjack RC&D Counsel. Initially, we were counting on a \$2000 matching funds grant from the *Conservation on Land Internship Program* (COLIP) to supplement the \$3200 WFLGP funds being provided by the Vilas County Conservation Department. Unfortunately, as a result of the extreme budget cuts made by the new political regime in Wisconsin, the valuable COLIP program was discontinued. If it wasn't for Lumberjack, this project would not have happened. This is what co-ops and partnerships are all about, folks. People and agencies working together for the benefit of all.

So far, thirteen PIF members owning a cumulative total of nearly 3000 acres of private land in Vilas County have signed up to participate in this survey. However, there are still a number of members who are eligible but have not responded. We have very good representation in central, east central, and north central Vilas County, as well as a fair amount of land in the extreme northwest part of the county. To be a thorough study, we would still like to see more coverage in the north central, south east, and south west portions of the county. There's still time to get in on this one time opportunity folks, so please get those owner surveys in. Also, if you know of any other land owners in Vilas County who are not PIF members, please talk to them about joining to get in on this important scientific survey. The only cost to them is the \$25 PIF membership fee, which gets them our newsletter, and valuable premiums to boot. It's a no brainer, but we need your help to make this project successful. Contact Joe Hovel (logcabin@nexus.net), or Rod Sharka (resharka@gmail.com) for more information.

Rod Sharka



JOE'S COMMENTS

Aside from my concerns over adequate fire control and an 18% employee vacancy rate in DNR Division of Forestry, I have been trying to emotionally and physically keep my 200-mile distance from the political turmoil in

Madison. That is, until suddenly the events of April 4-9 unfolded.

I need to start back to early 2006 when I made a trip (one of five) to Madison to give testimony to a legislative committee concerning the necessity of a local lumber use law. After finishing my testimony and listening to several others, the hearing adjourned and folks were getting up from their seats when a news reporter approached Senator Breske and me with some questions. Suddenly, a man, obviously well accustomed to the capitol routine, even though late for this hearing, darted into the room stating "Senate Bill 353 is dead, it will pass over my dead body." I glanced at Senator Breske with a "who is this guy?" and before the senator could answer the reporter responded, "Builders' Association." Senator Breske, in a diplomatic manner approached the lobbyist, and motioned for me to join them in the corridor.

Senator Breske introduced me to a rather arrogant Jerry Deschane, who asked who I was to be advocating for a bill like this. He, not so subtly, informed me that legislation of this kind comes from associations like Wisconsin Builders, who are well connected. As a follow up, the Builders' Association became involved, eventually agreeing to an amendment to appease their concerns, so with several further phone calls and conferences I tolerated Mr. Deschane's attitude quite well. I did thoroughly resist his efforts to recruit me as a member of Wisconsin Builders, adhering to my long philosophy of independence and disgust of lobbyists. Two years later the bill became law, in the following session, introduced as Senate Bill 28, and signed into law by the Governor as 2007, Wisconsin Act 208.

Until April 4, 2011, I had not again heard the name of Jerry Deschane since these efforts had succeeded. As it turns out, Jerry has a son named Brian, 27 years old, who has had at least 2 DUI arrests and has no college degree. The young man was able to land, by appointment, an upper level executive position in the Department of Commerce, with an annual salary of close to \$90,000. He beat out two other well educated and experienced individuals for the position. Jerry, as well as Wisconsin Builders Political Action fund, was a major contributor to the campaign of Governor Walker. Brian's job at Commerce was to oversee environmental affairs. Especially noteworthy is this governor's rhetoric about trimming the expense of government with his much touted deficit, and compensating those most qualified. So it seems rather unfair to punish teachers and public union employees while rewarding unqualified cronies.

I wonder how much resource protection is jeopardized by cronyism like this. While they have demonized public employees, forcing numerous early retirements and slashing benefits, it seems their supporters are well rewarded. Perhaps the old adage, "if you live in a glass house, do not throw stones" applies here.

No matter where any of us lie in political convictions, we must be concerned about the degree of divisiveness now existing in our state. When the working class is poised to attack each other instead of the issues, I suggest we are traveling the wrong road. Thus I am not optimistic about any significant progress at the state level for the things we care about, be it Stewardship or clean water. This makes organizations like PIF all the more valuable, where we can coalesce around issues, take a walk in the woods and get along with each other. This is your COOP, stay involved!

