

Quarterly LIP Update

Number 3

May 2005

Landowners Support MN LIP's Timber Rattlesnake- Bluff Prairie Species At Risk Program

MINNESOTA DEPARTMENT OF NATURAL RESOURCES, DIVISION OF ECOLOGICAL SERVICES

Minnesota's Landowner Incentive Program

QUARTERLY UPDATE SPOTLIGHT ON...

Twelve habitat projects are restoring 215 acres of bluff prairie within a high priority habitat corridor to benefit the Timber rattlesnake and other at-risk bluff prairie plants and animals. According to Jaime Edwards, Nongame Wildlife Specialist, six of these twelve project sites have Timber rattlesnakes on the site. The remaining six sites, which are in the vicinity of active den sites, provide summer foraging habitat. These sites may harbor undiscovered dens, and once restored will expand rookery habitat. (Continued Page 2)



Timber rattlesnake
Crotalus horridus

In addition to the Timber Rattlesnake and Bluff Prairie Species at Risk Program, LIP accomplishments to date include:

Prairie Species At Risk Outcomes To Date (FY04 and FY05)



⌘ 41 landowners are participating in LIP resulting in the completion of 1,968 acres of habitat restoration/enhancement, with an additional 460 acres in progress. Examples of habitat practices include woody encroachment/brush cutting on 856 acres; prairie restoration, reconstruction, or interseeding on 77 acres, and prescribed burns on 1,409 acres.

⌘ 12 Native Prairie Bank easements protect 676 acres

⌘ 41 long-term (10 year plus) stewardship plans were developed with several plans in progress

Southeastern Forest Species At Risk Outcomes to Date (FY05)

⌘ 11 management plans, covering 691 acres were completed and will result in 111 acres of oak savanna and floodplain forest habitat restoration. Examples of habitat practices that will be implemented include red cedar control through hand cutting, control of invasive species, and restoration of native plant communities through prescribed burns. Nine (9) additional plans are in progress.

⌘ A streambank restoration project will protect 10 acres of Minnesota endemic dwarf trout lily habitat from sedimentation. An additional 20 acres will be protected from grazing. The dwarf trout lily is a federally endangered species.



Dakota skipper
(*Hesperia dacotea*)

Coming Next Issue:

For the next few issues, MN LIP's *Quarterly Update* will focus on a single LIP Project Area. This issue focuses on the Timber Rattlesnake and Bluff Prairie Species at Risk Project. The next issue will take a closer look at our Prairie Species at Risk projects, including a multi-partner, alternative grazing project to benefit the Dakota skipper, a federal candidate species.

Timber rattlesnake project, continued from page 1

Habitat restoration is primarily directed at reducing the amount of canopy cover to 30% or less around the den sites by controlling invasive plant species such as Eastern red cedar, buckthorn, honeysuckle, and prickly ash. A multiple treatment approach that includes hand cutting of red cedars and invasive brush species, prescribed burns, and exotic species control is most effective. In addition to benefiting the Timber rattlesnake (a state threatened species), habitat restoration also benefits the rare bluff prairie native plant communities and three other at-risk snakes (Eastern racer, Bullsnake, and Hognose snake).

LIP also instructs landowners on how to implement management activities to minimize snake encounters. Management activities improve habitat away from areas of human activity and eliminate favorable habitat from around homes and buildings

With the arrival of spring, habitat work around the dens sites is being completed and spring rattlesnake surveys and habitat assessments are beginning. DNR staff utilize the information derived from these assessments to identify priority LIP focus areas and evaluate and prioritize landowner habitat projects for LIP funding. The data also provide baseline information for monitoring LIP habitat projects. The Timber rattlesnake surveys are funded in part through State Wildlife Grants (SWG). Congress created SWG to protect and manage wildlife species in greatest conservation need. SWG dollars are distributed to state wildlife agencies under a formula based on the state's population and land area.

LIP staff express gratitude to all the organizations and individuals working on habitat protection and restoration within the Bluffland Landscape. Three groups that LIP has worked closely with on the Timber rattlesnake project are Prairie Smoke, The Timber Rattlesnake Committee and the Timber Rattlesnake Responder program. Prairie Smoke is a nonprofit organization that works cooperatively with the MNDNR on many prairie projects in SE Minnesota. Dedicated to prairie and savanna restoration and protection on public and private lands, the organization recently received a U.S Fish and Wildlife Service, Private Stewardship Grant (PSGP). Through this grant Prairie Smoke is restoring 50 acres of bluff prairie habitat within the LIP priority corridor. The Timber Rattlesnake Committee comprises DNR personnel, private citizens, and renowned rattlesnake experts. The Committee worked with LIP to identify priority focus areas and has developed management guidelines for Timber rattlesnake sites. Timber Rattlesnake Responder Program volunteers assist citizens with snake identification and/or the relocation of a Timber rattlesnake found in an area with high human activity, such as around the home or buildings, and also conduct educational workshops for the public. Through habitat management and public education, landowners' tolerance for sharing their property with Timber rattlesnakes and appreciation for this rare and beautiful animal is increasing.



