

Friends of Fish Creek

**Fish Creek:  
A Situation Assessment**

Prepared by Flitner Strategies  
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## **Purpose**

The purpose of the situation assessment is to gauge opinions and perceptions regarding changes to Fish Creek resulting from nutrient loading from human, livestock, wildlife and natural sources. The assessment identifies opportunities for developing an approach to Fish Creek stewardship that is collaborative, measurable and inclusive of stakeholder input.

This independent report was commissioned by a group of community members seeking 501(c)3 status in an effort to improve the Upper Snake River watershed by restoring water quality to Fish Creek through science-based research, engagement of stakeholders, and collaborative problem-solving.

## **Introduction**

Increases in nutrients and algal biomass have led to concern over water quality in Fish Creek. To address these concerns, the U.S. Geological Survey (USGS), in cooperation with the Teton Conservation District, conducted four scientific investigations. A summary of the USGS findings as interpreted in a separate 2013 report by Applied Environmental Design and Research, Inc.[See Appendix III], suggests “not only impairment of the resource but cause for concern that early warning signs may signal increased impairment in the future.” [See Appendix I]

A group of community members have formed Friends of Fish Creek (FOFC)-and have taken initial steps to analyze negative trends and to help Fish Creek reach its ecological potential. This group recognized the degradation of Fish Creek, as well as the threat of imminent regulation if listed as an impaired water. In the interest of engaging stakeholders in a collaborative problem-solving approach to this challenge, a situation assessment was commissioned. The purposes of this assessment were to:

1. Identify the interests of the people, agencies and organizations concerned with the future of Fish Creek;
2. Provide a forum for participants to identify specific issues they feel need to be addressed;
3. Describe procedures to address the situation;
4. Encourage people to suggest ways to improve the situation; and
5. Establish the basis for ongoing transparency and collaborative problem solving.

In general, all people interviewed agreed that a collaborative approach offers the best opportunity to develop a common understanding and resolution of the issues. Many expressed a desire to be part of the decision-making process.

## **Methods**

This situation assessment is based on 36 voluntary, confidential interviews conducted by Sara Flitner and Missy Falcey from Flitner Strategies and Dan Leemon, Executive Director of the Friends of Fish Creek. The pool of interviewees represented the following constituencies:

Corporate Interests 12%  
Non Profit Organizations 15%  
Opinion Makers 19%  
Municipal and Other Agencies 23%  
Outfitters 13%  
Elected Officials 8%  
Water Specialists 6%  
Landowners 4%

A list of interviewees is included in the appendix to this report [See Appendix II].

Seventy-five percent of participants were interviewed at Flitner Strategies, with the remaining balance of interviews conducted by phone or at their place of business. The interviews were done in June and July 2014. Each person had the opportunity to freely discuss his or her concerns, while responding to the following eleven questions:

1. What is your interest in or relationship to Fish Creek?
2. What, if any, opinions do you have about Fish Creek water quality and its impact on adjacent waterways, aquifers or neighborhoods?
3. How would you describe optimal conditions for Fish Creek?
4. How are you impacted if conditions are degraded from a water quality or habitat perspective?
5. How would you measure this protection, maintenance or improvement? How do we set goals and standards? Can a volunteer program be effective?
6. Who do you view as critical stakeholders in terms of having conversations about how to protect, maintain, or improve Fish Creek?
7. Stakeholder input has indicated a change in algae in Fish Creek. Do you see any increase in algae levels, and how do you believe it impacts Fish Creek or fisheries?
8. There are many stakeholders and impacted neighbors, water users, interested residents currently working to identify ways to maintain conditions for healthy fisheries and water quality. Do you have input on who would be proponents or opponents of having a discussion?
9. Do you have additional comments?
10. With whom else shall we speak?
11. Are you interested in staying informed of the work of FOFC?

The interviews were each approximately one hour in length, covering all questions and ending when no new additional information was offered. This assessment, while comprehensive in scope, is not meant to be an exhaustive statement on Fish Creek concerns and remedies. Rather, the information gathered is offered as an inclusive starting point for identifying common themes and designing a process to engage stakeholders in improving water quality in Fish Creek.

