



NOTES ANNUAL FIELD TOUR August 11, 2026

Hosted in-person at locations in Teton Valley, Idaho

Attendance

- 43 in-person

Tour Stop #1: Incidental Recharge Program presented by Teton Basin Water Users Association

Wyatt Penfold welcomed the tour group and provided an introduction to the Teton Valley irrigation system. Historically, the valley was fully flood irrigated and the Teton River ran strong all season. That has since changed, but about 7–8 years ago, a group of irrigators restarted flood irrigation and intentional incidental recharge to restore those conditions. As soon as water rights come on (around April 15), they open auxiliary canals and channels and flood irrigate as broadly as possible.

During this period, water infiltrates into the aquifer and slowly moves through the alluvial plain near Harrop's Bridge, effectively treating the upper valley like a "bathtub" they're refilling. This springtime flood irrigation practice extends Teton River flows, delays calls, and keeps water available longer for downstream users.

Before this intentional incidental recharge effort, the aquifer had dropped ~70 feet (based on long-time local observations). Since restarting flood irrigation, creeks and springs are flowing again in places they haven't in decades, sometimes a mile farther upstream than people had ever seen. Such streamflow restoration supports irrigators, fish habitat, and downstream water users and helps keep land in agriculture rather than converting to housing.

For the past seven years, the Teton Basin Water Users Association documented results with third-party experts, not just farmer anecdotes. They believe this monitoring work has helped shift the state's view on incidental recharge, and they claim some credit for that policy change.

Looking ahead, the TBWUA is aiming for ~30,000 acre-feet of recharge and are close to that goal, with most farmers in the valley participating despite initial skepticism. Meeting this target is expected to produce a substantial, documented increase in river flows.

Map Demo

In parallel, TBWUA is currently mapping all underground irrigation infrastructure (pipes, valves, diversion points) to better manage water, support growth pressures, and inform future projects. The main problem isn't neighboring farmers, but land turning into subdivisions: one landowner becomes many, creating easement conflicts and confusion. By having a detailed map, the TBWUA hopes to

manage these issues proactively and give the watermaster a clear record of the system for current and future use.

John Moulton, the current watermaster for Trail Creek Sprinkler Irrigation Company, showed the Victor area on the map, where fiber installation and past “geyser” breaks have helped reveal underground irrigation lines. Each repair point is documented with a photo, repair type/brand, and date, so future watermasters know exactly what’s underground if there’s another leak. The system already helps in Victor: when there’s a break, someone gives an address, John looks it up, and he knows what infrastructure is there before digging.

This mapping is crucial for subdivision areas, where people often don’t know a pipe or ditch exists and build houses on or over easements, making repairs risky and difficult. Seasonal ditches in the Chapin area are also mapped so property owners don’t fill them in; even if they only run in high-water years, they are established ditches that must be kept open and clean.

The goal is to share this map with the county, so buyers can see real easements and infrastructure instead of relying only on what a realtor says, reducing confusion and conflicts.

Question and Answers

Question: Is the map currently publicly available?

Answer: The irrigation mapping is not public yet, but will be once more work is finished in places like Victor. The team will then transfer the data to the county’s GIS, working with Rob. Summit Environmental (Jackson) built the ArcGIS-based system and will maintain and update it, so locals don’t have to manage the technical side. Only public-facing layers (pipeline and canal rights-of-way) will go to the county GIS, while more detailed data stays in the internal system. Eventually, everyone in the valley will have their own login to view and mark their irrigation infrastructure. This will make it much easier for county staff (e.g., Dan) to verify where irrigation rights-of-way are when developments or permits come in.

Wyatt Penfold added that he is a planning and zoning member and explained that he routinely asks developers for letters and approvals from irrigation companies and easement holders, yet subdivisions still get platted without recognizing existing irrigation infrastructure. In one case, a pipeline runs down the middle of several 2.5 acre lots, effectively making those lots unusable because easements weren’t properly addressed during subdivision. These types of conflicts are increasing with growth, which is why the new mapping tool is so valuable: the county is eager to use it so future decision-makers clearly see irrigation lines and easements. The mapping will also support incidental recharge planning, helping identify which canals to prioritize, where to send more water, and where upgrades are needed to revive historic streamflows.

Question: Does incidental recharge mean pushing water outside normal delivery systems into pastures?

