

## **RECOMMENDATIONS**

## SOIL

### Restoration/Protection for Improving Soil Conditions

- ✓ 1. Restore sheep bed-grounds and driveways in the upper portions of the watershed above East Fork of Fall Creek. Continue to restore deteriorated rangelands through soil and water improvement projects.
- ✓ 2. Treat severely burned timbered sites above Pritchard and Garden Creeks using prescribed seed mixtures and using noxious weed control.
- ✓ 3. Close and (where appropriate) obliterate roads and trails that are not on the transportation system map. Using roads analysis, identify unnecessary roads and trails that are poorly/improperly designed/maintained, are causing ecological problems and continue to erode. Relocate and redesign system roads and trails that are chronic erosion/sediment producers.
- ✓ 4. Restrict recreation use along riparian corridors, where possible, to improve riparian conditions. Rest rotation may be appropriate for some sites.
- ✓ 5. Limit off-road travel and user-created trails and roads.
- ✓ 6. Many areas with mountain big sagebrush appear to be suitable for prescribed fire treatments that could be applied to improve age class diversity and improve vigor in the understory. These kinds of treatments usually have a positive effect on ground cover in the following years after treatments occur showing measurable decrease in erosion.
- ✓ 7. Update range allotment Annual Operating Instructions to improve livestock management in riparian areas. Implement utilization standards and stream bank disturbance guidelines where possible. Ensure soil quality standards are followed in riparian areas to avoid detrimentally compacted soils. Installation of riparian pastures and additional exclosures should be considered to reduce impacts on wetlands and riparian areas.
- ✓ 8. Limit hydrologic disturbances in the watershed to standards and guidelines found on page III-10 of the Targhee National Forest Revised Forest Plan.
- ✓ 9. Strive to achieve properly functioning conditions for ecological types in the watershed by applying vegetation treatments that are ecologically sound.

### Inventory and Monitoring Soil Conditions

- ✓ 1. Soil and water improvement projects should be identified in a watershed improvement plan. The plan should include specific projects related to recreation

and grazing management and treatments required to improve or maintain soil and watershed resources.

- ✓ 2. Monitor landslide occurrences to determine if they were caused by management actions.
- ✓ 3. Monitor ground cover on a variety of ecological sites by establishing nested frequency transects.

## WATER

This section is broken into two areas: on the ground “action items” and “information needs and recommended management considerations”. The action items are evaluated in two ways. The first rating evaluates the risk of no action, while the second rates the potential benefit of implementing the recommendation. Items in both sections are listed in priority order.

**Risk of no action:** A rating is a best fit and does not need to meet all criteria.

**High:** Impacts are and will continue degrading conditions. Impacts are at the watershed or key subwatershed scale.

**Moderate:** Impacts may continue but some action has been taken to slow effects. Impacts are at the subwatersheds scale.

**Low:** While impacts may continue, they are localized problems and are not expected to affect conditions at the subwatershed scale.

**Benefit to Resource:**

**High:** The action would reduce impacts at the watershed or key sub-watershed scale.

**Moderate:** The action would reduce impacts at the subwatershed scale.

**Low:** The action would improve conditions at the local scale.

### Action Items

1. Improve riparian/grazing management in the “UPPER FALL” subwatershed. Specifics need to be developed at the project level. The emphasis should be on improving bank stability and riparian ground cover.
  - High.** Rangeland impacts are resulting in extensive surface and channel erosion. Maintaining existing trends would adversely affect stream conditions in this, as well as downstream reaches. This would be inconsistent with state and federal requirements for managing 303(d) listed streams.
  - High.** The upper Fall Creek reach would directly benefit from improved riparian conditions and reduced sediment inputs. This would also indirectly benefit all downstream reaches, as this is the main sediment source in the watershed.
2. Improve and expand beaver habitat through vegetative treatments. This includes improving willow and aspen abundance and condition. Restoring the role of beaver throughout this watershed would reestablish many processes affecting stream function/ condition. As a result, this action item would improve sediment storage, vertical stability, and connectivity with the floodplain. It would also reduce channel erosion, and improve aquatic habitat.

**Moderate.** Recovery will continue but at a slower rate than with an active approach. During this longer recovery time, sediment will continue moving downstream in large pulses degrading downstream habitat. In addition, a large runoff event could cause channel degradation. These effects could limit future resource management in the basin.

**High** in the “UPPER FALL” subwatershed and **Moderate** in all others. Most beaver complexes were washed out of the “UPPER FALL” area during flood events. This resulted in degraded channel conditions and increased stream sensitivities. This action would accelerate recovery and reduce the long-term risk associated with these variables. While beaver are maintaining a presence below June Creek, expanding their range and providing better building materials would ensure they continue playing a key role in this watershed.

