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The Friends of the Teton River is dedicated to understanding and improving ground and surface water resources in the Teton Basin, including the Teton River, its tributaries and wetlands. We will further this mission by conducting scientific research about the Teton watershed, effectively communicating this information to the public, and implementing on-the-ground improvement projects. In carrying out this mission we will actively cooperate and collaborate with all other groups, agencies and individuals working for the welfare of the Teton Basin.

# WATER LINES

A QUARTERLY NEWSLETTER PUBLISHED BY FRIENDS OF THE TETON RIVER



PHOTO BY ERIC SCHULTZ

Boatloads of experts floated the Teton River twice this summer to assess the physical and biological conditions which limit local trout populations.

## Habitat assessment and restoration on the Teton River

### Trout densities in the Teton River are considerably lower than elsewhere in eastern Idaho

"Something needs fixing in this system, and we're not quite sure what it is," said Bill Schrader, Idaho Fish and Game (IDFG) during discussions about wild trout and cutthroat populations in the Teton River. Electrofishing data, collected by IDFG (Figure 1 on page 6) show that trout densities in the Teton River are considerably lower than those in other river systems in eastern

Idaho. Additionally, data indicate that over the past 10 years average trout size has increased but densities (number of trout per area) have decreased. Friends of the Teton River has initiated several programs to understand the factors limiting fish populations in the Teton River and its tributaries. We are currently assessing the physical and biological conditions in the Teton River and six of the east side tributaries to the Teton. In this article I'll talk about the Teton River Habitat Assessment and Restoration (HARP) Project and on page 5 Katie Salsbury will describe the spawning survey that was conducted on tributaries in

-see SHARP on page 6

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## A SPECIAL THANKS TO

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## Thanks to the following Foundations for project grants

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# Volunteers help identify spawning redds in local spring creeks

On Friday May 3, over twenty volunteers gathered at the Victor Emporium to participate in a training seminar for the Friends of the Teton River/Teton Valley Trout Unlimited Spring Creek Spawning Study. The seminar was led by fisheries biologists from the Idaho Fish & Game Department and the Wyoming Game & Fish Department who reviewed how to identify spawning redds and note instream habitat characteristics.

The goals of the spawning study were:

- ☛ Determine if and when six spring creeks located on the east side of the Teton River were utilized by spring spawning salmonids.

- ☛ Identify suitable locations where Friends of the Teton River and Teton Valley Trout Unlimited



PHOTO BY LYNN BENJAMIN

John Courtney identifies a redd on Woods Creek.

could work with willing landowners to conduct spawning habitat improvement projects.

Data was collected on private lands on portions of Fish Creek, Six Springs, Woods Creek, Teton Creek, Fox Creek and Dick Creek from May 4 through June 29. The study was funded by a grant from the Idaho Fish & Game Department and contributions from Friends of the Teton River and Intermountain Aquatics, Inc.

Spawning redds were identified in Teton Creek, Six Springs and Woods Creek. Teton Creek has been identified by the Idaho Fish & Game Department as the major contributing spawning tributary to the upper Teton River. Our observations confirmed this designation with the presence of suitable gravels and spawning redds. Six Springs and Woods Creek are smaller spring creeks with no recorded historic spawning data. Volunteers documented one spawning redd in Six Springs and two in Woods Creek. Both of these streams had stable, ample flows during the spawning season, stable banks and the presence of a few areas with suitable spawning

gravels. Lower Fox Creek, Dick Creek and Fish Creek all had ample flows during the spawning season; however, the dominance of silty substrates, lack of clean gravels and a barrier on Dick Creek seemed to limit spawning activity. Spawning-sized (10-16") trout were identified in Teton Creek, Fox Creek, Six Springs and Woods Creek. The presence of spawning sized trout in these systems during the time of the study indicated that future improvement projects addressing the lack of gravels might be utilized.

A meeting will be hosted this fall by Friends of the Teton River and Teton Valley Trout Unlimited to present the results of the study and to choose potential sites for spawning habitat improvement projects to be constructed in the summer of 2003. Techniques that will be discussed will include: construction of artificial gravel spawning beds, egg transplants and incubation projects, fencing projects, removal of barriers to fish passage and bank stabilization projects.

-Katie Salsbury,  
Intermountain Aquatics



PHOTO BY LYNN BENJAMIN

Ralph Hudelson, Wyoming Game & Fish, describes cutthroat spawning projects in Teton County, WY.





## Second Annual River Party & MEMBERSHIP Meeting - June 29, 2002

Another beautiful evening by the river was shared by about 180 people. We all enjoyed wonderful food, music and conversation. 73 new members joined FTR and we raised \$4,000.