Answer: They flood irrigate everywhere they can, filling entire systems, overflow ditches, and old pits (ditch pits, borrow pits, gravel pits along roads). This continues historic practices used by earlier

generations, who knew that spreading water widely recharged lower springs and benefited everyone downstream.

Question: How many canal companies are on this, and how many are yet to go?

Answer: Grand Teton Canal Company has not yet shared its mapping data, though it is expected to. Most of the east side has been mapped, with a few “technically challenged” users still needing help to enter their data; once that’s done, they’ll move to the west side and then Felt. The mapping process is actually simple once taught: users just hold a tablet at the GPS point, tap a couple buttons, and the watermaster later cleans up the data—making it feasible even for the older, retired generation.

Question: Is there an estimate, in percentage terms, of how much recharge capacity has been lost—either in irrigated land or irrigation system function. The participant recognized that you’d need to pick a reference point in time to make that comparison.

Answer: That’s why TBWUA set a target of about 30,000 acre-feet as the recharge goal Rob Van Kirk helped calculate. Stakeholders in Madison and Fremont counties report that old high-elevation springs are flowing again since this work began, even beyond Paris Bridge, and they attribute that improvement to the recharge efforts. The TBWUA also credit the early-season, high elevation flood irrigation for maintaining current flows this year, and then plan to walk out to view active flood irrigation on Justin Moulton’s place as a real-world example.

Question: What percentage of the water users are involved with this effort right now?

Answer: The Teton Basin Water Users Association has about 10 board representatives spanning the valley from one end out to Felt. Grand Teton Canal Company is the largest single water user and has historically been more isolated and hard to collaborate with, though that is slowly improving. Currently, about 65–70% of the valley’s water use is represented in the Association’s efforts, with Grand Teton holding most of the remaining share (these figures are presented as rough, anecdotal estimates).

Tour of Flood Irrigated Land

Note: *Not all answers during this portion of the tour were provided by TBWUA. Some answers came from tour participants. Due to notetaking limitations, speakers were not captured in the Q&A.*

Justin Moulton noted that he has no irrigation system pipeline on the property, that it is all flood irrigated.

Question: How long has your family been down here?

Answer: Their family has lived and farmed on this property for multiple generations, likely since the early 1900s, with grandparents and great-uncles establishing the place and continuing the same agricultural practices over time.

Question: So these little custom fab are these little steel stop log boxes? Did you make those?

Answer: Justin and his brother John built the custom water control structures in this area, with similar ones elsewhere, to divert water as needed—especially so he can avoid flooding fields when horses are present, since they can damage wet ground.

Question: Why was it important for you and your family to be part of this effort?

Answer: He was always told flood irrigation helps the river but only later learned why. Water was a major, sometimes contentious topic in his family, and through this work he's come to understand the value of recharging the aquifer. He's seen springs shift and return over the last few years, and streams that once dried up—along with their fish—are now flowing again with brook trout back in the small field channels.

Commentary: A participant added that farmers on the Lower Teton have seen their summer water supplies decline over the last decade, so they'll value any improvements in spring flows. Justin responded that some have already noticed visible changes on the ground.

Question: What caused the decline in water and why there is less water now than before?

Answer: Springs dried up because irrigators stopped providing “incidental recharge” when they converted from flood irrigation in open ditches to more efficient pipelines and sprinklers. While these systems conserve water and improve crops, removing ditches and canals also removed the seepage that used to recharge the aquifer and feed springs.

Question: During the move toward more efficient sprinkler systems, did some water rights go underused? Are those rights now being fully used again?

Answer: Water rights were still being used, but shifting to sprinklers meant people stopped maintaining ditches and let high runoff pass by instead of spreading it for recharge. Now, they've cleaned old ditches and are again filling the system with high water, but snowpack is only about a third of what it used to be, likely due to climate change. To cope, everyone became more efficient, which unintentionally drained the aquifer and threatened wells. Incidental recharge from flood irrigation helps keep wells from being drilled deeper, supports rivers like the Teton and Henry's Fork, and prevents the need for new dams—so maintaining recharge is a “win for everybody” across the valley.

Question: What main obstacles threaten the continuation of this flood-irrigation/recharge work? Are the biggest challenges manpower, infrastructure upkeep, or other factors the group is dealing with?

