



Trees Forever News

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Maggie and Pete's Pond

Most youth that get involved in conservation projects are following an adult's lead. As a result their contribution and long-term ownership of the effort is limited. Maggie Montgomery is an example of that category of student who does it all—initiate a project, plan it and carry it through. Her story may give us all a new perspective on how best to involve young people in tree projects. **Cont'd page 12—**



Restoring Iowa's Streambanks

Bountiful production of corn and soybeans can bring with it pollution of streams and ground water. Along many miles of Iowa streams, row crops are grown down to the stream edge or cattle are grazed in narrow bands of land that include the stream and its flood plain. Prior to European settlement, Iowa had many more miles of streams that carried less and cleaner water than today. Floodplain forests, prairies and wetlands along the streams regulated water flow and quality and provided wildlife habitat. As these plant communities were cleared and **Cont'd next page—**

As much as 50-60% of the sediment carried in streams can come from the collapse of streambanks. Native trees and shrubs together with prairie plants can help improve water quality and protect the long-term sustainability of Iowa and midwestern farmland.

*by Richard Schultz,
Professor of Forest Ecology/Hydrology,
Iowa State University*



Streambank restoration project—BEFORE.



Streambank restoration project—AFTER.

Mission

The Trees Forever mission is to facilitate the planting and care of trees, woodlands and forests through action-oriented programs that empower people, build community, and promote environmental awareness.

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Editorial

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Table of Contents

Special Places: A Word from Shannon Ramsay—3
Meet Board Member Kimm Harris—4
Meet the Staff—4
Making Green Spaces: The Living Roadway Trust Fund and Trees Forever—5
In Balance With Our Rural Landscapes—6
Community Encounters of the Arbor Kind: Belmond—7
Community Program Grant Awards—8-9
Tree Tips—10
Landscape Design Corner: Designing For Schools—11
Updates, Announcement & Events—13
Business Directory—14
Holiday Merchandise Clearance Info—15
Becoming Involved: Seeds for the Future—15

Streambanks cont'd—

laid fallow for part of each year and as many fields were tilled and stream channels were straightened, large amounts of soil and chemicals were carried to the streams. Streams carried more water after rains collapsed streambanks and caused them to erode deeper into the landscape.

Concerns about water quality and interest in re-establishing forests, prairies and wetlands in Iowa and the Midwest led the Iowa State Agroforestry Research Team (IStART) and the Agroecology Issue Team of the Leopold Center for Sustainable Agriculture to develop a streamside management system. The multi-species system uses trees, shrubs and prairie plants as a buffer strip along a stream. The basic model consists of four rows of trees planted along the stream edge, followed by two rows of shrubs and then a strip of prairie plants planted along the edge of the crop field. These plants slow surface erosion and cause water and chemicals to soak into the "living filter" made up of soil, plant roots, microbes and soil animals. Water moving slowly through this filter is cleaned and slowly released to the stream channel. Many variations of this

model, varying in width from 50-100 feet, can be planted depending on the landscape features and landowner objectives. The rich soil along the stream edge can support many species of trees, shrubs and prairie plants. The key is to get the plants established rapidly. To accomplish this, fast-growing trees such as willow, poplar hybrids and silver maple are usually planted in the two rows closest to the stream. The other rows may consist of fine hardwoods such as black walnut, oaks and ash. Many species of shrubs can be planted to diversify the habitat for wildlife. This system has been shown to reduce chemicals and surface erosion by as much as 80%. Four times more bird species use this system than straightened streams where corn and beans are grown to the edge.

Another important component of this system is the use of willows and certain shrubs to stabilize the streambanks themselves. As much as 50-60% of the sediment carried in streams can come from the collapse of streambanks. Trees and shrubs that produce roots from stem segments are pounded or pushed into the streambank where they hold the soil in place once they have rooted and

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This issue of *Trees Forever News* focuses on rural lands. When I think of rural Iowa, I see expanses of beautiful land interspersed with trees and woodlands.

This past spring, I was hiking along the bluff lands of the Wapsipinicon River about sunset, and came across several acres of scattered, large white and bur oaks, a perfect example of oak savannah. Under the huge canopy of the oaks grew many of the native grasses and flowers found in well preserved savannahs. The golden rays of the evening sun filtered through the oaks, reflecting the beautiful purple, pink and blue hues of shooting stars growing in thick abundance under the magnificent trees. In winter, this place would be equally beautiful with the silhouette of the trees set against a background of snow at sunset. Standing there in awe, I understood why the ancient Druids of the British Isles used oak groves as their places of worship; why the Native Americans held council

under the spreading branches of massive oaks.

Many of our woodlands or groves are places of extraordinary beauty. When I walk in a pristine, older woods, my senses are overloaded with color in multiple shades of green, the sound of birds singing, insects loudly humming and the sight of a meandering stream cutting through a valley. These walks always allow me to reclaim a sense of peace and restoration. I leave feeling refreshed and content. I often have similar experiences relayed to me by others who dearly love their woods (or a walk in a neighbor's).

If you have a special woodland or forest tract, let us hear from you. We invite you to share a special story or the history of your woods with us. In Iowa, 95% of all forests are in private ownership. In essence, it is up to us as landowners to appreciate, maintain and care for these remaining special places. ●

A Word from the
President,
Shannon Ramsay. . .

Special Places



Streambanks cont'd—

grown tops. The amount of work needed to assure success depends on the height and shape of the streambank. Where streambanks are less than four feet high it is possible to simply push or pound two rows of willow posts (large cuttings up to 4-5 feet long) into the bottom of the bank. Higher up the bank, smaller cuttings are pushed into the bank. If the banks are 4-10 feet high, the toe of the bank must be specially stabilized using rock or red cedars to reduce the chance of undercutting and collapse of the streambank. Willow posts and cuttings are planted between the cedars or rock. This and other bioengineering techniques can stop erosion effectively along critical streambanks of all heights and protect such structures as bridges, buildings and fences that may be threatened by channel erosion.

The last component of the stream-

-side management system is a small constructed wetland built within the buffer strip where a field tile drains into the stream. A shallow depression, no deeper than 2 feet at the center, is excavated and planted with cattails, bulrushes and other wetland plants. Such wetlands, when properly designed and maintained, can remove most of the nitrate contained in the tile water.

The streamside management system, in concert with upland conservation practices, can effectively reduce pollution produced by agriculture. At the same time, it can provide diversified products for the landowner and a diverse habitat for improved wildlife and aesthetics. Native trees and shrubs together with prairie plants can help improve water quality and protect the long-term sustainability of Iowa and midwestern farmland. ●

DEADLINE

IES Utilities Inc.
Branching Out Rural

December 30, 1995

The program is for anyone interested in coordinating a tree-planting project on rural public or nonprofit owned lands located within a county that has electricity or gas provided by IES Utilities Inc. This includes organizations and service clubs, county conservation boards, city governments and state and federal public lands managers.

The ideal project is one that plants large numbers of trees and demonstrates partnership with public lands managers and conservation organizations while incorporating the efforts of youth and adult volunteers.