



👤 Volunteers planted hundreds of native trees and shrubs along the tributary channel. The tubes help protect the seedlings from wildlife and reduces the effects of drought. Photos by the Long Tom Watershed Council.

Laughing Stock Farm Improves Watershed Health and Habitat alongside Livestock Stewardship

Katie MacKendrick, Long Tom Watershed Council
Kate MacFarland, USDA National Agroforestry Center

With the help of the Long Tom Watershed Council and others, Paul Atkinson has improved a tributary on his farm by restoring its historic hydrology and planting a native riparian forest buffer. Located in Oregon's southern Willamette Valley, Laughing Stock Farm has been in Paul's family for 52 years. Along with the experience that comes from many years on the farm, Paul's parents instilled a love for the land and taught him how best to care for the land over time. Paul raises layer hens, turkeys, cattle, and hogs and grows a wide variety of crops and trees. Paul has also undertaken a variety of projects to improve the habitat for native animals and plants. As he sees it, he raises multiple species of farm animals and crops and should support multiple species of wild animals and plants as well. Paul clearly recognizes the connection between his farm and the larger surrounding area. He has worked with the Long Tom Watershed Council (LTWC) since its inception in 1997, when he became a founding member. Since then, he has supported the Council's mission in a variety of ways including through a six-year water quality monitoring program.

The Long Tom Watershed Council (LTWC) is a local nonprofit based in Eugene, Oregon, which works with interested landowners to enhance fish and wildlife habitat voluntarily. The LTWC's mission is to improve water quality and watershed condition in the Long Tom River basin through education, coordination, consultation, and cooperation among all interests, using the collective wisdom and voluntary action of our community members.

In 2007, Paul partnered with the Long Tom Watershed Council to do something he had contemplated for several years – restore 1,400 feet of a Coyote Creek tributary. The tributary had been

straightened in the early 1900s to facilitate agricultural activities and provides important habitat for resident cutthroat trout, sculpin, and other native fish and amphibians living in it and in Coyote Creek. Working on this project helped Paul to address his strong moral and religious commitments to habitat enhancement and the resulting benefits to wildlife.

Funded by Paul and a grant from the Oregon Watershed Enhancement Board, the project aimed to improve fish passage, restore instream habitat, improve water quality, and enhance riparian vegetation. To accomplish this, the project needed to address several problems. First, an undersized culvert at the upstream end of the site had created high-velocity stream flows that caused erosion and were a barrier to fish passage. In addition, the straightening of the tributary had led to accelerated stream flow, channel incision, and had reduced the amount of habitat for fish. Nonnative, invasive blackberry became established along the stream, which outcompeted native trees and shrubs. Because of the steep, eroding stream banks, it was difficult to control the blackberry.

The Council worked with Paul to reconstruct the stream channel with river rock and log weirs, and to remove blackberry, while planting native trees and shrubs. The Council replaced the original 18" culvert with a much larger 66"x 51" corrugated metal pipe arch filled with two feet of river rock to provide a continuous stream bed through the culvert. The first 230 feet of existing channel downstream of the culvert was raised by adding river rock and 10 log weirs. Then, 1,150 feet of new meandering channel were excavated across the landowner's pasture and the excavated material was placed in the abandoned channel segment along the driveway (see photos). Council volunteers from Lane Community College and the University of Oregon donated many hours of time planting

hundreds of live willow stakes and a diverse mix of native trees and shrubs. Over time the trees and shrubs have become established and are keeping the channel from eroding.

The channel cross-section is now wider and shallower, erosion has decreased, the stream is reconnected with its floodplain, and now there is habitat for important aquatic life. An unexpected impact of the project has been the benefits to Paul's livestock. The creek restoration has enhanced the sub-irrigation of the nearby pastureland as well as the forage production.

The tributary project was only one component of the long-term restoration work Paul is doing on his farm. He is also working on a savanna restoration project. He became interested because oak savanna

is a vanishing ecosystem in the Willamette Valley, but he also sees benefits for his livestock as the climate changes. This project will allow him to more easily rotationally graze his livestock while also providing them with shade. Paul will begin planting oak, fruit, and nut trees in fence rows and will rotationally graze between the rows. He also plans to create areas in his pasture, perhaps between the trees, as patches with native prairie plants.

Paul has worked hard to combine habitat enhancement and conservation work with his farming and sees this work as important to caring for the land over the long term. Balancing the values of a working landscape while managing projects for the benefit of fish and wildlife is a specialty of watershed councils, and successes are dependent upon farmers like Paul. ♣

➔ Before the project, the existing channel was deeply incised and lined with non-native Himalayan blackberry.



➔ After the project, the blackberry were removed and replaced with native trees and shrubs.



➔ In this section, the channel was reconstructed with stream rock and log weirs.

IN BRIEF...

A periodic summary of agroforestry-related journal articles

John Weedon, Connecticut Farmland Trust

Speak not of cows in the woods

Researchers conducted two focus groups with resource professionals and one group with farmers regarding attitudes towards silvopasture. The farmers said they typically didn't ask professionals for advice on woodland grazing because they expected to be told to stop. The professionals reported they rarely offer advice because they feared providing it would be taken as a practice endorsement. Yet, both farmers and professionals agreed separately on the multiple benefits of silvopasture and recognized the need for local research and demonstration farms. The researchers speculated this consensus was due to participants hailing from the same area and the anonymity of focus groups.

TAKE HOME MESSAGE: Because "cows in the woods" is considered taboo, self-imposed constraints hinder conversations about silvopasture between farmers and resource professionals.

Mayerfeld D, Rickenbach M, Rissman A. 2016. *Overcoming history: attitudes of resource professionals and farmers toward silvopasture in southwest Wisconsin. Agroforest Syst. Online:30 April 2016.*

One size doesn't fit all

Environmental advantages of riparian buffers are well-known, but many producers believe buffers come at the expense of profits. Researchers presented buffer systems with combined production and conservation benefits to streamside owners to help understand why they may or may not be likely to establish buffers. Owners were segmented into three groups: producers who used streams to water cattle; producers who used alternate water sources; and non-producers. Streamside characteristics varied among the groups with percentage of erodible soil differing the most. Groups responded differently to the importance they gave various management outcomes, buffer effectiveness, and potential benefits of multifunctional buffer systems.

TAKE HOME MESSAGE: Because of the heterogeneous reactions by different groups to multifunctional buffers in the study, targeting by ownership and stream characteristics may improve buffer promotion.

Trozso KE, Munsell JF, Chamberlain JL, Aust WM. 2014. *Potential adoption of agroforestry riparian buffers based on landowner and streamside characteristics. J Soil Water Conserv. 69(2):140-150.*