Answer: Probably like everything, money, manpower, and money, and keeping people interested instead of saying that's a lot of work. A major challenge is mindset: some irrigators prefer to send less water so they don't have to clean ditches, and people don't want to pay for work when they don't understand the consequences of not doing it. TBWUA is grateful to groups like Friends of the Teton River and the Henry's Fork Foundation for educating the public, especially as new subdivisions complain about overflowing creeks without realizing this work keeps their wells full and supports everyone's livelihood. More wells (“more straws in the ground”) may pull water out before it reaches downstream users, potentially leading to conflicts or even lawsuits over impacts to water rights.

Question: What major incentives initially motivated irrigators and partners to participate in and launch the flood-irrigation/incidental recharge initiative?

Answer: The project began with several years of grant funding, which eventually dried up, but irrigators recognize they still need solid data. They now pay for and own 17–18 flow loggers (about \$2,000 each) and have trusted third parties like Madison–Fremont and Rankin Holmes read and compile the data to keep it credible. Even though it's expensive, they see it as essential insurance: a single two-week earlier curtailment could wipe out more in crop value than the monitoring costs, so they keep investing in it.

Question: How crucial were the initial financial incentives for achieving widespread adoption of the recharge effort, and what other key factors helped get the program successfully established before irrigators had to start paying the full costs themselves?

Answer: Upfront grant funding was critical—no one wanted to participate if it cost them money, so initial grants (about \$30–40k/year for ~10 years, totaling roughly \$500k) got the program off the ground. When grant money ended, they had to push harder using downstream users' influence on canal company boards to keep participation and ditch maintenance going. Money remains the central tension: few people are willing to pay or donate time without clearly seeing the benefits, even though leaders view the total cost as “cheap insurance” for protecting water.

Commentary: Monitoring has also shown cooling benefits for some spring creeks, indicating the recharge work supports multiple users, including trout and fisheries.

Question: Is flood irrigation in the valley effectively restoring the area's hydrology to a pre-settlement, beaver-influenced condition?

Answer: In this valley, flood irrigation did not simply replace beaver activity or restore a pre-settlement condition. Large-scale flood irrigation, starting around ~1900, essentially remade the valley's hydrology into what people remember from the 1950s–60s. Pre-European settlement, the valley was likely much drier, more like sagebrush, and not a beaver-dominated wet system. In terms of storage, beaver dams/BDA's might hold ~5,000 acre-feet, but historic flood irrigation put 30–40,000 acre-feet on the ground—an entirely different scale. Diversions were ~90–100,000 acre-feet/year, with about half consumptively used and about half going to flood irrigation and recharge. So, flood irrigation has created its own hydrologic regime, and the goal now is to push conditions back toward that mid-20th-century state, not to a “natural” pre-settlement one. Over time, people built a groundwater-dependent system on top of that artificially elevated groundwater, supported by infrastructure like Island Park Dam and the Crosscut Canal to stabilize flows in the flashy Teton River system. The recent observed improvements match model predictions (about five years to see effects), showcasing the value of science plus generational/local knowledge working together.

Question: There are many projects that convert open ditches to pipelines in Bannock County and conservation boards are wrestling with whether this really counts as “conservation.” They recognize the benefits for flood control and on-farm water savings but find it hard to explain to people that there can be delayed downstream impacts. What messaging do others use when talking to groups still pursuing these conversions?

Answer: “Dual system” designs that keep existing ditches while adding pipelines: use ditches early in the season for flood irrigation and recharge, then switch to pipelines later when higher efficiency is needed. But this only works if you plan from the start to preserve both options, and that decisions about piping or lining canals must be highly site-specific, based on local hydrology and conditions.

Tour Stop #2: Hatchet River Ranch Restoration Project presented by Friends of the Teton River

Note: Robert Piquet of PK Land & Cattle was unable to attend the presentation. As Farms & Fish Program Manager, Daniel Wilcox (FTR/HFF) spoke to his knowledge of Robert's operation.

Standing on the banks of the Teton River, Mike Lien provided an overview of trout population restoration in the Teton Valley. By the late 1990s–early 2000s, trout populations in the Teton River had crashed, especially native Yellowstone cutthroat trout (down to ~14 fish/mile; all trout ~1,000/mile), based on Idaho Fish & Game electrofishing data going back to 1987. A broad coalition of NGOs, agencies, landowners, farmers, and ranchers came together to address river degradation through conservation, restoration, fish passage, screening, and flow restoration projects.

