

Lakers, Agencies & Students Join Forces to Restore River Banks

By Constanza von der Pahlen

The banks of the Stillwater River at the Vocational Agricultural (VoAg) Center in Kalispell are caving in slowly, inch by inch. The VoAg Center provides classes and farming activities for high school students in Flathead County.

The staff have been observing the gradual loss of their pasture to the river. The stakes that a science teacher and her students placed to measure bank loss three years ago were gone a year later. A mile south, the Stillwater joins the Flathead River. Another nineteen river miles, and the water enters Flathead Lake, along with sediments and nutrients carried by the water.

The Critical Lands Project, a collaborative effort led by the Flathead Lakers to identify, protect and restore lands critical to maintaining or improving water quality in Flathead Lake and its tributaries, identified this area near the confluence of the Stillwater and Flathead Rivers — where the rivers meander together into a complex of islands, sloughs, and gravel and sand bars — as a critical area for water quality.

Healthy riparian forests that border the eroding banks of the Stillwater River near the VoAg Center teem with wildlife, including river otter, osprey, and great blue herons. However, the 900 feet of eroding river bank by the VoAg Center are completely denuded of native vegetation. The pasture grasses found there lack the deep, strong roots of native shrubs and trees that hold the bank in place.

Equally troubling, a 100-year-old hog barn sits 10 yards from the eroding river bank. This pollution source, along with the bank erosion, spurred the Flathead Conservation District to move assertively to put a restoration plan into action.

For a science class project, students researched the erosion problem on the river and provided initial recommendations for restoration. The students presented their findings to



Photograph by Constanza von der Pahlen

Volunteers begin installing protective matting and native plants and shrubs.

staff at the USDA Natural Resources Conservation Service (NRCS), who decided to help the school put together a restoration funding proposal.

Government agencies, organizations, and numerous individuals in the community came together to help the VoAg Center find funding and expertise for the project:

