

People & Places

Building a better fish screen

Farmers
Conservation
Alliance's designs
more efficient

By **MATEUSZ PERKOWSKI**
Capital Press

HOOD RIVER, Ore. — The Farmers Conservation Alliance was born of destruction, or more precisely, destruction that inspired creativity.

Twenty years ago, rushing floodwaters uprooted trees, knocked out bridges and demolished irrigation equipment in Oregon's Hood River Valley.

Faced with a clean slate, growers in the Farmers Irrigation District decided to rebuild a more efficient system than the one that had been washed away.

Clogged fish screens were a common problem at the old system's irrigation diversions. Not only would someone frequently have to remove the debris, but the mechanical devices regularly needed repair.

"Any time you have moving parts, they just wear out," said Dan Kleinsmith, a former project manager for the district.

Before the flood, the Farmers Irrigation District spent about \$90,000 annually to operate and maintain its fish screens, which stop salmon, steelhead and other native fish from swimming into irrigation lines and pipes while keeping them clear.

Developing their unique replacement "Farmers Screen," which relies on rushing water instead of machinery to keep the screens clear, turned out to be a heavy investment — roughly \$2.5 million over 10 years.

In 2006, the screen con-



Mateusz Perkowski/Capital Press

Dan Kleinsmith, project manager for the Farmers Conservation Alliance, and Julie Davies O'Shea, the nonprofit's executive director, explain the functioning of a large, customized fish screen in Oregon's Hood River Valley.

cept was licensed to the newly formed Farmers Conservation Alliance with the goal of commercializing the technology so other irrigators could also benefit from it.

Since then, the nonprofit has installed about 40 of the screens, which cost from \$15,000 to roughly \$1 million, depending on the size of the diversion and level of customization.

Initially, the fish screens were approved by federal authorities on an experimental basis. However, widespread adoption would require proving to the National Marine Fisheries Service that they don't harm fish protected under the Endangered Species Act.

"To scale our business, we had to become a NMFS-approved technology," said Julie Davies O'Shea, the alliance's executive director.

The process was financially taxing, as the nonprofit had to test the screen's function at

various water levels and fish life stages, she said.

The alliance nearly went out of business before finally winning clearance from federal authorities in 2011, but O'Shea said she doesn't want to "vilify" the government because the process was new for everyone.

Old fish screen designs were "grandfathered in" the federal system, so the alliance had to "face the reality" of having the first new technology to receive more thorough vetting, she said.

O'Shea said she hopes their experience will make it easier to gain approval for future irrigation improvements developed by farmers and others in agriculture.

"How do we transfer that knowledge?" she said.

The basic idea behind the Farmers Screen — of water moving horizontally over a flat screen — wasn't new, but it never caught on because it didn't work correct-

ly, said Kleinsmith, who's now a project manager for the alliance.

The concept was nonetheless attractive due to the possibility of reduced maintenance costs.

"We liked the idea of water traveling over the top of something rather than slamming into something," Kleinsmith said.

An important refinement of the Farmers Screen is that water flows into a channel that gradually becomes narrower.

This feature is key because the amount of water in the channel decreases as it falls through the screen at the bottom.

If the channel was the same width, the speed of the water would diminish toward the end. However, because the channel is tapered, the water doesn't lose velocity.

Because of that, debris is prevented from settling on the screen and causing clogs,



Western Innovator

Farmers Conservation Alliance

Organization: Nonprofit group aimed at irrigation system modernization

Founded: 2006

Executive director: Julie Davies O'Shea

Employees: 5

Headquarters: Hood River, Ore.

Annual revenue: \$318,000 (in 2014)

Website: <http://fcasolutions.org>

Kleinsmith said. "We're counting on the water to sweep the screen off."

Aside from installing fish screens, the alliance also helps other irrigation districts to modernize in other ways.

For example, replacing open canals with pipelines reduces water loss from evaporation and seepage, while also creating enough water pressure to generate hydropower.

However, many irrigation systems were built upwards of a century ago, so upgrading them to become more efficient is akin to fitting new parts onto an antique truck, O'Shea said.