The river and tributaries had become over widened from past land uses and development. Therefore, the coalition focused on narrowing the channel, rebuilding floodplains, and integrating grazing infrastructure (e.g., hardened cattle crossings, fencing) to benefit both fish/wildlife and ranching operations.

At this specific location, roughly 1 mile of the Teton River was restored with landowner Robert Piquet and other partners; a 1,700 foot floodplain segment completed last spring. Techniques include brush trenches on the floodplain to slow high flows, trap sediment, and create a growth medium for vegetation, plus bank stabilization with willows and added roughness.

As a result, fish numbers in this reach have rebounded to about 4,000 trout per mile overall and ~1,000 Yellowstone cutthroat per mile, a dramatic recovery. Estimated sediment reduction of ~500 tons/year (≈50 dump truck loads) from bank stabilization alone, with additional unquantified capture on new floodplain benches. The work thus addresses a sediment impaired (303(d)-listed) section of river and improves water quality, habitat, and grazing land—a “win win” for the watershed and agriculture.

Mike identified that the main bottleneck is funding, as these projects are technically complex and expensive, but the ecological and agricultural benefits are seen as far outweighing the costs.

Daniel Wilcox highlighted Robert Piquet's grazing approach as a model for managing cattle in riparian areas in ways that support both ranch productivity and river restoration. Robert uses livestock as a tool to regenerate land, “replacing purchased fertility with animals” by carefully controlling time, acreage, and herd size. Time on a site is the key variable: short, concentrated grazing with adequate rest causes far less damage than a few animals with year round access to sensitive green banks.

On the west side of the Teton River, he keeps heifers off newly restored banks with a single hot wire until vegetation is well established (around three years), then reintroduces grazing with careful timing. His management has increased soil organic matter on multiple properties (e.g., more than

one percentage point in three years at Stone Farm, especially on poor soils). A 1% increase in soil organic matter translates to roughly 25,000 gallons per acre of added water holding capacity, meaning more grass production and better use of snowmelt and rainfall.

Higher soil organic matter and time controlled grazing let him produce more grass, retain more water, and flex stocking rates adaptively. Infrastructure supports this: offsite water troughs and multiple electric wires allow cattle access to water from any paddock over 1,000–2,000+ acres while keeping them off sensitive areas.

Within the Farms and Fish program, Robert is viewed as on the leading edge of grazing management, integrating restoration projects and adaptive management to make both his ranch and the riparian system function better.

Mike Lien boiled the message down into memorable catchphrases about restoration and grazing:

- “Restoration” is defined as optimizing land use practices while improving fish, wildlife habitat, and water quality – not just “putting things back.”
- “Surf and turf” = designing projects where river health (“surf”) and ranching (“turf”) both win, by sitting down together and planning for everyone’s needs.
- “It’s not the cow, it’s the how” = cattle in riparian areas are not inherently the problem; management and timing of grazing are what determine whether banks and willows are harmed or improved.

As proof, they point to a 2020 restored bank grazed by Robert’s cattle: despite fears the willows would be “hammered,” willows and banks are still in good shape, illustrating that well-managed grazing can coexist with healthy riparian vegetation.

Questions and Answers

Question: What is Robert Piquet’s overall operation? Is it only cattle, or does he also raise crops or put up hay?

Answer: Robert does not consider himself a farmer; he identifies as a rancher. He manages ~800–1,000 head of cattle per year. The core of his business is a cow–calf operation, which is the “meat and potatoes” of his ranch. As his carrying capacity has increased, he also subleases grazing for other producers’ cattle, bringing them into Teton Valley when grass is abundant and sending them back out in the fall.

Question: Does he have any public land grazing, or is it all this?

Answer: To the speaker’s knowledge, Robert’s operation is entirely on private land, including the site being discussed. Cattle have already moved through this parcel twice this season, on non-irrigated ground, with a third pass planned in the fall, aligned with weaning facilities nearby. The goal is to take enough forage for cattle performance but leave enough leaf area for photosynthesis and root growth. By the second pass, individual plants are showing roughly four new leaf tips, which is a sign of

recovery before another rest period. With rotational grazing, Robert is seeing 2–3 times more production per acre compared to continuous grazing, backed by 10+ years of data.

Question: Has he been seeing a like an increase in yield, body mass compared to other producers here?