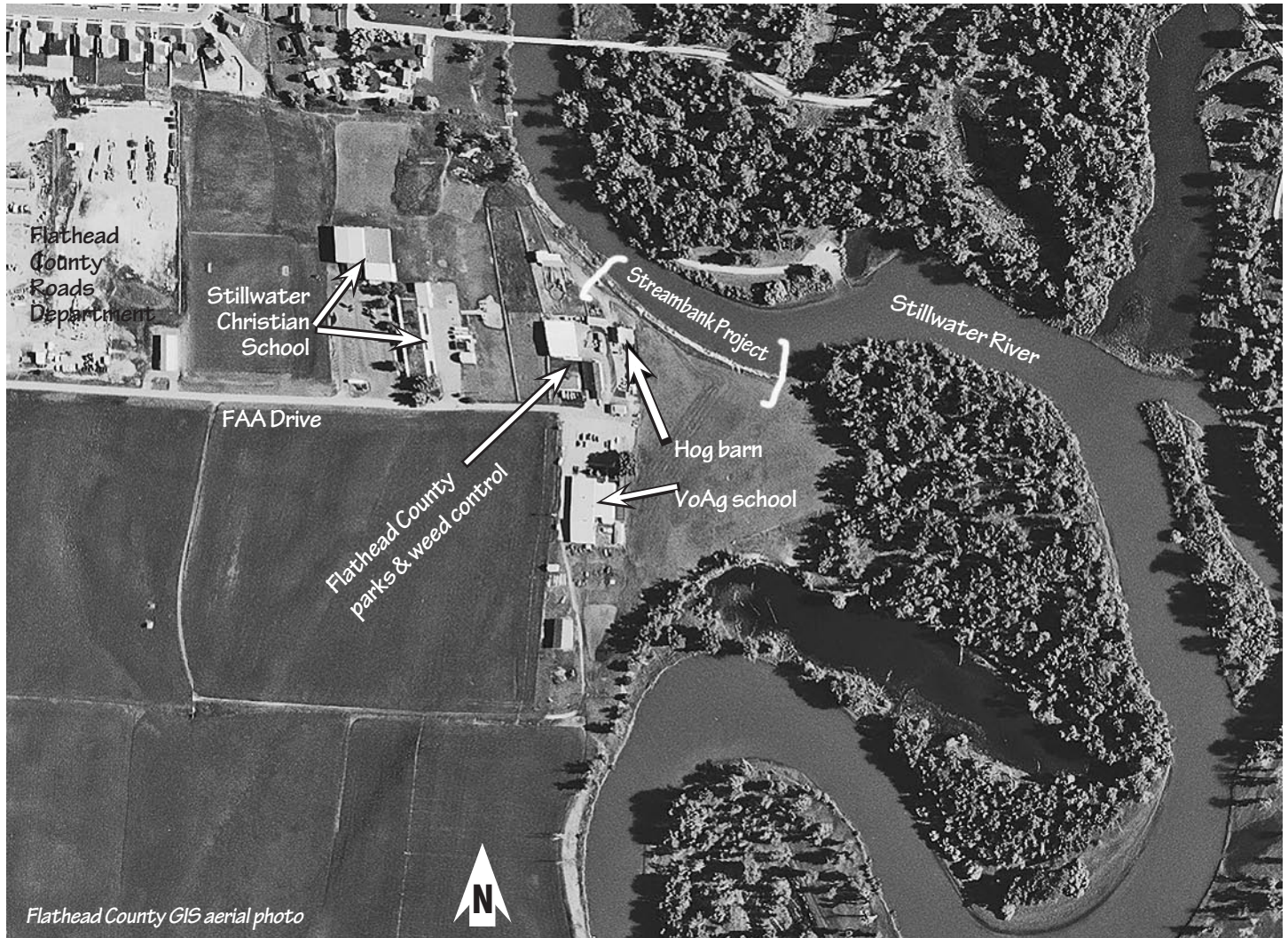
- the Conservation District provided coordination and secured in-kind labor, consulting services, and funding;
- NRCS provided a Wildlife Habitat Improvement Program for Kids Grant;
- the Flathead Lakers secured a 5-Star Restoration Grant from the National Fish and Wildlife Foundation, and engaged help from restoration specialists to develop restoration plans;
- Clark Krantz, an agriculture teacher at the center, took charge of designing and raising the necessary funds to build a new hog barn away from the river;
- Flathead County donated five acres near the VoAg Center for the new hog barn, which will place it about 100 yards from the river.

Restoration work began this spring. The eroding banks were recontoured. Native trees and shrubs were planted to create a riparian buffer.

But relocating the hog barn will have to wait until additional funding is secured. The VoAg Center raised approximately \$60,000 and needs an additional \$60,000 to start work.

VoAg students anchored erosion blankets on the new slope of the river bank and planted trees and shrubs. On a mid-May morning, one group of students planted sandbar willows, snowberry, red osier dogwood, and black cottonwood trees. Another group, led by science teacher Shirley Harrison, tested the soil to assess how much water the plants would need to survive. A third group built a new fence to keep cows from the newly planted riparian area.

Thanks are due to numerous groups and individuals for their support and help in accomplishing this project. Teachers at the VoAg Center mentored students in the development of the project, incorporating science lessons related to the project into their classes. The students embraced the project with great enthusiasm, using their problem solving skills and energy to impressive effect.



Land & Water Consulting provided the initial engineering design for the river bank. Confederated Salish and Kootenai Tribes restoration ecologist Steve Kloetzel prepared planting plans and cost estimates. Gary Weiner, with the National Park Service's Rivers, Trails and Conservation Assistance Program, provided oversight and technical consultation.

Excavators Doug and Mark Siderius provided in-kind labor to reduce project costs.

The Montana Conservation Corps helped with planting. Numerous people rolled up their sleeves and got their hands dirty, including the students and teachers at the VoAg Center, plus staff from the Flathead Conservation District, the NRCS and the Flathead Lakers.

This project will improve water quality and serve as a demonstration of well-designed and implemented stream and river bank restoration techniques.

Additional photographs and resources are available on our website <www.flatheadlakers.org>.



Volunteers begin laying erosion mat on the river bank.