The alliance assists irrigation districts with retrofits, including finding partners who can provide funding.

"There's so much opportunity for environmental improvement," O'Shea said.

Washington dairy ambassador coronation set for Tacoma

Six young women will compete to become the new Washington State Dairy Ambassador on Saturday, June 25, at the Greater Tacoma Convention and Trade Center.

The ambassador program, sponsored by the Washington State Dairy Women, provides professional and educational opportunities for young women in Washington state. The young women chosen to serve as Washington's Ambassadors for Milk receive a college scholarship, internships and extensive communications training.

It will also be a time to say "thank you" to 2015-2016 State Dairy Ambassador Nicole Buell of Marysville and State Alternates Amanda Howe of Bellingham and Lydia Johnson of Ethel, said Tammi Schoenbachler, state ambassador adviser.

"They have done a fantastic job representing the Dairy Farmers of Washington this past year," she said in a press release.

Seating will begin at 5 p.m. in the ballroom with the program starting at 5:30.

The event will be in a new



Alicia Smaciarz



Allyson Carothers



Becca Bartelheimer



Caitlin Meek



Jana Plagerman



Tiana Peterson

venue this year. The convention and trade center is at 1500 Broadway in Tacoma.

For ticket information, contact Gloria Edwards at gloria.wsdw@hotmail.com or phone 360-273-7313. All ticket orders must be received no later than June 10. Tickets will not be available at the door.

The six contestants competing to become the 61st Washington State Dairy Ambassador are:

• Snohomish County: Becca Bartelheimer, 18, is the daughter of Ryan and Michelle Bartelheimer and will graduate from Snohomish High School in June. She has been involved in 4-H, FFA, and the Washington State Jr. Holstein Association. She has shown dairy cattle for the past 9 years at area fairs and

worked on the family farm. After attaining an agribusiness degree, Becca would like to have a career in agricultural finance.

• Snohomish County: Allyson Carothers, 18, of Monroe is the daughter of Marty and Nancy Carothers and graduated from Monroe High School last June. Allyson was a member of Monroe FFA, holding several offices. She showed dairy cattle for 5 years. Allyson is attending college to attain her degree in environmental science.

• Grays Harbor County: Caitlin Meek, 19, of Rochester is the daughter of Cory and Kendra Meek and will graduate from Futurus High School in June. Caitlin is a member of FFA and 4-H. She received her first dairy calf, Sweetie, when she was in eighth grade and

has been involved in the dairy industry ever since. Although Caitlin has already graduated from Centralia Beauty College, she plans to continue her education in dairy and hopes to someday have a small dairy farm and a hair salon.

• King and Pierce counties: Tiana Peterson, 19, of Graham is the daughter of Tom and Bianca Peterson. She is homeschooled and will graduate in June. Tiana has shown her Guernsey cow in open class at the Washington State Fair for the last 4 years. Her small family farm also includes a Guernsey heifer and small animals. Tiana plans to attend college to pursue a degree in public relations, which would help her with her two greatest passions — communicating with people and the dairy industry.

• Whatcom County: Jana Plagerman, 20, of Lynden is the daughter of Leroy and Rhonda Plagerman and a graduate of Whatcom Community College. Jana works on her family's dairy farm, where she is responsible for many jobs, including calf and cow care, milking, breeding and field work. Jana plans to further her education by getting her degree in dairy science or agribusiness and to be an advocate for the dairy industry.

• Lewis County: Alicia Smaciarz, 18, of Raymond is the daughter of Terry and Lana Smaciarz and will graduate from Willapa Valley High School in June. Alicia is involved in FFA and 4-H. She lives and works on her family's dairy farm. She plans to further her education by getting a degree in biology with a career goal of becoming a laboratory technician at a hospital. She would also like to remain in the dairy industry by being a 4-H leader and raising replacement heifers for her family's dairy.