## **Situation Description**

Residents' concern over nuisance algae growth compelled the Crescent H Stream and Trails Committee to commission a Fish Creek assessment by Applied Environmental Design and Research, Inc. (AEDR) [See Appendix III]. Requesting recommendations on best management practices, the Committee received a broad road map for bringing about change in the watershed. In its analysis of the USGS research [See Appendix I], AEDR sketched the data gaps and suggested ways to fill them, namely the recommendation of a groundwater study conducted by a hydrological consultant(s) working in consultation with USGS scientists. AEDR offered a template for next steps, based on the experiences of other communities, and recommended forming a separate group to define the goals of the restoration effort and to lead the collaborative process. Ultimately, AEDR concluded that development of best management practices was premature and the data-gaps that exist would prevent the successful implementation of targeted best management practices.

To flesh out the rough route provided by the AEDR report, the Committee hired Dan Leemon, who began brainstorming solutions based on or within the existing regulatory framework in Wyoming. His research has identified several salient points that could affect the Fish Creek restoration process:

- In Wyoming, the Wyoming Department of Environmental Quality (WYDEQ) administers the Clean Water Act for the United States Environmental Protection Agency.
- Every two years, the WYDEQ must prepare an integrated report on the health of all waters in Wyoming. Using criteria developed by the WYDEQ, the state department determines the individual waterway's health, and those not meeting the state-determined beneficial uses are listed on the 303(d) of impaired water bodies.

- According to assessment interviews, the results and data from the eight-year USGS study have yet to be reviewed by the WYDEQ for the 2014 integrated report. Upon WYDEQ review of the USGS scientific investigations alongside the state's criteria for assessing streams and waters' beneficial uses, Fish Creek could be added to the 303(d) list. This would translate into greater regulation of non-point source contributors of nutrients in the groundwater (septic systems, treatment facilities, storm water run-off, steer operations, etc.) An impaired water listing would trigger the development of Total Daily Maximum Load (TMDL) of pollutants (nutrients) allowed to enter the stream through groundwater.

Dan is currently working on a plan modeled after the Clarks Fork Voluntary Nutrient Reduction plan, which calls for the formation of a task force/stakeholders group; open dialogue about the issues; trust building among stakeholders; development of a voluntary nutrient reduction plan and effective monitoring of algae reduction in Fish Creek.

***The Value of Maintaining Fish Creek as Class 1 Outstanding:***

By Wyoming classification, Fish Creek is categorized as Class 1 Outstanding, a ranking that brings many beneficial uses. According to Wyoming's definition, the beneficial uses of Class 1 waters are [See Appendix IV]:

1. Drinking water: Maintain a level of water quality that is suitable for potable water or after receiving conventional drinking water treatment.
2. Fisheries: Water quality, habitat conditions, spawning and nursery areas, and food sources necessary to sustain populations of cold water game fish, warm water game fish and nongame fish; does not include protection of aquatic invasive species or other fish deemed "undesirable" by the Wyoming Game and Fish Department or the U.S. Fish and Wildlife Service.
3. Aquatic life other than fish: Water quality and habitat necessary to sustain populations of organisms in proportions which make up diverse aquatic communities common to Wyoming waters; does not include protection of human pathogens, insect pests, aquatic invasive species or other organisms.
4. Fish consumption: Maintain a level of water quality that will prevent any unpalatable flavor and/or accumulation of harmful substances in fish tissue.
5. Recreation: Maintain a level of water quality which is safe for human contact; does not guarantee the availability of water for any recreational purpose.
6. Wildlife: Protect water quality to a level which is safe for contact and consumption by avian and terrestrial wildlife species.
7. Agriculture: For purposes of water pollution control, inclusive of irrigation and/or livestock watering.
8. Industry: Maintain a level of water quality useful for industrial purposes.
9. Scenic value: Maintain the aesthetics of a waterbody (odor, color, taste, settleable solids, floating solids, suspended solids and solid waste); not necessarily related to general landscape appearance.

