



COMMUNITY FORESTRY CONNECTIONS

A Publication of the Community Forestry Resource Center

SPRING 2006

Ecologically-Based Forestry in the Coulee Region A Kinnickinnic River Valley Pilot Project

By Jedd Ungrodt

Greg Erickson lives on 200 acres in the Lower Kinnickinnic valley of Pierce County, Wisconsin. He is representative of a growing number of landowners in the region that use their woods primarily for recreation and are motivated by a strong sense of land stewardship. Behind all of his management activities is a commitment to leave his land to his children in better condition than when he bought it 20 years ago.

He developed a relationship with the Kinnickinnic River Land Trust (KRLT), planted prairies on old fields, and cut buckthorn. But when his Managed Forest Law (MFL) plan called for a mandatory timber harvest, he realized that “doing the right thing” for his woods wasn’t as simple as cutting buckthorn. Greg, like many landowners in the hill-and-valley country of Southeastern Minnesota and Southwestern Wisconsin, found that the traditional set of forest management options were not consistent with his goals for the property.

Greg approached CFRC for help in making sure that his timber harvests were designed and carried out in a manner that fit with the ecological goals of the KRLT as well as the requirements of the MFL. We recognized that Greg was facing the same set of obstacles that prevent

many forest landowners in the Coulee Region from meeting their ecological and silvicultural goals.

Ecological Challenges

The first challenge faced by forest managers in the Coulee Region is determining a realistic “desired future condition” that is ecologically appropriate and will meet the landowner’s goals. On landscape historically covered by a complex mix of grassland, savanna, and forest, just

determining appropriate forest species for a given area can be difficult. Because grassland and savanna communities provide habitat for many of the rare species in the region, it is important that a forester be able to recognize native prairie remnants or identify areas that might be better suited to savanna restoration than traditional forestry. As a result,

preparing a well-rounded management plan in the Coulee Region requires cooperation with experts in non-forest plant communities.



*Coulee Region of the
Upper Midwest*

Exotic invasive species like buckthorn and honeysuckle have hit the Coulee Region especially hard because they fill in the forest understory on the heels of cattle grazing. The combined effects of fire suppression and grazing have left vacant ecological niches where invasive species find little competition.

Continued on page 4

COMMUNITY FORESTRY RESOURCE CENTER

Community Forestry Connections is published by the Community Forestry Resource Center, a program of the Institute for Agriculture and Trade Policy.

The CFRC works to promote responsible forest management by encouraging the long-term health and prosperity of small, privately-owned woodlots, their owners and their communities.

CFRC would like to thank the following for their generous support: The Home Depot Foundation, Rockefeller Brothers Fund, Laird Norton Endowment Foundation, Weyerhaeuser, Minnesota DNR Forest Stewardship Program, U.S. Forest Service, Onanogize RC&D, and our individual supporters.

To learn more, visit us at:

www.forestrycenter.org

Staff

Don Arnosti
Director
612-870-3460
darnosti@iatp.org

Jedd Ungrodt
Certification Forester
612-718-5891
jungrodt@iatp.org

Katie Marshall
Program Assistant
612-870-3407
kmarshall@iatp.org

Gigi La Budde
Ecologist & Educator
608-588-2048
bbf.gigi@earthlink.net

20 years

Institute for Agriculture and Trade Policy
2105 First Avenue South
Minneapolis, MN 55404



Printed on FSC-certified paper by
SW-COC 1163G. Paper manufactured
with at least 17.5% certified wood fiber.

FSC Trademark © 1996 Forest Stewardship Council A.C.

Forestry for the Birds Private Forest Management to Preserve Habitat

By Katie Marshall

There are over 150 species of songbirds that make their home in the forests of the Upper Midwest. However, in the last 30 years, scientists and bird watchers have begun to notice a decline in the numbers of certain species—most of them Neotropical migrants, or birds that winter in the tropics and nest in North America. Researchers looked at factors that could cause declining populations and found that the loss of habitat plays a major role.