{Editor's note: After the Deschane debacle ran the press circles for several days, the governor demoted the younger Deschane to a job at DRL making less than \$70,000 year, and within days he resigned.}

UPCOMING EVENTS AND ANNOUNCEMENTS

Delich Land Exchange Ottawa National Forest

PIF has filed an appeal of the Delich land exchange in the Ottawa, based on the exchange not being in the public interest. The Forest Service invited us to a meeting after our appeal was submitted. Rod and Joe attended the 1-1/2 hour meeting representing PIF, but no agreement was reached, thus our appeal proceeds. You can read our appeal on the PIF website.

Forest Fest 2011 August 6th, 9:00 am - 4:00 pm at Trees for Tomorrow

A CALL FOR VOLUNTEERS

(The response has been very disappointing so far, so we're asking again.)

2011 has been designated as "International Year of The Forests. As such, Partners In Forestry is partnering with Trees For Tomorrow in the planning of the first annual **Forest Fest** to be held on the Trees For Tomorrow campus on Saturday, August 6, 2011. This is going to be a huge event folks, and will be free to the public. There will be activities for all ages and all interest levels to learn about and celebrate our northern forests and all that they provide. Activities will include historical interpreters, crafts and fine art, carving demos, nature hikes, birds of prey demonstrations, and a variety of educational nature courses, horse drawn wagon rides, live music, and food. Virtually anything and everything associated with forests, forestry, and forest products. It is anticipated that we will have as many as 1000 attendees visiting during the day. As such, we are in need of volunteers to help on the day of the event with everything from the managed forest tours that PIF will be providing, to set up, directing traffic, helping to serve food, and providing information to visitors. So, considering that you will want to attend this free event anyway, perhaps you would consider pitching in to help out for a part of the day. Maggie Bishop, Director of Trees For Tomorrow, has promised special tee shirts for all Forest Fest staff and volunteers. Anyone interested in volunteering to help on Aug. 6th, please contact Rod Sharka at 715-547-6493 or resharka@gmail.com to sign up.

Also, if you have any special forest products craft, skills or services to show off, demonstrate or sell, you are encouraged to call, email, or visit the Forest Fest website to register for a booth/space on this day of forest celebration. There is a \$25 booth registration fee for vendors/exhibitors. Note that all proceeds from this event will be used for the Trees For Tomorrow Student Scholarship Fund. Registration information can be obtained at:

TreesForTomorrow.com/forestfest.htm
Learning@TreesForTomorrow.com
 715-479-6456

Thank you in advance. Your active participation is greatly appreciated.

LARGE RED OAK REMOVAL NEAR THE CABIN: EVALUATION, CONSIDERATIONS AND THE REMOVAL PROCESS

by Will Martens



I got a call from PIF member Mike Kespirt a day or two before Christmas in 2010. He told me about this large tree that he had in front of his hunting cabin. He told me that he wanted it to be removed due to its proximity to the cabin. I suggested that we chat a while in order for me to get a clearer idea of the tree's history, structure and biography. This information is what I need in order to make appropriate recommendations regarding the life of the tree.

My first questions were regarding the client's objectives vis-a-vis his tree. He told me that he would be interested in keeping the tree, but that he was more interested in eliminating the threat of the tree falling on the cabin. Red oak (*Quercus rubrum*) is a hard wood with potentially ideal branch attachments. Usually red oak doesn't just let loose large limbs under normal conditions. So I was inclined to hold off on recommending removal until I had seen the tree. I did still have a few questions.



These questions were site-related. I asked about how old the cabin was and whether or not the construction of the cabin was the most recent disturbance to the tree's root zone. He assured me that the drive-way was put in and then the cabin was built. Since then the soil had been undisturbed. This was important because it wouldn't matter how much work I did up in the canopy, if the root-zone had been compacted, then the tree would require attention in that zone if it was to be saved. We talked about possibilities ranging from removal to pruning the canopy and using an air-spade to decrease soil-compaction. These are all topics for discussion in order for an arborist to understand if removal is the only option. I decided that a site-visit was the only way to determine my recommended course of action, but at this point I was still thinking about trying to save the tree.