Answer: Robert's goal is not to grow bigger individual cows; instead he aims for more, smaller animals, including lighter-weight calves. By increasing carrying capacity (more cattle on the same land) and accepting lower individual weights, he can still sell more total pounds of beef, and lighter calves (e.g., ~500 lb) often earn more dollars per pound than heavier calves (e.g., ~800 lb) in traditional markets. Robert has focused on this strategy for about 10 years. He is not the only rotational grazer in Teton Valley or Idaho, but he is seen as on the forefront, working closely with program staff and using technical assistance and financial incentives to refine his grazing. There are many other practitioners across eastern Idaho and the state.

Commentary: Rotational grazing is perceived as more work, but an NRCS study found the extra time on the ground was not significantly higher than continuous grazing—because large, continuously grazed pastures create their own problems that also require labor.

Commentary: Virtual fencing is another tool Farms & Fish is working on with a different producer in the valley. Virtual fencing uses radio collars and app based geofencing (e.g., on a phone) to control where cattle can go, similar to an e collar for dogs (vibration/shock cues). Already in use with a producer in Teton Valley, and there is interest from a 40,000 acre grazing association if funding can be secured. Virtual fencing lets the producer move cattle into riparian areas early in spring (before high water), pull them out during high water, and return later in the season, making better use of tall riparian forage that would otherwise be trampled in a single, unmanaged access period. Offers labor savings for moving cattle, but is not a plug and play tool. Producers must first understand adaptive grazing principles and local conditions to use virtual fencing effectively; the collars are not a one size fits all solution.

Question: What is the learning curve for producers adopting virtual fencing—how difficult it has been for different landowners to adapt to the technology? They note from their own experience that some landowners pick it up faster than others.

Answer: Adopting virtual fencing looks like any other practice change in agriculture. Early adopters: Producers who are motivated and excited about change pick it up quickly and more easily. Late adopters: Others prefer to wait and see—for costs to drop, technology and interfaces to improve, or more proof of success. The key is to put early adopters in front of their peers so they can share real world benefits. Producers are more receptive to hearing about results from other producers than from agency or program staff.

Question: What's the connection with the river for conservation groups like you guys?

Answer: Grazing and restoration matter for the river relative to water quality and streamflow. Time controlled grazing along streams reduces bank degradation by limiting how long cattle are in riparian areas. As soil organic matter increases, soils hold more water and function better, which can mean less need for irrigation diversions and a healthier local water cycle. Examples from other regions (e.g.,

a 30,000 acre ranch in the Chihuahuan Desert) show that managed grazing, often combined with beaver, can help reverse desertification and repair water cycles.

Looking at bigger picture benefits (climate, snowpack, carbon): Healthy soils with high organic matter improve microbial activity, nutrient cycling, energy cycling, and water cycling. At a watershed to global scale, this kind of soil building, adaptive grazing is framed as part of the solution to declining snowpack and broader climate related water issues. Carbon sequestration is a major co benefit: more soil organic matter = more carbon stored in soils.

Robert uses rotational grazing instead of irrigation on most of his land (only a few spots are irrigated), relying on soil health and grazing management rather than sprinkler systems. He applies very limited herbicide, only when a weed problem reaches an economic threshold; otherwise, he runs a largely low input system.

There are also direct river and wildlife benefits (riparian condition, temperature, access). With rotational grazing and controlled access to the river, riparian vegetation can establish and persist, which stabilizes banks, gives willows time to grow tall enough to shade the channel, and reduces solar heating of the water, which is critical as temperature becomes a limiting factor for trout in the Teton River. Virtual fencing can further improve conditions by reducing the need for physical fences, improving wildlife movement (moose, deer, pronghorn, elk) to and from the river.

Additionally, hardened cattle crossings and watering areas (e.g., near the mouth of Mahogany Creek) are being built so cattle can cross and drink without churning up banks. Narrowing over-widened channels increases flow velocity and “horsepower,” helping move sediment through the system rather than letting it drop out and smother habitat. A narrower, deeper channel plus robust riparian vegetation improves fish habitat (scour pools, riffles) and increases shading, directly supporting trout.

Question: Did he have to develop any more water, offsite water, once the cows are out of it?

