



# water lines

WINTER 2019/2020

## Leading by Example





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Amy Verbeten

## Leading by Example

In a world where we are bombarded by opinions about what we “should” do, I am deeply impressed by those who quietly step forward and simply make things happen. This issue of *Waterlines* is dedicated to those in our organization and our community who are leading by example in their work to protect and improve clean water, healthy streams, and a thriving wild fishery in the Teton River Watershed and beyond.

As mentioned by Robert Warren in his editorial (on the next page), the Bonneville Environmental Foundation has been a powerful leader in the field of watershed conservation throughout the Northwest. By providing FTR with a decade of sustained funding, matched with leadership in an “integrated, community-based, whole watershed approach to address the leading barriers to effective restoration,” BEF has further catalyzed FTR’s ability to lead our field in science and restoration, and to better empower our partners as they, in turn, lead by example in their own work.

We also see powerful local examples of leadership in the way in which the managers of fourteen irrigation canals here in Teton Valley came together this summer to recharge more than 10,000 acre feet of water to Teton valley’s aquifer, thus providing a clean, cold, and reliable source of water for people, fish, and wildlife. Irrigators and landowners are also stepping forward to voluntarily restore stream channels and fish passage on their own land, setting an example for their neighbors. The City of Driggs is taking a strong leadership role in the effort to restore Teton Creek and to set policies going forward that will better protect floodplains and our entire community.

You, our members and supporters, lead by example in the way that you continue to generously and consistently support our work. Without your donations, we could not attract and retain high quality staff who, through decades of combined service to FTR, have become among the top leaders in their own fields.

Thank YOU to our entire community for your leadership in restoring and conserving a healthy, thriving Teton watershed!

*Amy Verbeten*

Amy Verbeten  
FTR Executive Director

Photo: Robert Warren



Robert Warren on a visit to the Teton River.

## Listening, Learning, and Leading

Nearly eleven years ago, I made my first visit to Driggs to meet with Friends of the Teton River (FTR) and learn first-hand about their work and who they are. The trip was part of a broader search by the Bonneville Environmental Foundation (BEF) to find watershed conservation groups around the West to be a partner in our Model Watershed Program.

We hoped to engage with organizations that operated at the watershed scale, could demonstrate a level of community support, applied current scientific understanding in all aspects of their work, and were committed in continuous learning and improvement. We quickly realized that even as a relatively young watershed nonprofit, FTR was already accomplishing great work and still had ambitions to growing their capacity and make meaningful impacts in the watershed and Teton Valley.

We came away from that first visit deeply inspired by the people, the community, and the special place that you are working together to steward. A year later, FTR and BEF established the Upper Teton River Model Watershed Project; a ten-year commitment (2010-2020) of grant funding support and collaborative learning.

Over the past decade, it has been an incredible privilege to witness the growth and development of FTR, their amazing people, and the quality and quantity of their accomplishments. FTR has clearly established itself as a capable and distinguished leader in Teton Valley and among watershed groups across the region. This level of leadership requires a unique set of skills and a effort to build genuine and trusting relationships with people that often hold diverse perspectives and values.

It requires the ability to listen, a willingness to try new things, and the humility to change deeply held viewpoints when deemed necessary. FTR has applied these leadership attributes to act as an effective convener to solve complex challenges such as floodplain management, create collaborative partnerships, develop working relationships with state and federal agencies, support regional native fish conservation efforts, and cultivate relationships with other conservation organizations.

All of this has been to the benefit of the Teton River and its communities. Friends of the Teton River is *the* example of effective leadership and innovation I highlight whenever I'm working with other watershed groups. I've worked with locally-led watershed efforts across the Pacific Northwest and Northern Rocky Mountains, and I can say without any reservation that the Teton Valley community—and anyone that cares about the Teton River and depends on a healthy watershed for their wellbeing—are profoundly fortunate to have an organization like FTR working and leading beside you, with the skills, capacity, and a deep personal commitment to sustaining the future of this special place.

*“This level of leadership requires ... the ability to listen, a willingness to try new things, and the humility to change.”*

*Robert Warren*

Robert Warren, Model Watershed Program Director

# Lessons in Soil Health

FTR has partnered with four farming and ranching families to begin testing a combination of conservation farming techniques in Teton Valley to improve soil health and water quality through strategic crop rotations and cover crop choices, reduced tillage, and managed grazing strategies. Choosing and testing these strategies takes careful planning, monitoring, time, lots of patience, and a willingness to experiment—things that participating producers and watershed scientists have in common.