On my site visit, I noticed that the trunk of the tree had been impacted something big. This could have been a vehicle, or worse an earthmover or Bobcat. I talked with Mike and we determined that it had, indeed, been a construction related impact. I also noticed that the tree was actually a large stump-sprout. This means that there had been an oak there before this one which was cut down and this sprout was what grew back after the cut. The way that this was determined was by looking at the basal area of the tree. The main trunk of the tree was actually three separate trunks. One of these had been absorbed by the main stem while the third stem was actually starting to compete with the main stem in the upper canopy. This secondary stem was growing directly over cabin. Continuing my basal inspection it was clear that the attachment of the secondary

trunk to the main stem was less than ideal at best. I was beginning to see that this tree should be removed. I finalized my decision when I inspected the buds in the canopy. The buds were not the typically reddish orange and turgid or springy when they were flicked with my finger. These buds were dark red to black. They were crisp when I flicked them and broke off. I could tell that the tree was actually suffocating from the soil-compaction that I was suffering. At this point I was very comfortable recommending the removal of this tree. I felt that it was beyond saving. For the record, the cost of saving the tree would have been more than the cost of removal so if you are thinking that I wanted to remove it for the increased cost of removal, you are mistaken.

I sent Mike an estimate over email and he had it digitally signed and back to me that evening. We had the go-ahead so we had to plan on how to do the operation. The cabin is located outside of Hurley, WI. Because of the steep angle of his drive-way, we had to snow-shoe in with a sled filled with my gear. My gear consisted of ropes pulleys, and a friction device called a port-a-wrap. Essentially I attach the lowering line to the piece that I am about to cut and Katy puts the rope into the friction device to safely lower the pieces to the ground. Due to the proximity to the cabin as well as a few other obstacles, the tree had to be mostly rigged and lowered. I was able to just drop a couple of big lower branches on my way up. Once I got myself tied-in high in the canopy I was able to install the lowering system in such a way that we could swing the pieces over the cabin to an area away from the cabin and then lower them to the ground. Mike wanted the economy plan, so we were able to just leave the pieces on the ground where they landed for him to clean up. We rigged the pieces to the ground until all that I had left was the trunk. At that point I was able to give Mike a call and we discussed what he wanted me to do with the trunk-wood. I left the stump at his desired height so that he could have it carved or for use in getting on the roof of the cabin. It was great day!

I have many vertical techniques and pieces of equipment that were not used in this operation but it does give a synopsis of what to look for in a plan for achieving you tree-related objectives. An arborist certified by the International Society of Arboriculture should ask questions about your objectives before simply recommending removal. There is big difference in skill and education between an arborist and a guy who just cuts trees. Vertical Techniques also offers injections to preserve specimen oak trees. Finally, pruning of oaks should only be done during the tree's dormant season when the leaves are gone to prevent the spread of the oakwilt fungal disease. Vertical Techniques is my company. My wife, Katy, and I, are the only employees. We do tree pruning and removal state-wide. We live on Hwy N in Sayner with our daughter, Ellie.



WHAT'S KILLING MY WHITE BIRCH TREE?

BRONZE BIRCH BORER

by John Schwarzmann Forest Supervisor,
Board of Commissioners of Public Lands

The bronze birch borer (Figure 1), *Agrilus anxius* Gory (Coleoptera: Buprestidae), is native to North America. Records from the late 1800's and early 1900's describe widespread damage to ornamental birches, especially in the Northeastern United States and Canada. Today, this borer often contributes to mortality of woodland birch during severe drought or other stress. It is also an important pest of landscape birches.

The bronze birch borer occurs throughout the range of birches in Canada from Newfoundland to British Columbia but is most common in the southern portion of the provinces. In the United States, it is distributed from Maine, across the Great Lakes region to the Cascade Mountains of Oregon and Washington, and from Maryland to Utah.

HOSTS

Bronze birch borers are known to attack all native and introduced birch species, although birch susceptibility varies. Many varieties of birch species as well as numerous crosses between species are currently planted as ornamentals in North America. Although some varieties are more resistant than others, none are immune to birch borer attack. Generally, the white-barked birches are more susceptible than those without white bark such as river birch, sweet birch and yellow birch. Within the white-barked birches -- paper birch and gray birch -- show more resistance than do many of the introduced species. Native birch species and a few of the more common non-native species can be grouped as follows:

Severely attacked

- European white birch, *Betula pendula*
- Whitebarked Himalayan birch, *Betula jacquemontii*

Commonly attacked

- Paper birch, *Betula papyrifera*
- Gray birch, *Betula populifolia*
- Sweet birch, *Betula lenta*
- Yellow birch, *Betula alleghaniensis*

