

# Iowa CONSERVATION Showcase

## Iowa School for the Deaf Ready for Rain

Iowa School for the Deaf (ISD) in Council Bluffs is taking a proactive approach to managing storm water on their campus, and teachers are educating their students about the water quality benefits of the infiltration-based management practices the school is adopting.

In the early 1990s, ISD constructed an outdoor education environment with a 20-acre nature center on the north side of campus, along U.S. Highway 92. The nature center includes a wetland site, tall grass prairie, a wildflower plot, a one-mile walking trail and a 50-foot tall windmill.

As the years passed, one thing was missing from the nature center – water. “From a general appearance, it wasn’t what we wanted,” said Rich Connell, facilities director for ISD.

Dale DuVal, district conservationist with the USDA’s Natural Resources Conservation Service (NRCS) in Council Bluffs, says the lack of water in the wetland was due to the area’s soil type and lack of water from impervious surfaces.

“The evaporation rate was much higher than the pumping rate into the wetland,” said DuVal. “Rich told me about runoff issues with the parking lot, so we looked at ways to get that water into the wetland,



*The concrete chute at bottom left allows water to flow from the parking lot to the bioswale and on into the wetland.*

and utilize it to make a water quality project.”

### **WIRB Grant**

Early in 2006, the West Pottawattamie Soil and Water Conservation District received a three-year grant of \$215,000 from the Watershed Improvement Review Board (WIRB) to reduce storm water runoff, reduce sediment delivery and improve water quality in the Little Pony Creek Watershed. ISD lies at the bottom of the 2875-acre Little Pony Creek Watershed. Little Pony Creek sits within the city limits of a developing area of Council Bluffs.

DuVal said a major reason the district received the grant was the urban development in the watershed. “We’re seeing more sediment runoff into the Little Pony Creek because of development,” he says.

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“What happens in Little Pony Creek impacts two impaired waters in Council Bluffs, Mosquito Creek and Lake Manawa. Cleaning and monitoring the water in Little Pony Creek is the first step in getting those other waters in better shape.”

The timing of the WIRB grant coincided with the school’s desire for less rainwater to run into storm sewers and more water to flow in their wetland. A 2006 roads project on the ISD campus was the perfect opportunity for DuVal and Connell to work with contractors in devising a way to direct storm water to the



*The wetland on the ISD campus produces many different plant species. Dale DuVal (left), district conservationist with USDA-NRCS and Diane LeDoux, an ISD science teacher, identify one of those plants in early April.*

wetland area. “We tied the WIRB grant and our ISD urban conservation project all together,” said DuVal, “showing that there was a need for urban runoff practices and water quality practices.”

To allow storm water to flow from a parking lot into the wetland area,

ISD installed a curb cut and chute. The curb cut allows water to flow from the parking lot to a concrete chute, which outlets water to a newly constructed bioswale, which is a vegetated conveyance system that provides an alternative to storm sewers. The bioswale allows water to infiltrate, and flow through to the wetland area during larger rain events.

“That project is now complete,” said Connell. “We’re seeing more water in the wetland now, but we are waiting for a big, heavy spring rain. It could be scary!”

#### **Student/Teacher Involvement**

Thanks to science teachers Diane LeDoux and Kris Newton, ISD students are learning about

the nature center that sits on their campus, which includes Pony Creek.

In addition to teaching their students about the plants and animals in the nature center, LeDoux and Newton also serve as water quality monitors through Iowa Department of Natural Resource’s IOWATER program for the Little Pony Creek Watershed. IOWATER is a water monitoring organization where volunteers evaluate specific streams. The goal is to determine what subtle and chronic problems may contribute to a watershed’s decline.

The teachers have two sites registered with the state, the wetland and Pony Creek. “Every month I take a class and teach them how to do chemical analysis,” said Newton. “This analysis includes the concentration of hydrogen ions, nitrates, dissolved oxygen, phosphates and chloride.”

They also work with students in identifying life forms in the water, physical characteristics of the water and surrounding stream habitat. “I want to teach my students about conservation,” said LeDoux. “These are the plants native to Iowa, and they will help keep our water clean.”