Eastern racer
Coluber constrictor



Bullsnake snake (Gopher snake)
Pituophis catenifer



Hognose snake
Heterodon nasicus



Why Should We Care About Timber Rattlesnakes?

- **Predators, such as the Timber rattlesnake, are important components of Minnesota’s bluff prairie– forest communities.** Timber rattlesnakes prey on rodents. But their contribution to reducing rodent populations is only part of the story. Herbivores, plants, and predators comprise a food web. Through these food webs energy is distributed throughout the bluff prairie– forest ecosystems.
- **Timber rattlesnakes are beautiful animals and like the Bald eagle and Timber wolf are a symbol of North American wilderness.** Timber rattlesnakes are as much a part of Minnesota’s heritage as the bluff prairie and forest within which they reside. Louis Hennepin, on his voyage of the upper Mississippi River in 1680, recorded seeing Timber rattlesnakes. In Minnesota Timber rattlesnakes are at the northern extent of their range and exist today in only six counties in the southeastern portion of the state.
- **Timber rattlesnakes are fascinating animals.** Here are only a few examples:
 - ⇒ The snake has hollow fangs that deliver venom to prey and then retract when the snake closes its mouth
 - ⇒ An extendable glottis behind the tongue enables the snake to breathe while swallowing prey
 - ⇒ The forked tongue “smells” by tasting airborne particles
 - ⇒ Pits on the snake’s head are covered by a thin membrane of cells sensitive to infrared radiation. These heat-sensitive pits detect prey and guide the snake’s strike.
- **The Timber rattlesnake is not aggressive.** The snake avoids people and when threatened sends out its characteristic warning rattle. Research on the snake’s behavior and habitat, and technical and financial assistance to private landowners for the implementation of habitat restoration projects, allows land managers to protect the animal while helping to avoid conflicts with humans.
- **There is still much to learn about the life history and social behavior of the Timber rattlesnake.** Maintaining viable populations of the species in the wild allows in situ scientific research and enhances our knowledge of the contributions the animal makes to the bluff prairie– forest ecosystems.
- **Within the Blufflands landscape, prairie occurs primarily on steep slopes facing south or southwest and on the broader ridge tops, where before European settlement, frequent fires maintained the prairie.** Today, with less than 150,000 acres of the state’s original 18 million acres of prairie remaining, quality bluff prairies are still found within this landscape. These prairies are being lost to development and those that remain are threatened by invasive species. The Timber rattlesnake is one of four at-risk snake species and at least twelve at-risk plant species that could benefit from landowners restoring or enhancing their bluff prairies.



References:

- Clark, Rulon W. *Social Lives of Rattlesnakes*. Natural History. March 2005. Pages 38-42.
- Johnson, Steve. *Bluffland Visions*. Minnesota Volunteer. November– December, 1993. Pages 7-15.
- Keyler, Daniel and Barney Oldfield. *Velvet Tails in the Blufflands*. Minnesota Volunteer. May–June, 1992. Pages 32-43.
- Stamps, David. *Remaking Ottawa Bluffs*. Minnesota Volunteer. September–October, 1991. Pages 56-62.

LIP Coordinator
Faith Balch
Minnesota DNR
500 Lafayette Road
St. Paul, MN 55155-4025
Phone: 651-297-4890

Minnesota Department of
Natural Resources,
Division of Ecological
Services

LIP is a grant program administered by the United States Fish and Wildlife Service (USFWS). The Minnesota Department of Natural Resources, Division of Ecological Services is responsible for the implementation of LIP in Minnesota. Private landowners, individually or as a group, who wish to voluntarily manage their land to benefit federally or state-listed plants or animals can apply to LIP for assistance in developing habitat management plans and reimbursement grants for habitat enhancement and restoration. Organizations working with private landowners are also eligible to apply. LIP is not a land acquisition program and fee-title acquisition is not an eligible use of LIP funds. Each of the four LIP Projects has a program manager, priority implementation areas, and project selection criteria. Please contact the Program Manager or the LIP Coordinator for additional information.

Prairie Species At Risk Project:

Peter Buessler
SNA Prairie Biologist
Scientific and Natural Areas Program
Minnesota DNR
1509 1st Ave N. Fergus Falls, MN 56537
Phone: 218-739-7497

Topeka Shiner Project

Rich Baker
Animal Research Coordinator
Natural Heritage and Nongame Research Program
Minnesota DNR
500 Lafayette Road
St. Paul, MN 55155-4025
Phone: 651-297-3764

SE Forest Species At Risk Project:

Ann Pierce
Regional Plant Ecologist
Natural Heritage and Nongame Research Program
2300 Silver Creek Road, NE.
Rochester, MN 55904
Phone: 507-280-5076

Timber Rattlesnake Project

Jaime Edwards
Nongame Specialist
Nongame Wildlife Program
2300 Silver Creek Road, NE.
Rochester, MN 55904
Phone: 507-280-5070