Rarely attacked

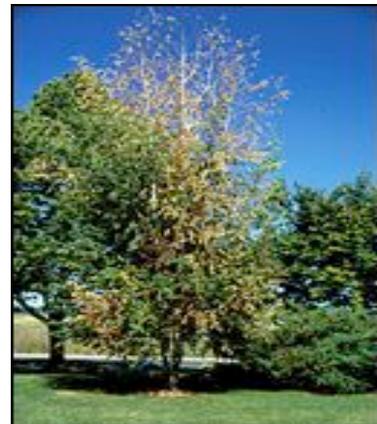
- River birch, *Betula nigra*

DAMAGE CAUSED

Larvae damage trees by feeding on the phloem (the inner bark) and the cambium (the growth layer producing both phloem and xylem). Repeated attacks and the construction of numerous galleries by larvae eventually disrupts nutrient transport, killing roots. The damaged root system of an infested tree can't supply leaves with adequate water and branches die, further reducing the ability of the tree to produce food and transport nutrients. Most often, the end result is a dead tree.



Figure 1. Bronze birch borer adult and two D-shaped exit holes.



A landscape birch tree infested with bronze birch borers. Branches in the upper canopy are usually affected first.

TREE CONDITION

The condition of host trees is the principal factor in the birch tree and borer relationship. Adult bronze birch borers primarily attack birches that are weakened or stressed by drought, old age, insect defoliation, soil compaction, or a stem or root injury. Birch trees prefer cool, moist growing locations and have a shallow root system that is easily injured by disturbance or dry, hot conditions. Many landscape birch trees are planted in unsuitable habitats and are stressed on a regular basis. Birch trees growing within a forest are stressed by old age, weather events such as drought, or by repeated defoliation. Widespread birch mortality often occurs after these events.

Vigorous trees can be attacked, but larvae rarely succeed in completing development. A healthy tree will produce callus tissue around the feeding gallery of a larval birch borer. If the callus can be produced quickly, the larva will be overtaken and die. If the tree is stressed, however, callus production will be too slow to prevent the larva from expanding its gallery and completing its development. Callus tissue often appears as swollen bumps or ridges under the bark on the branches or main stem. Repeated attacks, even if unsuccessful, result in localized areas of damage that can weaken even vigorous trees over time. Many fast-growing landscape trees eventually succumb to damage from numerous unsuccessful attacks.

Birch trees that have died, broken in wind storms, or been cut or mechanically girdled may be unsuitable for larval development once the cambial tissues turn brown. Many developing larvae die in trees when the inner bark tissue dies.

EVIDENCE OF INFESTATION

Typically, borers infest trees that have already begun to decline slightly. The first symptom is often yellow, sparse, stunted foliage in the upper crown which may progress to twig dieback and then to branch dieback (Figure 2). Trees may decline for several years before dying, although they may die during a single year if conditions are hot and dry. The decline of a birch tree may be reversed in the early stages, but trees are unlikely to recover once 50 percent or more of the crown is damaged.



Figure 3. Meandering or zigzag galleries formed under the bark by tunneling larvae
Photo by G. Heaton.

The bronze birch borer leaves a permanent visible record of its visit. Adult borers chew distinctive D-shaped exit holes 1/5 inch (5 mm) wide in the bark (see Figure 1). These D-shaped holes may be stained with rust colored sap. Exit holes are not found on Class 1 or 2 trees and are rarely found on Class 3 and 4 trees. Most exit holes will be found on Class 5 trees.

Larvae feed under the bark in meandering galleries (Figure 3) or in a series of zigzag patterns that grow increasingly larger as the larvae develop. Galleries are packed tightly with frass (excrement mixed with boring dust). Callus tissue that grows over the larval feeding galleries results in ridge-like swellings or bumps on the bark of previously infested trees.

IDENTIFICATION OF LIFE STAGES

Adult bronze birch borers are slender, olive-bronze beetles, with a coppery reflection (see cover photo). Males are about 1/4 to 3/8 inch (6-9 mm) long, while females are generally larger, 1/3 to 1/2 inch (8-12 mm) in length. On males, the

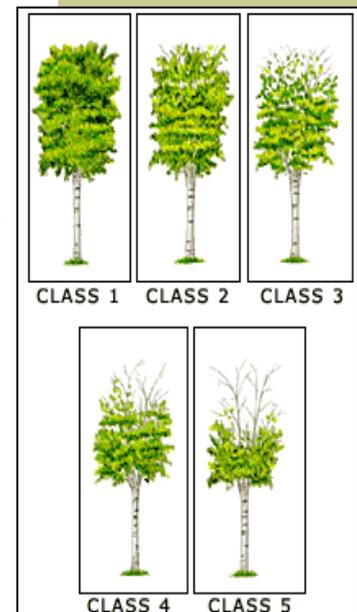


Figure 2. Decline caused by the bronze birch borer. Class 2 trees are in the early stages of birch borer infestation. Class 3 and Class 4 trees have more advanced stages of borer infestation. Trees in Class 5 are very close to death. Trees in Classes 2 and 3 may be treated for birch borer with some success. Trees in Classes 4 and 5 are generally beyond recovery.

head is greenish, while females have a copper-bronze colored head.