1. Laura Balben, Robin Hansen, Sonja Berger and Leidy Wagener share a laugh at the lemonade table.

2. Board Member, Jaydell, and Judy Buxton.

3. Hugh and Owen Shane.

4. Executive Director Lyn Benjamin talks about water resources in the Teton Valley.

5. Board Member Katie Salisbury greets guests.

6. Forest Edwards, Mariah Bredal, and Shannon Eversley discuss important events.

7. Judy Baumgartner and Carol Lowe.

8. Joanne Green, Mark Harrington and others.

9. Musicians Peter Ousterhardt, Kate West, Alan McKnight, and Rico Young.

10. Board Member Dave Work and Dean Scheid

11. Ben and Cole Hammond.

12. Party Organizer and FTR Development Director, Marge Edwards.



Photos by Dave Witton and Ted Kerasote.

# HARP continued from page 1

the spring.

The HARP Project was designed to assess and improve aquatic habitat conditions in the Teton River from Fox Creek East to Highway 33. Over the past 15 years several agencies and organizations have collected habitat and bank stability information on the Teton River, so the first part of the project was to assemble and assess that information. In June Bill Schrader, IDFG, and Steve Ray and Elliot Traher, Natural Resources Conservation Service (NRCS) and Idaho Association of Soil Conservation Districts (IASCD) provided me with the surveys that those agencies conducted between 1988 and 1996. The NRCS/IASCD inventoried 75 eroded bank sites and recorded locations on an aerial photographic map. IDFG worked with several landowners to fence riparian areas and photo-document areas over time.

We felt that it was important to incorporate a range of expertise into the assessment process so we assembled a team of resource professionals familiar with the Teton Basin to be involved with the project. The team consisted of: Rob Van Kirk, Idaho State University; Sheryl Hill, private consultant, formerly IDEQ; Matt Woodard, Trout Unlimited; Elliot Traher, IASCD; Garl Drake, IASCD; Lee Maybe, U.S. Forest Service; Katie Salsbury, Intermountain Aquatics; Sam Pole, Mike Lien and Tom Fenger, FTR; Erik Schultz, A.B. Schultz Foundation; Bill Schrader, Jim Fredericks, and Don Kemmerer, IDFG.

On July 10 and 24 this group floated from South Bates Bridge to Rainier Fish and Game access

to assess steambank and instream habitat conditions and to identify and prioritize sites for restoration activities. During both floats each boat filled out data sheets about conditions, looked at erosional areas that had been identified by the NRCS and IDFG in 1988, and discussed potential restoration strategies. Following the floats the data was compiled and circulated to participants; at a final meeting on August 19 we will choose three reference sites (the best examples of good channel structure an habitat), three recovering areas, and five restoration sites. After discussions with appropriate landowners, in September we will establish permanent cross sections at the sites to monitor long-term trends; during the winter months we will design restoration plans for five sites. We hope to implement these plans during the summer of 2003 (funding permitting).

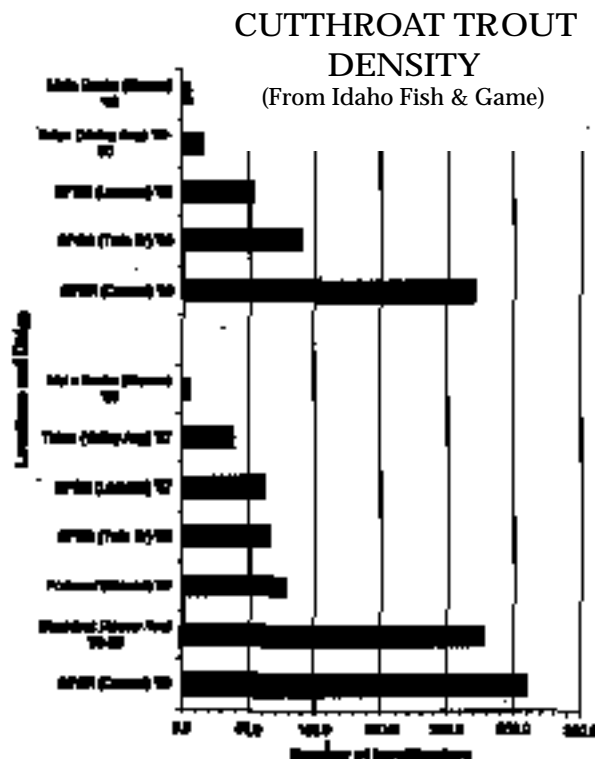
The assessment team worked extremely well together and provided biological, water quality, land use, hydrologic, and restora-