In 2018, four of the families we work with converted 296 acres to conservation farming

In 2019, these four families expanded to 459 acres in conservation farming

## Building Blocks of Soil Health

### Teton Valley soil areas of concern:

- Nutrient management
- Erosion
- Infiltration
- Compaction
- Water-holding capacity (organic matter)

### Five guiding principles of soil health:

- 1 **Keep the soil covered** with crop residue, cover crop, or a living crop.
- 2 **Minimize soil disturbance.** Avoid over application of chemicals and reduce tillage.
- 3 **Plant diversity.** Diversify crop rotations from a single crop to minimize nutrient depletion.
- 4 **Continual plant roots** builds organic matter and microbes.
- 5 **Livestock integration.** Properly managed livestock can greatly improve soil health.

Improving soil health on farms and ranches can lead to improved farm productivity, improved water quality, increased water-holding capacity, and increased resilience.

# Learning by Example

### In Teton Valley:

Producers are rotating cover crops with cash crops (potatoes or barley, for example) on a 3-year cycle to build up soil health and future yields. They are interseeding (mixing) complementary crops that are harvested at different times, or can be separated at harvest, for example buckwheat and quinoa.

**Benefits:** Building up soil health while the farmer still gets a cash crop harvest.

## Crop Rotations and Mixes

Planting complementary crop mixes builds soil biodiversity and improves yields of the crops chosen. In Teton Valley, the most common cropping system is an annual monoculture crop. This has led to a loss of diversity in cropping systems and an increase in pest and weed pressure, and increased need for inputs (fertilizer, pesticide).

56 acres



## Conservation Farming Methods

### Reduced Tillage

Disturbance from frequent tillage leaves soil broken and exposed, more susceptible to wind and water erosion, and prone to soil compaction and reduced water infiltration. Reducing tillage can save labor and fuel costs by minimizing the number of passes made by equipment and improves soil health by decreasing erosion, improving natural soil building processes, and acting as a natural carbon sequester.

85 acres

### In Teton Valley:

Local farmers are using “no-till” or “direct seeding” equipment and techniques. Strategic tilling of soil-building crops (including cover crops or after-harvest stubble or residue) back into the field. **Benefits:** Less soil disturbance, improved moisture retention, build soil microbes and nutrient health.

### Cover Crops

A cover crop is a plant (or mix of species) that can be used in a crop rotation to provide a variety of soil-building benefits, while not typically being harvested as a cash crop. Cover crops can be planted after a cash crop is harvested, as a full season crop instead of summer fallow, or as a forage crop to be grazed by livestock.

89 acres

## Monitoring Soil Health—What are we looking for?

### Soil Tests Measure:

- Organic matter
- Moisture
- Carbon
- Macronutrients
- Micronutrients and bioactivity: living organisms in the soil, including bacteria and fungi.

## Managed Grazing

Livestock can play an important role in building soil health and function. Incorporating properly managed livestock in crop rotations can improve soil health, biological activity, moisture efficiency, and nutrient retention.

229 acres



### In Teton Valley:

It is becoming more common for producers to interseed cover crops into a cash crop (such as a low-lying legume in between rows of grain). **Cover crops planted in Teton Valley include:** peas, oats, clover, radishes, turnips, safflower, and more.

# Partners Lead Restoration Efforts



## Irrigators—Tonks Canal

Irrigators on Trail Creek were left “high and dry” when a check-dam at the Tonks Canal diversion blew-out last spring (2018), leaving a cement barrier to fish passage and no effective way to manage the diversion. Looking for a solution, the irrigators and FTR began discussing a replacement that would meet the needs of both farmers and fish. A series of rock weirs were installed this September that will ensure that irrigators receive their water rights and that fish will be able to utilize the step-pools at all flow levels. This fish-friendly design will also help prevent entrapment of fish in the canal. This project is a win-win for Trail Creek irrigators and cutthroat trout, and demonstrates a unique willingness of the farming and ranching community to choose conservation-minded solutions. FTR worked with the Idaho Soil and Water Conservation Commission and the Teton Water User’s Association, with funding from the Jackson Hole One Fly Foundation and the U.S. Fish and Wildlife Service.