Tufted Titmouse

Over the last 150 years, the large forests of the Upper Midwest have been divided into smaller and smaller parcels, and land has been cleared for agriculture and development. Many songbirds require large blocks of forest habitat to successfully nest. This fragmentation has a negative effect on the population size of these birds. Additionally, the quality of the forest that remains has decreased because logging and forest management has simplified forest composition. Diverse varieties of songbirds require diverse forest habitat to thrive.



Black Throated Warbler

Like all parts of an ecosystem, birds play a critical role in the healthy function of their forest homes. They are invaluable as predators of leaf-eating insects and larvae. They also provide meals to other forest species. And birds play a key role in forest succession by dispersing seeds. Birds are clearly important for forests, and the relationship is mutual. A healthy and diverse forest provides food and the habitat necessary for birds to nest and raise their young.

The loss of forest habitat and declining bird populations are alarming—not only to scientists but to bird lovers and landowners who appreciate the value that songbirds bring to a landscape. Many efforts are underway to find ways of improving forest management to create favorable habitat for birds and other wildlife.

Continued on page 3

Continued from page 2

In one such effort, CFRC, the Audubon Center of the North Woods, and the Natural Resources Research Institute are working together to monitor the effects of different forestry techniques on forest habitat and songbirds.

“We’re moving forward with goals to restore original forest types, and take a highly impacted landscape forward in a sustainable manner,” explains Craig Prudhomme, associate director of the Audubon Center. “Right now we’re working on projects to demonstrate management activities to restore white pine and oak in a deer-impacted environment. This includes setting up deer exclosures and monitoring the critical lower forest layer that the deer so heavily impact and on which many of our at-risk deep forest birds rely.”

These projects are being used to create workshops that educate and train forestry professionals and forest landowners in management techniques to improve forest habitat for songbirds. The first of such workshops, held in December 2005, featured a demonstration of horse logging as a low-impact alternative for forest managers and landowners who want to protect habitat for songbirds and other wildlife living in their woods.

With careful attention to changing habitat, the needs of forest-dwelling species and adaptation of forest management techniques, forests, birds, landowners, bird enthusiasts, and others will continue to benefit from the unique relationship between songbirds and their forest homes. ✂



Josef Walch CFRC Intern, 2005

Hailing from the forests of Austria, Josef came to CFRC as an intern in the summer of 2005.

While working with CFRC to explore the potential for biomass markets in Minnesota and Wisconsin, Josef has traveled to northern Minnesota, Montana and Idaho to observe biomass harvesters in action.

Josef is a graduate student studying renewable energy at the University of Applied Sciences in Wieselburg, Austria. He is currently working on a thesis analyzing the relative potential of coal and biomass in U.S. and European markets.

*Interested in an internship with CFRC?
Contact Katie Marshall 612-870-3407 or
kmarshall@iatp.org.*

An Economic Analysis of Horse Logging for Small Forest Management

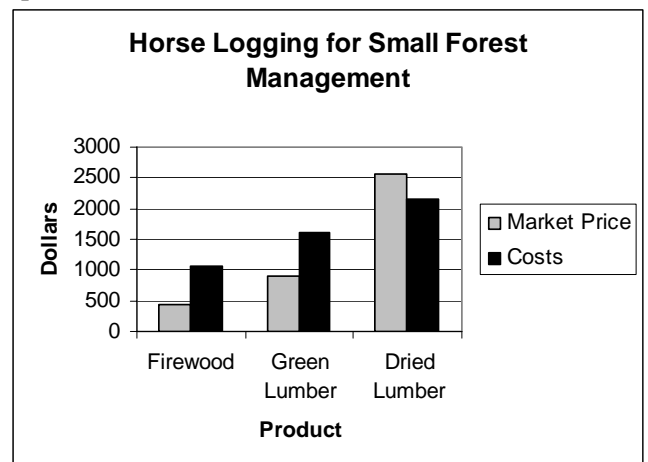
By Josef Walch

The Audubon Center of the North Woods in Sandstone, MN, arranged a horse logging workshop and demonstration in early December 2005. Tim Carroll, President of the North American Horse and Mule Loggers Association, brought two teams of horses and a crew of loggers to Sandstone.