3. Improve bank stability and riparian conditions at dispersed campsites in the “LOWER FALL” subwatershed. This can be accomplished by restricting vehicular access to the stream banks and planting the banks. Improving riparian conditions would also increase ground cover and sediment filtration

**High.** Streamside areas would continue to be high uses areas for both people and cattle. Bank stability would remain poor and sediment production high. This is inconsistent with the management of a 303(d) listed stream.

**High.** This action would result in a well-vegetated riparian strip that would provide bank strength, reduced bank sloughing, and filter sediment. This would provide the best chance for maintaining long-term bank stability and minimizing erosion in this key subwatershed.

4. Mechanically alter eroding stream banks to prevent bank and terrace erosion. By lying back the banks and using the existing “sod mat” to resist stream flows, erosion can be greatly reduced. Logs or rocks may be needed to protect the toe of the new, vegetated stream bank.

**High.** Bank and terrace erosion will continue at high rates. “UPPER FALL” would remain a principle area for sediment production.

**High.** This action could substantially reduce onsite and downstream sediment levels. This item would only be effective if the reasons for the instability are first addressed (items 1-3).

5. Improve the stream crossings on the June Creek road.

**Moderate.** These crossings will continue as secondary sources of sediment in the “UPPER FALL” subwatershed. This would be inconsistent with state and federal requirements for managing 303(d) listed streams (Fall and Camp creeks).

**High.** This action would reduce a secondary source of sediment in the “UPPER FALL” subwatershed. This subwatershed contains two 303(d) listed streams (Fall and Camp creeks).

6. Reduce hillslope erosion caused by unauthorized off-road vehicles. This could be accomplished using physical barriers, education, and law enforcement.  
**Moderate.** Some physical barriers have already been constructed. However, the blocked and new trails will continue producing sediment in the “LOWER FALL” subwatershed.  
**Moderate/High.** This action would reduce a secondary source of sediment in this important subwatershed.
7. Relocate the valley bottom road. The road should be at least 50 feet from the channel.  
**Low.** The road would continue encroaching on the channel in isolated locations. These areas would be a continued source of sediment.  
**Low.** This action would eliminate a relatively minor source of sediment to Lower Fall Creek.
8. Improve or eliminate the fords in the “LOWER FALL” subwatershed.  
**Low.** These areas would continue producing and mobilizing sediment.  
**Low.** This action would eliminate a relatively minor source of sediment to the “LOWER FALL” subwatershed.
9. Improve or eliminate the fords in the “SOUTH FALL” subwatershed.  
**Low.** These areas would continue as the main source of anthropogenic sediment in this subwatershed (minor amounts compared to natural sediment production).  
**Low.** This action would eliminate a minor source of sediment to the “SOUTH FALL” subwatershed.

#### Information Needs/Management Considerations

1. Unofficial trails and roads should be surveyed to determine watershed effects.
2. Riparian conditions along minor tributaries and Fall Creek above the Forks should be surveyed to determine watershed effects and stream conditions.
3. Elevation should be considered when planning vegetative treatments in this watershed.
4. Vegetative cover and high infiltration rates should be maintained during the summer thunderstorm time period.
5. Sensitive stream banks should not be grazed in the spring while banks are wet.

## **FIRE**

### Restoration/Protection List of Recommendations

The following recommendations for restoration and protection improvements should be considered to improve the ecological balance within the watershed.

1. Use prescribe fire in specific areas of heavy fuel loading to reduce the chance of a catastrophic fire event.
2. Reduce the ladder fuels through vegetation management projects within the analysis area where fuel loads are heavier than 20 tons/acre in timber types.
3. When possible and within management constraints allow fire spread naturally using confinement and containment strategies within the Caribou/Palisades subsection (Fall Creek, Garden Creek, Pritchard Creek analysis area).
4. Use prescribed fire in sage brush/shrub land areas where species, age class, and composition indicate the need to restore the ecological balance within the analysis area.

### Inventory/Monitoring:

1. Continue to monitor the Fall Creek analysis area for increased fuel loading where insect and/or disease attacks are prevalent and increasing the standing dead and down and woody fuel loads.

## **FORESTS**

### Restoration/Protection

1. Continue to allow firewood gathering along existing roads in the analysis area.
2. Conifer removal should be encouraged where accessible and where resource damage is acceptable.
3. Where possible small harvest sales should be used to improve forest health.
4. Mechanically or with the use of Fire treat aspen stands towards self-regeneration.
5. Encourage treatment activities that will take stands back to early serial stages.

### Inventory/Monitoring

1. Continue to monitor insect activities in the area. Look for areas where management actions could be take to slow or protect the stand.
2. Complete stand exam inventories for analysis area. (low priority).