Answer: Robert is a strong proponent of offsite water sources for managed intensive grazing. Any producer adopting this system needs clean water and infrastructure sized for herd behavior: because he does daily moves, cattle often all drink at once after grazing, so tanks, lines, and points must handle that peak demand. NRCS has worked with Robert to design and install drinker systems on multiple properties. Additionally, he moves cattle with single-strand polywire, which he has shown is economical and adequate for his system. He weighs any new technology (like virtual fencing) as just another input cost vs. benefit and has not yet chosen to adopt it, partly because the current system works well for him. There's an implication that he enjoys being out on the land, which also fits with maintaining a more hands-on, low-tech approach.

Question: Request to hear from partners about what drew them to this project and what their role has been.

- **Idaho Fish & Wildlife Foundation:** Friends of the Teton River (FTR) has a strong track record of effectively using grant funds. Because of that, FTR is seen by the grants committee and board as a

reliable, trusted partner. The foundation characterizes the relationship as: “we’re the givers and you all are the doers”—they provide funding, and FTR delivers on-the-ground results.

- **Idaho Dept. of Environmental Quality:** DEQ doesn’t directly choose projects, but this is the kind of project they’d like to fund because it is “unique and diverse”—combining innovative restoration techniques with advanced grazing management. Proposals are vetted by DEQ and then reviewed by a basin advisory group; this project competes with applications from across the region, down to Twin Falls. Typically there are ~30 applications requesting about \$4M, while EPA funds just under \$2M annually, so competition is significant. The basin advisory group rates FTR and this partnership very highly, recognizing the high caliber of the work.

Tour Stop #3: Badger Creek Conservation Efforts with presentations by Friends of the Teton River, Idaho Dept. of Fish and game, and Western Rivers Conservancy

Friends of the Teton River

Will Stubblefield welcomed participants, handed out a Badger Creek map, and invited a moment of silence and reflection on why people joined the tour. Will highlighted his appreciation for the Watershed Council’s diverse stakeholders united by shared interest in water resources. On the back of the handout, Will shared photos of a fisheries technician with young cutthroat trout and center-pivot irrigated crops to ground people in both fisheries and agriculture.

Will provided an overview of Friends of the Teton River’s (FTR) 20-year effort in the Badger Creek drainage, from mountain headwaters through the canyon past Felt down into the lower reaches in partnership with Idaho Fish and Game. FTR’s work is built on sound science/data and strong partner relationships, with Badger Creek as a prime example of adaptive, science-based conservation.

In 2005, FTR began a tributary trout assessment—an electrofishing survey across mountain tributaries to confirm trout populations. They repeat this assessment every five years to track trends and identify priority conservation areas. In 2005, FTR also conducted a barrier & entrainment assessment—surveying headgates, diversions, and check dams to find barriers to fish passage and entrainment hazards.

The Badger Creek splitter was identified as a high entrainment risk. Old diversion split the river and pulled fish into irrigation channels downstream. FTR partnered with irrigators, secured funding, and upgraded the structure in 2010 with fish screens and new headgates. Ricks diversion was identified as a fish passage barrier. Low flows and checkboards created a migration barrier for fish moving from the dewatered reach back to perennial headwaters. A fish ladder was installed in 2012, working in tandem with the splitter upgrades.

Will oriented the audience to a provided map, where circles = electrofishing monitoring sites (every 5 years since 2005) and triangles = 2024 watershed-wide eDNA sites. Badger Creek generally remains a Yellowstone cutthroat stronghold, but a few red-tinted eDNA hits in the upper reach suggest possible rainbow trout presence (likely false positives, but concerning). Fish and Game has

independently documented high rainbow trout densities in lower Badger, prompting caution and further analysis. FTR is now using fin clips from last summer's tributary assessment for genetic analysis to confirm the purity of the upper headwaters Yellowstone cutthroat population.

Streamflow restoration work: Around 2019, FTR purchased a 2 cfs water right diverted at the Badger splitter and committed it to in-stream flow via the Idaho Water Supply Bank, improving flows over the fish ladder. A second-phase flow restoration project was being developed to pipe delivery to irrigated parcels near the splitter and save roughly 5 cfs out of 14–15 cfs currently diverted, and leave those savings in-stream. That second phase is currently on hold due to uncertainty about genetic integrity of the headwaters cutthroat and funding challenges. Preliminary designs are complete, and the long-term vision is to use efficiency (piping) to restore more in-stream flow while still serving irrigators.

Over roughly 20 years, FTR has collected long-term data, upgraded key diversion infrastructure, initiated flow restoration, and now is adapting strategy in response to new genetic/eDNA information and funding realities. The work continues to rely on data and partnerships to adjust conservation and water management in Badger Creek.