At the demonstration, we looked at how hand felling, horse logging, on-site sawing with a mini-mill, and drying lumber can create value for private forest owners. High-tech harvesting machines are most efficient in large scale activities, but the high fixed costs make small scale activities too expensive for private landowners with small properties. The demonstration site at the Audubon Center is representative of much private forest land in Minnesota in terms of size and stand conditions.

Assuming hand-felling, horse-logging and a harvest of approximately five cords of wood, three scenarios for sale of the timber were examined: 1) sold as firewood on the local market; 2) processed with a mini-mill, air-dried and sold as green lumber and firewood; 3) processed with a mini-mill, kiln dried and planed, and sold as processed lumber and firewood.

The analysis shows that even small scale activities can provide return on investment when additional work is invested that raises the value of the final product. The combination of horse logging, sawing and kiln drying appears a viable option to make small-scale forest management activities profitable. ✂



Most of the species that are well adapted to dry, rocky slopes – such as oaks, hickory, and white pine – need fairly open and sunny conditions and exposed mineral soil to regenerate. But in much of the region, the silvicultural activities required to create these conditions also invite buckthorn infestation and soil erosion.

Economic Challenges

Most of the forested acreage in the Coulee Region is currently dominated by relatively low-grade, low-value trees. One reason for this is the 150-year history of high-grading, or selectively removing the best trees from a stand.

The big buyers of pulpwood based in Wisconsin Rapids, Wausau, and the Fox River Valley have not traditionally bought wood from the Coulee Region. High transportation costs, steep terrain, undesirable species mixes, small parcels, and the lack of a significant public land base have made the region a last resort to procure wood.

Often, acres of low quality wood and/or invasive brush stand between a landowner and his or her management goals. Without markets that can utilize this material, the costs of cutting and disposing of it are far too high for the average landowner.

Social Challenges

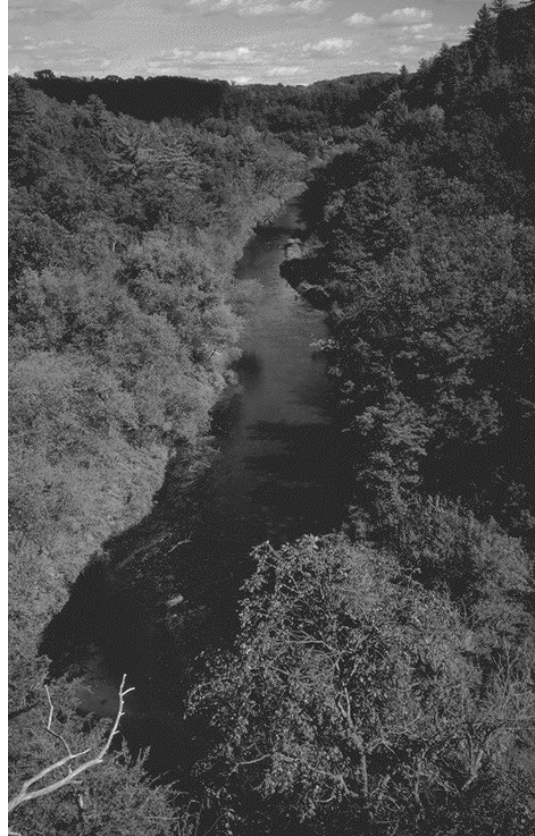
Many landowners associate active management – particularly timber harvesting and woodland burning – with destruction. Many prefer a “do-nothing” approach, but in this historically fire-dependent region ecological restoration requires intensive management.