***The Importance of Fish Creek's Cold Water Game Fishery:***

The shrinking range of the Yellowstone Cutthroat Trout (YCT) makes Fish Creek vital to the species' survival. "Biologists estimate that YCT historically occupied 17,721 miles of habitat ranging from the waters of the Snake River drainage (Columbia River basin) upstream from Shoshone Falls in Idaho, to the Yellowstone River drainage (Missouri River basin), including the Tongue River in eastern Montana... Today, it is estimated that

YCT conservation and sport fish populations occupy 7,527 miles of riverine habitat (43% of historical) and 205 lakes.” [See Appendix V]

The distribution and numbers of YCT are in decline due to human-induced influences, including agricultural practices, dam construction, water management, logging and road building – factors that have progressively degraded and fragmented YCT habitat.

YCT are not alone: humans rely heavily on healthy waterways. According to the EPA, more than \$450 billion in foods, fiber, manufactured goods and tourism depend on healthy watersheds. Watershed protection considers every drop of water that drains into a body of water (lake, river, stream). “The leading causes of pollution in our waterways are sediments, bacteria (such as E. coli) and excess nutrients (such as nitrogen and phosphorus). Although nutrients sound like things that belong in a healthy environment, they can cause big problems in a poorly managed watershed. For instance, sediment can suffocate fish by clogging their gills and the presence of bacteria alone can indicate that other viruses and germs can be found in the water as well. Erosion, runoff of animal waste and overflowing of combined sewers are just a few ways these pollutants reach our waters.”<sup>1</sup>

### ***The Interest in Sustaining Fish Creek:***

Nearly everyone interviewed arrived with multiple connections to Fish Creek, whether historical, professional and/or personal; “Live on it, work on it, recreate on it.” There was a universal understanding of the far-reaching effects of the Fish Creek watershed on the Snake River drainage, “all the way out to the sea”: “Anything that happens upstream will impact all downstream.” Most people interviewed identified clean water as a community concern, as it pertains to humans and habitat. For those whose primary association was professional, Fish Creek seemed to be an important element in the valley-wide, multi-use approach to resource conservation.

Many had lived along its banks, either at one time or for much of their lives. Anglers shared long-ago anecdotes about fishing the blue ribbon tributary – “crystal clear water, sight fishing, great hatches, BWOs, good-size fish” (although one person refuted Fish Creek’s storied reputation as a blue ribbon trout stream questioning that the Creek was ever “really great”). Trout spawning and migration were key areas of concern. Some people’s connections to the creek had dissipated due to private access. Most people noted change, change in the “amount of plant life (algae and aquatic plants), change in quality of fishing, change in amount of water.”

Overall, people expressed a desire to see “the big picture,” in spite of the fact that “there are so many factors involved.” They want solutions to the problems they see (bright green, warm water). People are willing to alter their actions: “Small changes across the board can really add up.”

## **Findings**

Everyone interviewed for this situation assessment acknowledged the degradation of Fish Creek, offering a range of testimonials from personal anecdotes to scientific analysis. Interviewees also agreed that the way forward should be a collaborative problem-solving approach. Several interviewees noted that an impaired water listing would devalue the entire area. “If we let a beautiful Class I stream get to a level that you can’t return from ecologically, that would cause scars and pain.” Concern was raised regarding septic systems, and sewer and water treatment facilities, as well as irrigation, levies, drains fields, ponds and diversion water. Landscaping practices on golf courses also are an area of concern. The majority perceived gaps in data and research, calling for thorough research on the sources and quantities of nutrients. “Start with good science. And identify where you want to end up.” Across the board, people preferred voluntary initiatives over more regulation.

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<sup>1</sup><http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/indiana/journeywithnature/watersheds-101.xml>

## Summary of Preferred Outcomes

In concept, there was universal support for restoring Fish Creek as a naturally flowing creek (however, as one interviewee said, “Don’t think anyone will be opposed until you ask them for a financial commitment”). Optimal conditions include cool temperatures and a strong population of Ephemeroptera, Plecoptera, and Trichoptera, insects commonly seen as indicators of water quality and strong fish populations. Interviewees preferred a free-flowing resource supportive of Fish Creek as a natural, dependable habitat. Others offered that a variety of gravel and vegetation was essential and that the Creek should have some cut banks, woody debris and more cottonwoods and willows. A small percentage commented on the need for increased flows and others stated that flows were too high.

Most said Fish Creek should be held to the highest standards. “Dial back the clock” and return the Creek to conditions pre-1990s development. Some said that established development may mean that Creek morphology cannot be reversed, only nudged.