Calendar

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20 Northwest Locations

To submit an event go to the Community Events calendar on the home page of our website at www.capitalpress.com and click on "Submit an Event." Calendar items can also be mailed to Capital Press, 1400 Broadway St. NE, Salem, OR 97301.

Monday, June 13

Summer Water Law and Resource Issues Seminar, Sun Valley Resort, Sun Valley, Idaho. (208) 344-6690, <http://www.iwua.org>

Tuesday, June 14

Summer Water Law and Resource Issues Seminar, Sun Valley Resort, Sun Valley, Idaho. (208) 344-6690, <http://www.iwua.org>

Wednesday, June 15

Jump on the Biocontrol Bus: Introductory Biological Pest Management for Nurseries & Greenhouses, 8 a.m.-5 p.m. Advanced biological control workshop and tour/demonstration. This

educational tour/demonstration will show new approaches to managing common pests on nursery plants. Field and greenhouse growers will learn beginning methods of biological control, and will be offered in English and Spanish. Featuring Suzanne Wainwright-Evans, Buglady Consulting, and Robin Rosetta, Oregon State University Extension horticulturalist. Pre-registration required. OSU North Willamette Research & Extension Center, 15210 NE Miley Road, Aurora. Cost \$20 morning workshop, \$35 morning workshop plus educational tour and demonstration. Lunch provided. Website: <http://bit.ly/26Bly76>

Friday, June 17

Going Further on the Bio-Control Bus: Advanced Biological Pest Management for Nurseries & Greenhouses, 8 a.m.-5 p.m. Advanced biological control workshop and tour/demonstration. This

day is limited to a grower audience with some experience. OSU North Willamette Research & Extension Center, 15210 NE Miley Road, Aurora, Ore. Cost: \$35. http://www.pesticide.org/advanced_biological_pest_2016

Pruning to Restore White Pine workshop in Sandpoint, Idaho. 9 a.m.-1 p.m. Pre-register by June 10. Registration fee is \$20. (208) 263-8511 <http://extension.uidaho.edu/bonner/>

Saturday, June 18

ATFS 75th Anniversary Celebration, 9 a.m.-4 p.m. Celebrating 75 years of sustainable forestry and honoring tree farmers. Montesano High School and Lake Sylvia State Park, Montesano, Wash. www.wa-farmforestry.com

Ketchum Kalf Rodeo, 1 p.m., Glenwood Rodeo Grounds, 63 Trout Lake Highway, Glenwood,

Wash. <http://Business.gorge.net/glenwoodrodeo>

Tractor-Truck-Garden Tractor Pull. This is the Oregon Tractor Pullers Association's annual Father's Day pull, all tractors are welcome. Venue: Schurman's Iron Ranch, Ridgefield, Wash. www.oregontractorpullers.com

Sunday, June 19

Ketchum Kalf Rodeo, 1 p.m., Glenwood Rodeo Grounds, 63 Trout Lake Highway, Glenwood, Wash. <http://Business.gorge.net/glenwoodrodeo>

Wednesday, June 22

Idaho Cattle Association Summer Roundup, Red Lion Templin's Hotel on the River, 414 E. First Ave., Post Falls, Idaho. <http://idahocattle.org/>

Thursday, June 23

Idaho Cattle Association Summer Roundup, Red Lion Templin's

Hotel on the River, 414 E. First Ave., Post Falls, Idaho. <http://idahocattle.org/>

Friday, June 24

Alpacas at the Gathering, 9 a.m.-4 p.m. Alpacas join the sheep and goats at the Black Sheep Gathering, with fleece, yarn, socks, scarves and more. Fleece show as part of BSG Wool Show & Sale. Lane County Events Center, 796 W 13th Ave., Eugene, Ore. Cost: free. www.alpacafarmsoregon.org

Saturday, June 25

Washington State Dairy Ambassador Coronation, 5 p.m., Greater Tacoma Convention and Trade Center, 1500 Broadway. For ticket information, contact Gloria Edwards at gloria.wsdw@hotmail.com or phone 360-273-7313. All ticket orders must be received no later than June 10. Tickets will not be available at the door.

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