The egg is oval in outline and flattened, about 1/20 inch (1.5 mm) long by 1/25 inch (1 mm) wide. Eggs are creamy white when first laid, but they yellow with age. The larva is somewhat flattened, slender, and pearly white. The head is light brown, and at the tip of the abdomen are two short, brown, spine-like structures. Larvae range from 1/16 inch (2 mm) to 1-1/2 inches (38 mm) at maturity. The pupa resembles the adult; it is initially creamy white and then darkens as it assumes adult pigmentation.

LIFE HISTORY AND DEVELOPMENTAL STAGES

The life cycle of the bronze birch borer may be either 1 or 2 years long depending on host condition, geographic location, temperature, and time of emergence. In the northern portion of the borer's range, a 2-year cycle is common; in warmer regions, a 1-year cycle occurs. Development generally occurs at a faster rate in stressed or dying trees. In vigorous hosts the life cycle generally requires 2 years, or more commonly, the borer dies before completing its life cycle.

Adults emerge from previously infested trees between early May and early June in the southern part of the borer's range and from late June to mid-July further north. Adults in any one location may emerge over a 5- to 6-week period. Adult beetles live about 3 weeks. Therefore, adults may be found on trees during most of the summer.

Egg laying occurs in bark crevices and cracks. A common oviposition site is the roughened, dark triangular patch at branch origins. Females lay eggs singly or in clusters. The average is about 6-7 eggs in a cluster, although as many as 14-16 eggs have been recorded. Each female can lay as many as 75 eggs during her lifetime. Females begin laying eggs about 1 week after they emerge.

Larvae begin to hatch in about 2 weeks and immediately begin to mine into the phloem and cambium. Larvae make meandering or zigzagging tunnels or galleries (see figure 4). They pass through 4 instars.

MANAGEMENT TECHNIQUES

In both landscapes and forests, control strategies should revolve around practices that optimize tree health. Prevention should be the cornerstone of any management program.

Landscapes

In landscapes, strategies that improve tree health will reduce susceptibility to the borer. These strategies start with selecting suitable trees and sites for planting. Proper cultural practices include watering during dry, hot periods; mulching; avoiding wounds or injury to the tree; and promptly removing dead and dying trees to reduce local borer populations.

Species selection:

Several species of birch as well as numerous horticultural crosses and selections are available for planting. Many of these vary in their relative susceptibility to bronze birch borer. In general, the white-barked birches are more susceptible to attacks than those without white bark (river birch, sweet birch, and yellow birch). Of the white-barked birches, native paper birch and gray birch are more resistant than many of the exotic species such as European white birch.

Soil temperature:

Birch trees thrive in cool, moist soils. Plant birch in locations where the soil will be cool and moist such as on the north or east side of buildings. However, birch trees do require some full to partial sunshine on their leaves to grow well so do not plant them under dense shade. Mulching and regular watering as described below can help maintain cool soil temperatures.

Mulch:

Mulching landscape birch trees will moderate soil temperature and conserve water in the soil. If the soil tends to dry out quickly or if there is an extended period of hot, dry weather, regular watering may be required. Most of the roots are in the top 18 inches (45 cm) of soil; a thorough watering will allow water to soak to a depth of at least 2-3 feet (1/2 to 1 m).

Sanitation:

To reduce the number of adult borers in a localized area, cut and destroy recently killed and heavily infested trees (Classes 4 and 5) before adults emerge in the spring. In Class 3 and 4 trees, most adults that complete development will emerge from the base of dead and dying branches. Therefore, prune dead and dying branches slightly below the point of dead wood. Pruning out these branches will not significantly reduce the number of larvae already in a tree because many of the larvae are located in the main stem.

Insecticides:

Insecticides can be applied to the surface of the tree bark to kill larvae emerging from eggs. Thoroughly drench the larger branches and trunk. This treatment will not kill larvae already under the bark, but it will help prevent new attacks. Depending upon the insecticide, as many as three applications are generally required during the spring and summer (mid-May, mid-June, and mid-July). Contact local county extension agents for site-specific treatment dates and a list of registered insecticides.