For more information about urban conservation, visit [www.ia.nrcs.usda.gov/features/Backyard.html](http://www.ia.nrcs.usda.gov/features/Backyard.html).

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#### **Rain Gardens Will Catch Water from ISD Rooftops**

Around the ISD campus and in a campus greenhouse, LeDoux has already worked with students to plant drought-tolerant plants and a butterfly garden. This in preparation for the installation of one of several rain gardens ISD is planning to install across campus. Rain gardens are perennial gardens that feature native vegetation strategically located to capture runoff from impervious surfaces, such as rooftops, driveways and patios. They are able to absorb water, reduce runoff and protect water quality.

ISD is replacing the roofing system on their kitchen. The new roof will be designed to funnel water toward a rain garden, which LeDoux and her students will install.

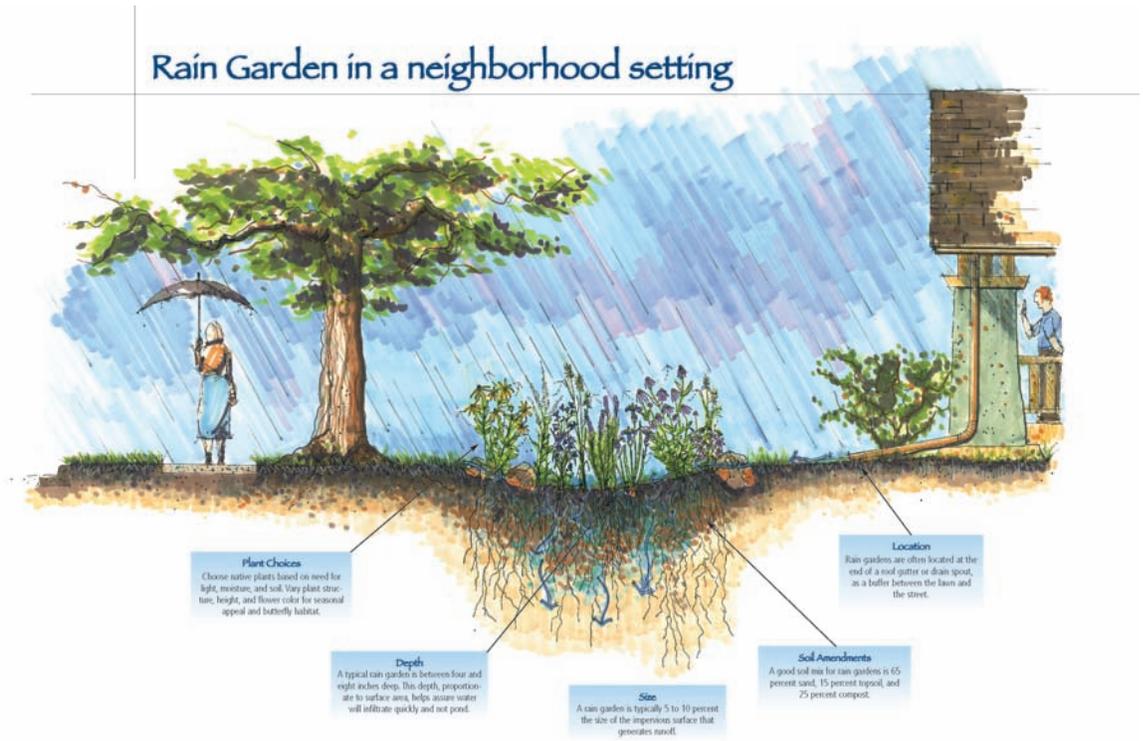
“Not only is the school adopting urban conservation practices, they are using them for education, too, so it’s working out slick,” said DuVal.

Little Pony Creek Watershed Project Coordinator Danelle Schmielau said ISD is setting a great example for the area. “The city

and the county board of supervisors are on board with what we’re doing to reduce erosion and keep pollutants out of water,” she said. “They’re seeing the environmental benefits and the cost-share opportunities. They are promoting it now, too, and that’s helping us.”

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*Jason Johnson, Iowa NRCS  
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