There was unanimous support for addressing this challenge through a collaborative approach. While some were specific about targeting possible sources, most felt that it was time to “focus on the future and move beyond finger pointing.”

### **When asked how to achieve restoration, the following suggestions were given:**

There was inconsistent opinion and speculation about sources of nutrients going into Fish Creek. All agreed that a scientific study must be commissioned to tie existing data together and to identify nutrients and their quantitative contributions.

All stated a strong preference for voluntary participation in restoration remedies. Some were skeptical that incentives and voluntary action would be sufficient. Many stated a firm desire for regulatory avoidance. One interviewee asked if current regulations should be made more stringent. “We don’t need more regulations. We need more sophisticated understanding, and then you will get more voluntary solutions.”

The establishment of a Water District was offered as a way to engage stakeholders in the creation of their own standards and solutions.

Many people felt strongly that transparent communication is crucial: multiple requests were made for information that is well-organized, clear and concise (not technical), delivered in an easily-accessible, transparent manner. “Lay out the facts and let the public determine what is important.”

People also offered thoughts on the process: clearly-defined goals and standards must be set at the get-go, as well as techniques for monitoring and measuring improvements. “Need to have clear tasks, timelines; show progress, results.”

A majority of interviewees identified Fish Creek as an opportunity to rally stewardship across the valley (several suggested that allowing public access to the Creek would inspire greater engagement and awareness). “Our economy is based on our environment. Protecting our environment is our bread and butter. We are all stewards.” At the core, however, stakeholders must be involved in coming up with solutions.

Several nonprofit leaders offered to help dovetail and align efforts (also invited to attend board meetings, interagency gatherings). “How you form partnerships now really matters.”

## Recommendations

1. Proceed with scientific study of the nutrient contributions in Fish Creek and their quantities. Have stakeholders assist in developing parameters for the study and the Request for Proposals.
2. Continue the process with transparency and engagement of stakeholders. Friends of Fish Creek can provide leadership and source funding from both the private and public sectors.
3. Limit outreach to the broader community until scientific data is conclusive and solutions are identified. Current staff resources are too limited to expand beyond the core mission of the effort.
4. Recognize that all issues impacting Fish Creek are not equal in their resolution. Focus attention on that which can be solved. Assess the cultural, social and political realities, and strategically hone in on areas that can be improved. For example: Flows are important but focusing on Chlorophyll A will produce a more lasting, timely and impactful result.
5. Create a simple website that can be managed by the Executive Director of the Friends of Fish Creek. Post scientific findings and use the site to reinforce the transparency and collaborative spirit at the heart of the project. Focus strategic efforts on ensuring the process retains its laser focus on collaboration and science.
6. Consider the health implications of not addressing the issue, concerns that are not exclusive to the fishery.

## Skills/Services Required to Achieve Restoration

### Fish Creek Task Force

- Represent specific aspect of the spectrum of interests: corporate, nonprofit, municipal, recreational, scientific and residential.
- Strong communication skills: Ability to collaborate and communicate well.

### Consultants

- Hydrological Researcher: Conduct a scientific study of Fish Creek, filling the identified data gaps.
- Web Designer: Develop of a user-friendly Friends of Fish Creek website.
- Task Force Facilitator or process expert to support FOFC: Maintain adherence to collaborative problems solving principles, assist with Task Force meetings, and all associated logistics, documents and reports.

### Community

- Elected Officials: Navigate the local and state regulations regarding watershed management.
- Fish Creek Figures: Recruit long-standing leaders on the Westbank to share their Creek stories at public meetings.

## Suggested Work Plan

1. Form a Fish Creek Task Force, comprised of stakeholders and charged with the following objectives:
  - A. Seek a common understanding of the situation by:
    - a. Building a common understanding of the issues. Identify existing sources of information and data;

- b. Building agreement on the data gaps and the sources of technical support needed to complete the tasks and products; and
  - c. Ensuring equal access and support for baseline information by working together to gather, analyze, and interpret data.
- B. Develop a preferred set of options for science-based restoration:
- a. Recommend a variety of economically feasible and viable tools and techniques to restore Fish Creek; and
  - b. Estimate the costs of implementing any recommendations made.
- C. Commission new scientific research on Fish Creek, according to the data gaps identified by the Task Force.
- D. Distribute the data to the public via Friends of Fish Creek website, public meetings as desired