Forests

Silvicultural practices that increase stand health and vigor should reduce bronze birch borer attacks. However, management practices that cause significant stand disturbance can initiate periods of birch decline and lead to increased problems with bronze birch borers. Thinning should be done with care in birch stands. Birch root systems are easily damaged and opening the stand can increase the sunlight and heat intensity on the forest floor. Further, birch should not be considered an inherently long-lived tree species, although yellow birch can be moderately long-lived. Older stands are more likely to undergo periods of decline than younger stands. Silvicultural prescriptions designed to enhance age class diversity will reduce susceptibility to birch borer over large areas.

The practice of keeping birch trees as "leave trees" during harvest activities should be discouraged. Because birch root systems are easily damaged during harvesting and opening of the stand, isolated birch trees or small groups of trees generally die quickly after harvest cuts. Further, dead birch quickly decay and their use as snag trees is questionable.

Natural Enemies:

Natural enemies are not thought to play a vital role in bronze birch borer dynamics, although they may be important in some situations. The most important predators are apparently woodpeckers. In some places they have removed more than 90 percent of the borer larvae in a single tree. Woodpeckers feed mainly on larvae during the winter and spring, foraging primarily on open-grown trees or where undergrowth is either short or sparse. When the effects of insect parasitoids on bronze birch borers were studied in New Brunswick and in Pennsylvania, larval parasitism in both locations was found to be approximately 18 percent. At least 13 parasitic species reportedly attack birch borer larvae. Egg parasitoids killed 50 percent of borer eggs in several New Brunswick sites, but only 7 percent of eggs in Pennsylvania sites.

Cultural Control:

Bronze birch borer larvae are sensitive to rapid drying of the host tissue and rarely complete development once the cambial tissues turn brown. Felled birch seldom produce adult beetles unless the trees are infested with late instar larvae or pupae. As a general rule, borers are likely to survive and emerge in trees cut after November 1. Rapid drying of cut material will further reduce adult emergence. Exposing slash and cut debris to full sunlight will enhance drying. Bark removal will kill most immature life stages but is generally not required.

This announcement appeared in the February 2011 Newsletter:

STEWARDSHIP FUND

Recently, at the order of the governor, Wisconsin DNR has curtailed the Stewardship Fund, pending review. Partners in Forestry board of directors is very concerned about this, and we wish to prepare a well thought out response. Please give your input to Joe very soon, as our members views are paramount to drafting a response from the organization. Our concerns are very much related to the economic and public benefits the Stewardship Fund contributes to the state, especially the north, where forestry and tourism are vital to the livelihood of many residents. When the economy recovers the cost to achieve the goals of the fund will escalate with land values. Please review the last issue of Partners News for specifics on the Stewardship Fund.

Update:

PARTNERS in FORESTRY COOP comments on The Knowles- Nelson STEWARDSHIP FUND....presented to Legislative Budget hearing in Rhinelander April 16, 2011.

Partners in Forestry Coop is concerned about the budget proposals in regard to the Knowles Nelson Stewardship Fund. We have heard our membership voice concerns over provisions in the budget bill which many feel will render the fund essentially lame in practice.

The Stewardship Fund has a 20 year history of bipartisanship, as it has provided countless benefits to our state residents and visitors alike. Benefits include environmental and economic, traditional and intrinsic. This fund has created numerous cases of unique partnerships in land and water protection and assured perpetual public access for an untold number of recreationists. Benefits abound for hikers, anglers, hunters, bicyclists, snowmobiling and ATV users, as a result of these partnerships.

Be it the federal Forest Legacy program, grass roots efforts by local groups advocating conservation or in kind donations by private owners, the basis of the Stewardship Fund reaches very far indeed to supporting a quality of life we have enjoyed in Wisconsin.

This fund also supports the economic profiles of the forest product and tourism industries. For over a decade we have witnessed the sell off of vast acreages of industry lands, creating loss of habitat, forest resources and public access. The Stewardship Fund has mitigated significant portions of these losses, be it a fee simple purchase of sustainable forest lands in the state forests, Forest Legacy Easements on industry lands or partnering with local groups to conserve a select tract important for public values. Funding has assisted some struggling industry businesses by acquisition of their lands for the public, yet continuing sustainable management on these tracts in order for the industry to see a continued flow of timber.