tion perspectives on the Teton River. A highlight of the first float was a poetry recitation by Garl Drake during our lunch break. Several preliminary conclusions articulated by the group included the following: 1) the natural factors that determine the conditions of the river include extremely low gradient, a fairly consistent groundwater-dominated hydrologic regime (no extreme flood events), and a narrow floodplain—all of which result in low stream power and a slow rate of geomorphic change (compare this river channel to that of the South Fork of the Snake); 2) historic land use has resulted in streambank erosion, increased widths and increased sediment. Where land use has changed the river is healing itself, however, because the rate of geomorphic change on the Teton is slow, repair is occurring slowly; 3) the major problems seen along this stretch of the river include channel widening, lack of large woody debris (very important for adult cutthroat habitat), lack of bars and

islands (channel structure), eroding banks, collapsed fences, and many weeds; and 4) restoration strategies should include the encouragement of natural healing processes by reestablishment of willows in riparian areas, channel narrowing by island and bank stabilization, and streambank repair using native sedges.

We were encouraged by what we saw and the potential for habitat improvement on this stretch of the Teton River; we are also very grateful to the individuals who shared their time and expertise so generously.

-Lyn Benjamin,  
Executive Director



## Watch for water quality articles

Over the next year FTR will be releasing results from our water quality monitoring program. In order to help citizens and local government understand the significance of the data, our fall newsletter will begin a series of articles explaining the significance of various surface and ground water quality measures and how to interpret the monitoring results.

The series will cover these topics:

- nitrates and the nitrogen cycle
- E. coli and other pathogens
- suspended solids and sediment
- temperature

## We encourage your questions & comments

As our second water quality forum made clear, members of the community have a lot of questions—although some are shy about standing up in public to ask them. Starting with our next newsletter, we will answer one or two questions submitted by readers. Just about any topic is fair game, including plans or operations of FTR and technical/scientific issues. We will also welcome comments not in the form of questions. Please include your name and address when submitting questions or comments and let us know if you want to remain anonymous or would prefer using only your initials.

### ELECTION RESULTS

During the June 29 Board Election Lyle Kunz, Tom Fenger, Sam Pole and Dave Work were confirmed as board members. When their terms expire, other board members will be voted on in future elections.



PHOTO BY RUNDY BERRY

Friends of the Teton River board members discuss strategic plan components (clockwise from left): Lyn Benjamin, executive director; Marge Edwards, development director; Sam Pole; Katie Salsbury; Tom Fenger, Dave Work and Bill Kelly.

## FTR Board sets goals during retreat

The FTR board met on May 18 at the Teton Valley Lodge to produce a three year strategic plan for the organization. Suzanne Young did an excellent job facilitating the day, managing to keep us focused without restricting discussion time. We formulated goals, objectives and actions steps in five key areas: water quality, water quantity, aquatic ecosystems, funding and staffing, and relationships with the agricultural community. Based on the strategic planning session FTR will:

- Improve aquatic habitat on the Teton River and its tributaries.
- Reduce sediment in the river by restoring streambanks in the watershed.
- Implement recharge program to improve flows in the Teton River and its associated wetlands.
- Design and implement a demonstration restoration project

on a spawning tributary of the Teton River to increase trout populations.

- Continue to collect water samples to monitor the health of ground and surface water quality in the Teton Basin.
- Provide accessible information about water issues to the local community.
- Maintain support of the student stream study program.
- Continue collaborating with local, state and federal agencies, and other organizations and individuals to understand and protect the water resources of the Teton Valley.
- Continue to provide technical expertise to elected Teton County officials about groundwater quantity and quality issues by housing and maintaining the aquifer model developed by Cascade Earth Sciences.



## Old Bill's donations vital to Friends of the Teton River

Old Bills Fun Run provides an opportunity for donors to have their contributions to local non-profits matched through the Community Foundation of Jackson Hole. We, at Friends of the Teton River, rely on member donations for operating expenses as well as for important projects. Please consider making a contribution to Friends of the Teton River through Old Bill's Fun Run. Your contribution will help to: improve fish and wildlife habitat on the Teton River and its tributaries, maintain a water monitoring program on the Teton River and spring creeks, support the elementary school stream study program and many other programs slated for the future. Donation forms are available at Friends of the Teton River, the Community Foundation of Jackson Hole and local banks. Remember to write your checks to the Community Foundation of Jackson Hole and designate the amount you would like to go toward Friends of the Teton River on the donor form. THANK YOU!

*Friends of the Teton River*

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