Western Rivers Conservancy

Josh Kling introduced the Western Rivers Conservancy's mission to conserve habitat along outstanding Western rivers for fish, wildlife, and people. WRC's model is to buy private properties (e.g., ranches, timber lands, utilities) and convey them to long-term conservation stewards (agencies or partners with capacity and aligned conservation vision).

Josh spoke to the Badger Creek Canyon Ranch acquisition. The "Badger Creek Canyon Ranch" is 613 acres (shown in red on the handout map). The property includes both sides of the canyon and about 2.5 miles of Badger Creek, from near where perennial flow begins down through the canyon; the remaining lower reach to the Teton is recent BLM acquisition. WRC began purchase negotiations in 2023, closed with a loan in 2024, and is now working to convey to BLM.

This parcel matters for fisheries habitat and wildlife winter range. There is strong Yellowstone cutthroat trout potential and restoration value in Badger Creek. The property sits within critical winter range for ~2,000–3,000 mule deer, 600–700 elk, plus moose and bear. South-facing slopes melt early, providing accessible forage. Upper ag lands are in production now but offer limited winter range; plan is to restore them to native grasses to improve range quality. Canyon offers a forage + cover combination (open south slopes plus timbered north side), ideal for big game. However, there is development pressure: Scenic canyon rim is desirable for home sites; conservation ownership is intended to prevent residential conversion and maintain habitat.

WRC has secured FY 2026 Land and Water Conservation Fund (LWCF) dollars from Congress to support conveyance to BLM. They expect to transfer the property to BLM in ~12 months (around next year at this time), with full completion of the transaction and follow-on work stretching toward summer 2027. Currently, the property is not open to the public yet; WRC lacks local capacity to manage public access. A lease farmer continues production while WRC plans ag-to-native grass

conversion over the next 12–24 months. Early actions include debris removal and removing a useless barbed-wire fence that was a wildlife barrier.

Once BLM owns it, the entire property will be public land. The conceptual plan (subject to BLM planning and funding) is a 13–15 mile trail loop: down the peninsula to Badger Creek, out to the Teton, along the Teton to Bitch Creek, up Bitch Creek, then back over the peninsula. Would support boating access, fishing access, hiking, etc. Likely basic facilities at minimum: trail, parking lot, pit toilet. Recreation development will not happen immediately at conveyance; it will go through a lengthy NEPA/land-use planning process first.

This parcel “fills the gap” in conservation ownership along lower Badger Creek, tying together existing BLM lands. It supports the broader Yellowstone cutthroat and habitat restoration work in the Badger system described by Will and Nathan, while also addressing wildlife, winter range, and development pressure in one integrated project.

Question: How trustworthy do you think the BLM is right now with both management planning for recreation and keeping those values? Considering they’ve been pretty welcome to recreation in Teton County.

Answer: Recent years have raised concerns about BLM’s reliability in securing and sustaining funding for projects, and honoring management plans and long-term public ownership. Any trail or recreation development on Badger Creek Canyon Ranch will be entirely funding dependent. There is strong interest at the local district and state office, but plans are still conceptual, so outcomes and timing are uncertain. People who care about a conservation-minded recreation outcome should speak up informally now (conversations with BLM staff), as early groundswell support matters, even before formal comment periods.

In terms of risk of public lands being sold or repurposed: at the highest level, Congress controls federal public lands (BLM, Forest Service, even national parks) and can, in theory, sell or redesignate them. Current political talk often targets “low-hanging fruit”—small, isolated parcels without conservation or special designations—because they’re easier to dispose of.

This Badger Creek property will be acquired using Land and Water Conservation Fund (LWCF) dollars and is thus more secure. LWCF (created in 1964) uses offshore oil & gas lease revenues. Lands bought with LWCF must be managed for conservation as mitigation for other impacts. Whether that standard is upheld in practice still depends on watchdogging by the public and partners. There are also extra protection layers. BLM will place the property into a Land Management Plan (LMP) with specific designations. Additional overlays (e.g., Area of Critical Environmental Concern, Special Recreation Management Area) can be applied. Each layer makes disposal or drastic change harder, adding procedural and political hurdles.