The benefits of the Fund to clean water are priceless to a growing society, especially in this time of uncertainty and instability with climatic issues. The well managed forests involved in this discussion, in turn mitigate climate change.

Citing specific projects of benefit to communities would require volumes, and the value of the Fund has been loudly debated in recent years. The true bi partisan nature of support for Stewardship goes far beyond the current divisiveness gripping our political process.

Concerns from our members include the lapse of the PILT (Payments in Lieu of Taxes), the requirement of resolutions of support for state purchases by local units of government, as well as what appears to be micro management by the joint finance committee. Once the PILT is removed, it is difficult to imagine any local unit of government supporting a state purchase. We have listened to members comments liking this budget provision to being an underhanded attempt to cripple Stewardship, to render it worthless in practice.

I may summarize my comments by stating that even though these are trying financial times, this is no time to ignore the needs of future generations in regard to conserving our natural resources. When the economy turns around the Stewardship dollars will be much diminished by increasing land values.

We are also concerned about the vacancy rates in DNR, especially the Division of Forestry, and how this may jeopardize our natural resources.

Thank You for the opportunity to comment.

Joe Hovel, as representative of Partners in Forestry COOP

IN DA WOODS

by Melanie B. Fullman, US Forest Service
Bessemer Ranger District, Ottawa NF

ELM COMEBACK?

I grew up on a street that once had elm trees (one street over was called Elmshade!). I remember some of these majestic giants still there; I also remember them disappearing – one or two at a time – until the street looked bleak and barren. I noticed the changes because the round, flat stumps were ideal “bases” for street baseball but the increasing lack of cooling shade made the days, and games, much hotter. In the end, we just missed them.

The American elm (*Ulmus americana*), with magnificent height and vase-like shape, is a uniquely graceful tree. It was once widely distributed throughout the entire eastern US, the most preferred species for planting along city streets and in yards. Its crowns spanned roadways, houses, and parks. In addition to the usual benefits of providing cleaner air and cooler temperatures, the American elm is capable of growing well in the harsh urban environment of high summer temperatures, air pollution, and road salt. It was the perfect tree.

Deadly Invader

Until Dutch elm disease.

Dutch elm disease is a fungus (*Ophiostoma ulmi*) that arrived in the United States in 1930. By 1976, only half of the estimated 77 million elms in the US and Canada remained; far fewer are present today. Dutch elm disease (DED) kills almost all the trees it contacts. To make matters worse, many homeowners and city parks’ departments filled-in the landscaping gaps by planting hardy, attractive ash trees – the same ash trees now threatened by emerald ash borer. Despite our best efforts, streets and parks whose aesthetic qualities were so completely altered in the 1960s and 70s now face the same fate again.

The fungus is spread mostly by bark beetles, moving from diseased trees to healthy ones. DED can also move along the naturally occurring root grafts of neighboring elms. In the 1940s, a second strain of DED fungus appeared in Illinois that was even more virulent than the first; it destroy several

more million trees. The onslaught continues - a new elm bark beetle recently arrived from Asia, although it primarily attacks Siberian elm.

For decades, American elm research has focused on controlling the bark beetles, generating and/or finding DED-resistant American elms, and sanitation techniques to limit the spread of the disease. Of these, only development of sanitation methods was largely successful. A practical means of controlling elm bark beetles was never developed. Success in finding resistant elms has also been quite limited. Of the more than 100,000 American elm trees tested for resistance to DED, NO resistant trees were found and just FIVE exhibited some level of tolerance (a resistant tree shows no DED symptoms after injection of the fungus, whereas a tolerant tree shows disease symptoms the first year but no symptoms the next).

American Elm Restoration Project

The five semi-tolerant trees eventually became the foundation of the elm restoration effort. Offspring from those trees were released to the nursery industry for sale to the public and to public agencies. It is hoped that further identification of DED-tolerant elms may eventually allow for widespread reintroduction of American elm.

The US Forest Service Northern Research Station began its American elm restoration project in 2003. The goal is to propagate the most DED-tolerant American elm trees and allow them to evolve and develop mechanisms to withstand new forms of the DED fungus. Doing so would not only enhance resistance to the disease but increases genetic diversity and thus, long-term survival of the species.

The biggest risk is if the DED fungus mutates to a form that can overcome natural tolerance. Such mutation is likely, since the DED fungus will continue to evolve and probably faster than street trees, which do not typically propagate themselves (we plant them as seedlings and saplings).