Erickson Pilot Project

CFRC is using the Erickson property as an example of how we might overcome some of these obstacles and encourage active land management that benefits landowners and wood-buying industries while improving the conditions of the forest resource.

To address the ecological challenges, CFRC is working to develop strong multidisciplinary relationships among resource managers in the valley. At the heart of this

group is the Kinnickinnic River Land Trust. The KRLT is active in prairie and savanna restoration, but is developing additional expertise in forest management. Based in River Falls, the KRLT is in a unique position to provide landowners with advice and technical expertise.



Kinnickinnic River Valley
Credit: Rob Chambers

Using the Erickson property as a model, CFRC is gathering input from a variety of experts to develop a template forest management plan for the valley that the KRLT or other resource managers can use as a resource for practicing ecologically sound forestry.

But even the best plans are only useful when they can be implemented. In this case that means developing markets for low value wood. To address this challenge, CFRC is developing contacts with potential buyers of woody biomass in the area. Though viable markets for biomass are yet to materialize, as fossil fuel costs increase more people are looking to low-grade wood as a potential renewable energy source. CFRC is also working with pulpwood buyers to adapt their wood procurement program to handle the unique challenges of the Coulee Region.

CFRC will be using an upcoming harvest with pulpwood buyer Stora Enso on the Erickson property to demonstrate how stronger partnerships among foresters, ecologists, landowners, loggers, and wood buyers can bring about a new era of forestry in the Coulee Region. ☞

The KRLT is just one of many landowner organizations and cooperatives that CFRC works with. Among our other partners are the Living Forest Cooperative, Hiawatha Sustainable Woods Cooperative, Wisconsin Family Forests, the Headwaters Forestry Cooperative and Cook County Sustainable Woods Cooperative.

If you're a landowner interested in forming a cooperative or your existing organization is interested in working with CFRC, we'd love to hear from you. Give us a call at 612-870-3407 or email forestrycenter@iatp.org

Educating Farmers about Woodland Invasive Plants

By Katie Marshall

Most family farms in southwestern Wisconsin include forested acres. It used to be that a farmer could count on the trees just getting bigger and replacing themselves over the years, and the woods would “take care of itself.” That’s not the case anymore: in the past decade, invasive plants such as Honeysuckle, Buckthorn and Garlic Mustard have changed the natural forest plant communities and are interfering with natural forest ecosystems.



At first, invasive plants often go unnoticed, but as their numbers increase, they can significantly alter the composition and structure of the forest and displace native plants and wildlife. In severe infestations, they can inhibit tree growth and regeneration, as well as cause problems with timber harvests. In southern Wisconsin non-native invasive species not only create long-term biological impacts, they also threaten the promise of long-term economic returns for private forest landowners.

The nature of invasive species requires a cooperative effort among adjoining landowners to slow the spread and reduce the impact of these species in the forest. An ounce of prevention is worth a pound of cure: while late-stage, heavy infestations are difficult and costly to get rid of; invasive control is feasible with early detection of potential problems. That’s where Gigi La Budde, CFRC ecologist and environmental educator, comes in.



Through a grant from the Wisconsin Environmental Education Board (WEEB), La Budde has been taking her knowledge of invasive species to farmers with forested land throughout southwestern Wisconsin. The forests in this region are heavily impacted by non-native invasive plants. In many parts of the state, farms and forests intermix in the landscape, requiring multiple education strategies to reach the wide variety of private forestland owners who may have different goals for their land. Each must be equipped with an awareness of the problem, knowledge about the species involved, and an understanding of the costs of ignoring the problem. Then they must act to control the spread and manage the damage from these plants, and be provided with positive connections to other landowners and organizations working on this issue in their region.