## Landowner—Upper Teton River Property

After Bill D’Evelyn purchased a property on the upper Teton River in 2016, he reached out to FTR Restoration Director Mike Lien with questions about restoring some eroding streambanks. While a willing landowner spends the majority of their own time and money on a project like this, FTR provided help with a geomorphic assessment (which evaluates stream conditions and functionality) so that he could move forward with a plan to restore almost 2,000 linear feet of valuable Yellowstone Cutthroat Trout habitat and water quality in a section of Teton River that was previously overgrazed. In addition to technical assistance, FTR also helped secure grant funding through the U.S. Fish and Wildlife Service Partners for Fish and Wildlife program, which provides cost-share incentives directly to private landowners to restore fish and wildlife habitats.

Bill D’Evelyn (center) with his grandson, Noah Williams and daughter, Brooke Williams, and a restored streambank on their property.



## City of Driggs—Teton Creek Restoration

FTR and Teton Creek landowners have been leading stream channel restoration efforts (on more than two miles of stream) since 2006. The next section of substantial flood risk concern (downstream of Cemetery Road Bridge to Creekside Meadows subdivision) falls within the jurisdiction of the City of Driggs. With an interest in protecting its citizens and infrastructure, the city is taking a leadership role in applying for federal grant assistance that’s available to government entities. FTR is working closely with the city, the Flood Control District, and Teton Creek stakeholders to help secure grant funding to continue this multi-million dollar mitigation effort.

City of Driggs Mayor Hyrum Johnson (left) and Community Development Director Doug Self (right) are working with FTR to apply for flood mitigation assistance funding.

# Peers Leading Peers: Farms & Fish Initiative

Three years ago, FTR's Farms and Fish Initiative began with a small group of agricultural producers, local leaders, conservation organizations, and funders who had a belief that agriculture and conservation can and should go hand-in-hand. The Farms & Fish program and pilot projects (see "Lessons in Soil Health" pages 4 and 5) has now expanded beyond the Teton River Watershed into the broader Upper Snake Region. With new grant funding also secured, FTR and Henry's Fork Foundation have committed additional staff time to grow these efforts.

This fall, FTR was awarded \$82,000 in funding from the Environmental Protection Agency (EPA) Environmental Education Grant and \$37,000 from the Putnam Foundation to create a series of educational workshops, classes, print and digital resources, and peer-to-peer networking opportunities for agricultural producers to learn and share knowledge about agricultural best management practices that can be implemented to improve water quality, soil health, and climate resilience, while increasing farm or ranch productivity.



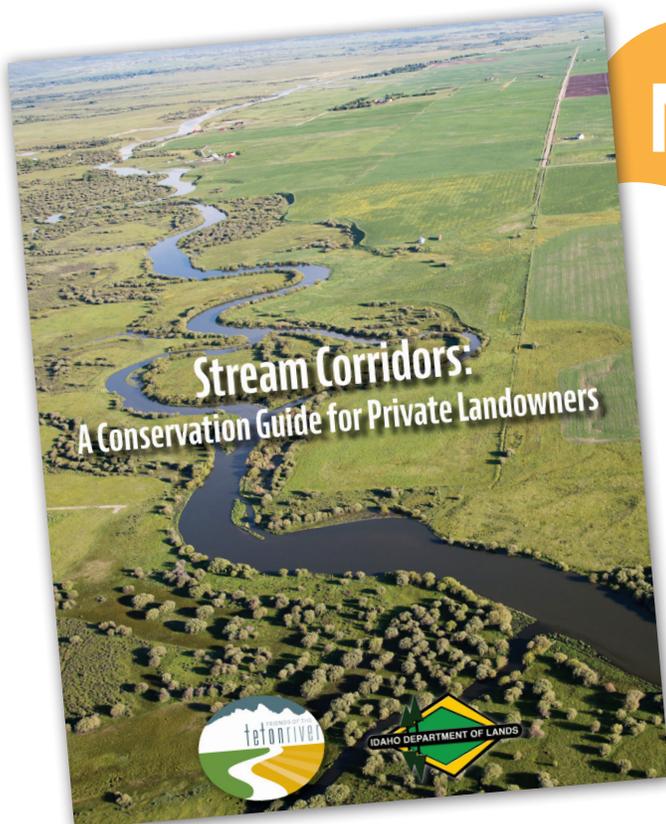
**Grants available to local organizations!** As a part of the EPA grant award, \$20,725 in EPA-EE funding will be available under the Farms & Fish Initiative to be granted to local organizations implementing education programs focused on agriculture and the continued stewardship of Teton Valley's water and land resources. This grant opportunity and application process will be announced this winter.