### **Parameters for Advisory or Task Force (suggested ground rules)**

1. The Fish Creek Task Force should include the perspectives of individuals and organizations whose interests may be affected by Fish Creek restoration efforts.
2. To date, the following interests have been identified:
  - a. Corporate
  - b. County Government
  - c. Community Interests
  - d. State Government
  - e. Landowners
  - f. Environmental/Conservation Interests
3. Other participants, such as scientists, may be asked to address the Task Force on terms agreeable to the participants.
4. Task Force Members' Responsibilities:
  - A. Commitment to Seek Agreement
    - a. Each participant agrees to fully and consistently participate in meetings.
    - b. Each participant agrees to fully explore and understand all issues before reaching conclusions.
    - c. Each participant agrees to search for creative solutions to address the interests and concerns of all participants.
    - d. Each participant is committed to seeking agreement. Agreement is reached when the participants agree on provisions that address the range of issues being discussed. The participants might not agree with aspects of an agreement; but they do not disagree enough to warrant their opposition to the overall package.
  - B. Responsibility to Other Participants
    - e. Each participant agrees to candidly identify and share their values and interests.

- f. Each participant agrees to listen carefully and respectfully to other participants and to avoid interrupting other participants.
- g. Each participant agrees to offer suggestions with respect and care.
- h. Each participant agrees to share relevant information not considered confidential.
- i. Each participant agrees to communicate with each other directly, rather than through the news media or other third parties.
- j. Each participant agrees to challenge ideas, not people.
- k. Each participant agrees that views expressed at meetings are for the benefit of the forum and should not be raised by the participants in other circumstances as a challenge to positions taken by the other participants.
- l. Each participant agrees to respect the decision of any participant to withdraw from the forum at any time, for any reason.
- m. Each participant agrees to explain to the other participants the reason for withdrawal from the process.

#### C. Responsibility to Constituencies

- n. Each participant agrees to identify the interests of the constituency they represent.
- o. Each participant agrees to seek the advice of their constituency throughout the process.
- p. Each participant agrees to make every effort to represent and speak for their constituency.
- q. Each participant agrees to accurately explain and interpret the process and its proposed outcomes to their constituency.
- r. Each participant agrees to keep their constituency informed of the activities and ideas emerging from the process.
- s. Each participant agrees to encourage their constituencies to respect and actively engage in this process in a constructive manner.

#### 5. Coordination of the Fish Creek Task Force

- A. The participants must agree on a facilitator, suggested by the Friends of Fish Creek in consultation with Flitner Strategies, who will help the participants design an appropriate process to build agreement; manage and coordinate the process; and prepare appropriate documents to maintain an objective record of the process, including areas of agreement, areas of disagreement and strategies for implementation.
- B. The facilitator should be non-partisan and not be an advocate for any particular interest or outcome. He or she should seek to be impartial, free from favoritism or bias either by word or action, and be committed to serving all of the participants equitably.
- C. The facilitator will manage and coordinate the process, including focusing the energy of the group on a common task; protecting participants and their ideas from attack; encouraging everyone to participate; helping the group find “mutual gain” solutions; and coordinating pre- and post-meeting logistics.
- D. The facilitator will work with the Friends of Fish Creek Executive Director to coordinate the efforts of other consultants.

#### 6. Task Force Meeting Procedures

- a. Each meeting of the Task Force will be held as scheduled and will begin and end on time, unless the Task Force agrees otherwise.
- b. All meetings are open to the public, and time will be provided during each meeting for public input and comment.
- c. The facilitator will document the results of each meeting in appropriate format, including tasks to be undertaken by individuals or organizations and emerging areas of agreement.
- d. Prior to each meeting, the facilitator, in consultation with appropriate participants, will develop appropriate documents and an agenda for the meeting. The agendas will be annotated,

identifying the issues to be discussed, the purpose of the discussion and other related information.

7. Friends of Fish Creek will distribute all relevant materials online.
8. Public Meetings will be open to all citizens, and scheduled at varying times and locations to allow for the greatest level of participation.
9. Any individual, group, or community may discuss any issue or concern related to the Fish Creek restoration effort.