Farmers have plenty to do just keeping the farm afloat without having to worry about threats to the surrounding ecosystem. But for those who count on their woods to provide income for their retirement and appreciate the role that forests play in the mixed landscape of the region, the growing threat of invasive species can’t be ignored. With cooperation and continued education on ways to manage and control non-native invasive species, farmers and other landowners can continue to reap the benefits of a healthy forest. Anyone interested in learning more about this project can contact Gigi La Budde at 608-588-2048 or bbf.gigi@earthlink.net

Know your Invasives!

Garlic mustard is an invasive European species that thrives in forested areas. It can grow to be 12 - 40 inches tall, has triangular leaves with jagged edges and clusters of small white flowers. It smells of garlic when crushed and spreads rapidly by seed.

For tips on eradicating garlic mustard and other invasive species, check out www.ipaw.org, the website of the Invasive Plants Association of Wisconsin.



Alliaria petiolata
Garlic Mustard

Keeping the Home Fires Burning

Renewable Energy from Woody Biomass

By Katie Marshall

Renewable sources of energy have been growing in interest and popularity due to rising energy costs, concerns over fossil fuel pollution, and a desire for energy independence. Although people have been burning wood for heat energy for thousands of years, it is only recently that wood has been considered a source of renewable energy on a large scale. The process of converting this woody biomass into energy is not quite as simple as throwing another log on the fire. But wood from our forests and farms can play a large role in creating a more sustainable future.

What is woody biomass?

Biomass is any organic material not derived from fossil fuels that can be converted into fuel for generating electricity. Examples include trees, perennial plants like switchgrass, and crop residue such as stalks and leaves. Woody biomass is the material from trees and woody plants, including limbs, tops, needles, leaves, and other woody parts.

What are the sources of woody biomass?

The by-products of conventional forestry and logging such as small-diameter logs, branches, and tops; diseased or damaged trees; and woody crops that can be grown in short rotation such as eucalyptus or hybrid poplar are all common sources of woody biomass.

How is woody biomass converted to energy?

When biomass is burned, it produces heat. In most power plants this heat is captured by boiling water to generate steam, which turns turbines and drives generators to convert the energy into electricity. New research is being done on biomass gasifiers, in which biomass is heated to convert it into a gas. This gas may be used directly in a gas turbine to drive a generator, and in some cases, the waste heat from the gas turbine may be used to drive a secondary steam turbine, which converts even more of the fuel energy into electricity.



What are the costs and benefits of using biomass for energy?

Costs: Because biomass has a low fuel density, it requires a lot of storage space. There are also concerns about harvesting of woody biomass, which could negatively impact the health of forest ecosystems if done improperly or without adhering to standards needed for sustainability.

Benefits: While burning biomass releases carbon dioxide into the atmosphere, it is equal to the amount of CO₂ that was absorbed by the plant during its lifetime. This means biomass is neutral for CO₂ emissions. Biomass is usually utilized in the region in which it was harvested, keeping transportation costs—economic and environmental—low and creating jobs at the local level. Biomass is also non-toxic, which means fewer risks with storage and transport. Finally, biomass is a local and renewable source of energy that can help give the U.S. greater energy independence.

What is the potential for the use of biomass energy in the U.S.?

Currently, about 3 to 4 percent of energy produced in the U.S. comes from biomass. With current technologies, it is estimated that biomass could supply more than five times that amount.

Information and statistics from the U.S. Department of Energy's National Renewable Energy Laboratory www.nrel.gov/biomass and from the Clean Energy Resource Teams www.cleanenergyresourceteams.org

CFRC and the BUG Project

There's a new BUG in the woods these days. But unlike the pine beetles and ash borers that are plaguing forests across the country, this one is here to help. The Biomass Utilization Grant—or BUG project as it's sometimes called—is one of CFRC's latest ventures.

With the help of a grant from the U.S. Department of Agriculture's Forest Service, CFRC and a group experts from partner organizations are exploring the potential for the growth of a sustainable biomass energy market in northern Minnesota. Partners in the project include the Superior National Forest, the Laurentian Energy Authority, and Forest Management Systems – a cooperative of loggers in northern Minnesota.