American elm trees with high levels of tolerance to DED have been established in areas where the trees can naturally regenerate and spread. The initial effort was a partnership with the Ohio Department of Natural Resources, some Ohio county Parks' Departments, and a nonprofit, among

others. The project was expanded in 2005 to sites in Iowa, Wisconsin, and Minnesota in partnership with Luther College (Iowa), the US Army Corps of Engineers, and the Carpenter St. Croix Valley Nature Center (Minnesota). In 2007, a site was established at Dago Slough near Cassville, WI in partnership with the U.S. Fish & Wildlife Service and a test planting was done at the Bad River Indian Reservation in Odanah to assess tree cold hardiness; future testing is scheduled for the Chippewa NF in Minnesota. Three additional sites were established in Vermont in 2010 in partnership with The Nature Conservancy.

Lend us Your Elm

Do you know of a healthy American elm tree – a survivor? It doesn't matter if it's in the woods or in town. To qualify, the 'survivors' need to be American elm trees, at least 24 inches DBH (diameter at breast height), and growing in an area that has had DED; the tree must not have been treated with a fungicide to prevent DED. If you think you know of such a tree, please visit the following website (http://nrs.fs.fed.us/disturbance/invasive_species/ded/survivor_elms) or contact Kathleen S. Knight, Research Ecologist, US Forest Service Northern Research Station, Delaware, OH, 740-368-0063. You will be asked to identify the tree's location and provide some other basic information. The tree will NOT be cut down, although small branches may be collected.

Hopefully, someday, other kids will grow up under the majesty of stately American elms. Who knows, some of them might even become a Forest Ranger....! See YOU in the woods?



Please pay your dues in a timely manner, as we wish to keep working for you, networking and providing you valuable and timely information.

Bill Klase
UW-Extension Basin Educator for Natural Resources
107 Sutliff Avenue
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WHAT IS OAK WILT?

Oak wilt is a fungal disease which causes the water-conducting vessels in oak trees to become plugged. Once the vessels are plugged, water movement within the tree stops, causing leaves to wilt and fall from the tree.

Red, black and pin oaks are highly susceptible to oak wilt. Once infected, they can die within a few weeks. White and bur oaks are much less susceptible. If infected, they can take months or years to die, or they may even recover.

WHAT ARE THE SYMPTOMS OF OAK WILT?

Oak wilt is usually identified by rapid leaf discoloration and wilting. Often the initial symptom is a subtle off-green color shift that may be visible in the upper portion of the tree crown. This symptom is apparent in the northern part of the disease range in late June to early July. Shortly after this initial color shift, the leaves begin to wilt from the top of the crown downward. As the disease progresses, individual leaves quickly discolor, taking on a "bronzed" appearance. The discoloration progresses around the margins of the leaf from the tip to the base.

Leaves are dropped rapidly as the infection progresses. Commonly, infected trees are almost entirely defoliated within a few weeks of symptom onset. Fallen leaves usually are brown at the tips and margins, and sometimes green at the base and along the lower veins.

HOW DO TREES BECOME INFECTED?

Oak wilt spreads in two ways: over land, by sap-feeding beetles that carry the fungal spores from infected oaks to fresh wounds on healthy oaks; ***and***, under ground, from infected oaks to nearby healthy oaks through grafted, or interconnected, root systems.

HOW CAN OAK WILT BE PREVENTED?

Oak wilt prevention is easy and effective. Do not cut, prune or otherwise wound oaks in the spring and early summer, generally from April 15th–July 1st. Any activity during this period that cuts or tears through the bark and exposes live wood in oak branches, trunks or roots can place those trees at risk of infection. If an oak is wounded during this period, immediately and thoroughly apply pruning sealer or tree paint over the wound. Torn branches or roots should be cut clean and the cut surface painted. For addition protection, cover treated roots with soil.

If trees are cut from April 15th–July 1st, ***immediately*** apply pruning sealer or paint in a 1"-wide band around the circumference of the cut surface of any oak stump that is not removed. Even half an hour can be enough time for beetles that transmit the disease to land on a fresh wound and infect a tree. While the risk of spreading oak wilt is low after July, avoid pruning or wounding oaks until autumn to be on the safe side.

If you have not been receiving email announcements or correspondences from PIF, please give us your current email address.

Future Articles

PIF members are encouraged to submit articles, announcements, photos, and items of interest for future newsletters. Submissions may be forwarded to Margo Popovich at margo122050@mac.com or mailed to:

Partners In Forestry
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