The “easy” parcels to dispose of are small, isolated (~40-acre) pieces, with no LWCF funding history, no conservation overlays in the LMP, and no special management areas. Even those are still hard to sell, but this property is much more locked in; selling it would likely require 10+ years of focused political effort.

Legally and structurally, this property is set up to be much more durable as conservation land than many BLM parcels. Practically, long-term protection of its fisheries, wildlife, and recreation values still depends on ongoing public and partner advocacy to keep BLM aligned with the original conservation intent.

Question: Can WRC add legal restrictions (easements, deed restrictions) at conveyance to make conservation outcomes more certain?

Answer: For federal acquisitions (like BLM), conservation easements and deed restrictions are not allowed—they're a deal-breaker and would stop the transfer. Instead, long-term protection must rely on the LWCF conservation requirement, BLM land-use designations and overlays, and ongoing partner/public advocacy to keep management aligned with conservation goals.

Question: What is the timeline and process for ag conversion back to native grasslands?

Answer: The timeline for ag-to-native conversion is still uncertain, so no firm dates are available. The management strategy is to keep the fields in agricultural production until funding and capacity are in place for restoration. To avoid a major weed problem, conversion will likely happen in phases: Continue farming until each phase is ready. Convert a portion to native grasses. Keep farming the remaining ground until all acres can be gradually converted.

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Nathan Tillotson shared that fisheries managers divide the Teton River into three sections: Teton Valley, Teton Canyon (Felt Dam to old Teton Dam), and the lower reach (Teton Dam site to the North/South Fork splitter and confluence with Henry's Fork). Teton Valley and lower reaches are dominated by non-native trout (brook, rainbow, brown). Teton Canyon is the last reach where Yellowstone cutthroat are still dominant, sandwiched between non-native trout populations.

Badger Creek is described in three parts: perennial headwaters, a dry/dewatered middle section, and the perennial lower reach (tour location). Flow increases from about 0.5 cfs at a boulder field to about 60 cfs at the mouth over 4.2 river miles, driven by major spring inputs. The lower 4.2 miles had extremely dense rainbow trout populations (more abundant than in the South Fork Snake), right next to Teton Canyon where cutthroat still dominate—making Badger a strong rainbow source threatening that stronghold.

Managers evaluated options: repeated electrofishing, angler harvest, and rotenone. Because access is extremely difficult and human pressure is low, electrofishing and angling were insufficient. They chose rotenone, a fish pesticide derived from legume roots, long used in fisheries management to remove unwanted fish by blocking oxygen uptake in gills.

In October 2025, they implemented a rotenone treatment on the lower Badger reach. The project required hauling thousands of pounds of chemical and gear up and down the canyon using rafts, horses, and packs; access via Western Rivers Conservancy's property and trail was critical. Post-treatment snorkel surveys by a grad student found no live fish in the treated reach, indicating a successful full kill. Before treatment: ~4,500 rainbow trout per mile, with <1% cutthroat, so loss of cutthroat in the treatment reach was not significant at the population level.

The cutthroat recovery strategy goal is to remove the dense rainbow source so cutthroat from Teton Canyon can naturally recolonize Badger Creek, which has excellent cold-water spawning and rearing habitat fed by large springs (two ~15 cfs spring heads alone). Since rainbows can still move up from the Teton (no barrier at the mouth), ongoing management is needed. Starting next week, IDFG will conduct backpack electrofishing in the lower 4.2 miles to selectively remove returning rainbows while leaving cutthroat. IDFG will repeat electrofishing over several years to maintain low rainbow numbers, avoiding repeated large-scale chemical treatments.

There are additional cutthroat augmentation options under consideration. The original plan is to let adult cutthroat naturally move up from Teton Canyon and monitor via electrofishing. If colonization is too slow, then IDFG may move adult spawners into Badger prior to spawning. Efforts could use streamside spawning/egg planting using models from Montana (e.g., Ditch Creek, upper Badger), where eyed cutthroat eggs are transplanted into artificial redds in Badger Creek. A 2024 pilot already planted eyed eggs from Henry's Lake in artificial redds; upcoming electrofishing and genetic sampling will test whether those fish survived.

Overall, the goal is to transform lower Badger Creek from a rainbow source into a cutthroat source that, like Bitch Creek, can help sustain the Yellowstone cutthroat stronghold in Teton Canyon over the long term, using a combination of one-time chemical reset plus selective mechanical removal and targeted cutthroat reintroduction.