As part of the grant project, biomass harvests will be conducted on multiple test sites in the Superior National Forest. The information gathered on operating costs, equipment needs, and other necessary conditions will be helpful to loggers and other forest workers. It will also help provide vital field data to the Minnesota Forest Resources Council which is developing Best Management Practice guidelines for the sustainable removal of biomass to ensure that future forest health and wildlife habitats are protected. To find out more about this project, contact Don Arnosti at 612-870-3460 or darnosti@iatp.org ✍



BUG project partners survey a harvest site.

Umbrella Certification

CFRC's initiative in affordable Forest Stewardship Council (FSC) certification for small private forest landowners – the “Umbrella Certification System” – entered its fourth year last November and continues to be an important source of education and technical assistance for those interested in practicing FSC-certified forestry.

Through workshops, field days, and on-site consultation, CFRC helps people understand what it takes to meet FSC's principles and criteria on the landscape they work on.



FSC Certified Lumber

In the last year the pool of CFRC certified properties grew from nine owners managing about 900 acres to 24 owners managing over 1700 acres.

The Umbrella was not designed to grow indefinitely, but to be an “incubator” for foresters and landowner groups interested in eventually pursuing their own certification. CFRC is planning to “graduate” its first consulting forester, Eric Hofstad of Carlton, MN, in 2006. As a certified resource manager, he'll take over certification for a number of landowners in Cook County that are currently members of the CFRC umbrella. ✍

Seven years ago, Forest Management Specialists was audited by SmartWood for certification. I decided the time was not right and declined to finish the process due to the high cost and the lack of interest from timber buyers and landowners.

Times have changed and are changing rapidly. With the state lands of Wisconsin and Minnesota being certified and private industry demanding certified wood, the certification of all forest lands is becoming a reality. I believe to remain in business as a consulting forester, I should take the step to become certified. The cost of audits has come down and the interest by the public is on the rise. The stamp of approval from a third party is gaining acceptance and even being demanded by some private landowners. It won't be long before a premium will be paid for certified wood.

– Eric Hofstad, CF

CFRC Welcomes Jedd Ungrodt



The Community Forestry Resource Center was pleased to announce the addition of Jedd Ungrodt as our certification forester in mid-2005.

Jedd manages CFRC's Forest Stewardship Council (FSC) umbrella certificate that offers lower-cost access to FSC certification for private landowners. In this position, he works with landowner cooperatives and forest landowner organizations on issues of sustainable forest management in the upper Midwest as well as with private landowners themselves to assure FSC standards are upheld in their forest management.

Jedd is a graduate of the University of Wisconsin, Madison with a degree in Forest Science. Prior to joining the staff at CFRC, he was a consulting forester for Clark Forestry in Wisconsin and a GIS specialist with the Wisconsin DNR's Division of Forestry. Jedd can be reached at 612-718-5891 or jungrodt@iatp.org. ✉

For all the latest happenings in community forestry, sign up for the

Community Forestry Connections Listserv

The weekly email contains:

- ✉ Current news headlines
- ✉ Events from around the country
- ✉ Helpful tools, resources, and information
- ✉ Recent publications

Visit www.forestrycenter.org to subscribe and view past issues.



Printed on FSC-certified paper by SW-COC 1163G. Paper manufactured with at least 17.5% certified wood fiber. FSC Trademark © 1996 Forest Stewardship Council A.C.

Join us on Saturday, April 22 in Minneapolis to celebrate the 20th anniversary of the Institute for Agriculture and Trade Policy

For more information, visit us at iatp.org

NONPROFIT ORG
US POSTAGE
PAID
MPLS MN
PERMIT 4048

COMMUNITY
FORESTRY
RESOURCE
CENTER
A Program of the Institute for
Agriculture and Trade Policy
2105 First Avenue South
Minneapolis, MN 55404