**NEW!**

## Resource Guide

FTR has a new resource guide available to help promote the stewardship of Teton Valley's riparian ecosystems. The informational packet, *Stream Corridors: A Conservation Guide for Private Landowners* was developed as an educational tool for private landowners in response to the costly Teton Creek Corridor efforts and the increasing development pressure threatening additional riparian corridors in the Upper Teton River Watershed. The project was funded by the Idaho Department of Lands Landscape Scale Restoration Grant, as a part of a larger \$240,000 grant for riparian reforestation on Teton Creek. This guide includes key information on healthy ecosystem functioning, floodplains, permitting requirements, and restoration resources. Visit [www.tetonwater.org/learn/landowners/](http://www.tetonwater.org/learn/landowners/) or stop by the FTR office to pick up your copy.

*This project was funded in part by the Idaho Department of Lands in cooperation with the USDA Forest Service. In accordance with Federal law and U.S. Department of Agriculture policy, this institution is prohibited from discriminating on the basis of race, color, national origin, sex, age, or disability. (Not all prohibited bases apply to all programs.) To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue, SW Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.*



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## FROM STEM TO STERN 10 Questions with FTR Staff

### Mike Lien, Fisheries Research and Restoration Director

**What was your first big FTR project?** Assessing habitat conditions on 25 miles of the Upper Teton River. **What are the projects you are working on now?** I am working on more than a dozen projects, including restoration on Teton Creek (over \$4 million invested to-date!); restoration at three locations on the Teton River; two fish passage improvement projects; and fisheries research and monitoring project with state and federal partners. **What are the biggest changes you've seen in your career at FTR?** An increase in trout densities on the Upper Teton River from 400 trout/mile to nearly 4,000 trout/mile. **Why are you still here doing what you do?** I enjoy working with the FTR staff, board, and the community to improve YCT populations and watershed health. I appreciate the opportunity to develop creative solutions to the myriad of issues and difficult problems we encounter with our projects. **Where do you see yourself in 10 years?** I have a lifetime of engaging work right here at FTR. When I'm not at work you can find me... playing on the water and in the mountains with my family. **A fun-fact about me ...** I've traveled to 29 countries. **When I was a kid I wanted to be ...** an Air Force fighter jet pilot. **My whole watershed Canyon.** **Fly-fishing** grew up on a lake in been fishing using every since I could walk. **mode of water transportation ...** wake-on a glassy stretch of water.



17  
years

### Anna Lindstedt, Development and Communications Director

**What was your first big FTR project?** Writing a K-12 Watershed Curriculum and receiving my first grant. **What are the projects you are working on now?** Writing grants for our projects and programs (investing more than \$1 million in funding per year), fundraising, event planning and communications (including this newsletter). **What are the biggest changes you've seen in your career at FTR?** The amount of work that this organization has accomplished in the past fifteen years is mind-blowing—which has only been possible through shared leadership and partnership with our community. It has been fun to watch us “grow up” during this time and gain the mutual trust of our partners. **Why are you still here doing what you do?** It's all about connecting with people and improving the resource. It is my life's goal to make a difference in a small corner of the world and I believe we are truly doing that. **Where do you see yourself in 10 years?** Ten years older. **When I'm not at work you can find me ...** at the gym, running, riding bikes, on the water or the snow, reading books with my daughter, or in my kitchen. **A fun-fact about me ...** I love to study languages and have lived in French, Spanish, and Arabic speaking countries. **When I was a kid I wanted to be ...** an artist/architect. **My favorite place in the whole watershed is ...** wherever I am. **Fly-fishing or bait fishing?** Bait fishing since birth, fly-fishing since I moved here, and ice-fishing since I met my husband. **Favorite mode of water transportation ...** paddling a canoe (in the Boundary Waters!)



15  
years