## **RANGELANDS**

The following actions are recommended to sustain rangelands:

### Restoration/Protection

1. Exclude Pritchard Creek from grazing in the Conant Valley C&H. Provide water gap to water cattle.
2. Continue to maintain watershed protection fences on Bear Creek Driveway.
3. Implement riparian pasture fence on upper Fall Creek.
4. Identify and rehab OHV trails to stabilize erosion problems. Provide Law Enforcement for FLMP compliance.
5. Harden heavy used Cattle watering sites and crossings along Fall Creek.
6. Install cattleguards on system roads in conjunction with range allotment fences (to better control cattle due to gates being left open).
7. Seed areas of Pritchard Creek Burn where natural regen is not occurring to combat noxious weeds.

### Inventory/Monitoring

1. Revise Allotment Management plans for sheep allotments in the analysis area to bring them in compliance with standards and guides specified in the Targhee Forest Plan.
2. Inventory possible green aspen for fire wood sale to enhance aspen regeneration.
3. Monitor for trespass cattle in the Gardon Creek drainage.
4. Identify acres of heavy sagebrush for prescribe burning.
5. Monitor all grazing allotments to insure compliance with standards and guides specified in the Revised Targhee Forest Plan.
6. Modify any grazing related actions displaying significant impact to natural resources.
7. Continue an active role in the local Coordinated Weed Management Area group, consisting of private, local, state and federal land management agencies in control of noxious weed.

**FISHERIES**

The following are fisheries-related recommendations derived from trends identified in this watershed analysis. They are in a rough order of priority (from a Fisheries Biologist's perspective) within each drainage.

## Fall Creek

## Restoration/Protection

1. Address impacts of cattle grazing in upper (East Fork) Fall Creek that has been documented in 1980 and 1999 stream surveys and 2000 macroinvertebrate surveys. This can be done through adjustments in grazing strategies, number of cattle, or structural improvements such as fencing or off-site water.
2. At major dispersed camping sites, limit vehicle access to the riparian area with physical barriers. Impacted stream banks at these sites could be treated by pulling the banks back and planting/protecting them.
3. Convene an interdisciplinary team to look at FS Road 85 along South Fork Fall Creek. This road/trail is within the riparian area and is extremely rutted. It is in need of restoration, relocation, or obliteration.
4. Encourage Idaho Department of Fish & Game to liberalize the brook trout harvest regulations in Fall Creek.
5. Work with Idaho Department of Fish & Game to decrease the impact of trapping upon the Fall Creek beaver population.
6. Work with the county to relocate road segments that encroach upon Fall Creek where there are opportunities.
7. Encourage Idaho Department of Fish & Game to analyze Fall Creek trout genetic samples to determine the amount of introgression between native Yellowstone cutthroat trout and rainbow trout in Fall Creek.

## Inventory/Monitoring

1. Monitor the Fall Creek brook trout population in relation to the cutthroat trout population. If the brook trout population increases or sustains, consider knocking the brook trout population back with selective electroshocker collections.

## Pritchard Creek

## Restoration/Protection

1. Exclude cattle grazing from the upstream end of the old reservoir bed downstream to the BLM exclosure to allow the stream banks to heal and the new stream channel to establish.

2. Assist the recovery of vertical, raw, soil stream banks in and downstream of the old reservoir bed by mechanically beveling back the banks and planting willows.

Inventory/Monitoring

1. Collect baseline stream survey data to monitor the effectiveness of the restoration work.

Garden Creek

Restoration/Protection

1. Work with willing Conant Valley Ranch in lower Garden Creek to facilitate the upstream passage of fluvial Yellowstone cutthroat trout and the safe downstream passage of adults and juveniles. The long term viability of the resident population of Yellowstone cutthroat trout in Garden Creek is uncertain. The uncertainty would decrease with the full return of a fluvial component to the population and a decrease in the mortality of downstream migrants. The fluvial fish would refound an extirpated population and provide genetic diversity. Work with the ranch would include the screening of their diversions.
2. Encourage the use of stream survey reports when planning projects. These reports are written in a way that any other discipline would have no difficulty reading them. They feature information that may benefit project objectives.

Inventory/Monitoring

1. Continue to revisit the distribution survey units annually to monitor the effects of wildfire on Yellowstone cutthroat trout populations. Continue to update report.

**WILDLIFE**

## Restoration/Protection Recommendations

1. Management Project is needed to better manage off highway vehicle use in the watersheds year-round, particularly in fall hunting season and snowmobile season in big game winter range. This project needs an increased focus and funding in law enforcement, engineering of motor vehicle control structures (eg. barriers, fences, boulders), signing and education in the public media. A particular emphasis is needed to improve the summer – fall elk habitat and bring motorized route density in compliance with the Forest Service Travel Management Plan for the benefit of all wildlife species. There is a major lack of signing in the watershed in some locations. The public can't expect to know what is legal without adequate signing. A informal review of the signs entering the forest boundary shows that many publics don't understand or comprehend the entry signs. They should be worded more plainly.
2. Have a annual meeting just to discuss coordination needs and measures between Forest Service managers in the watersheds and Idaho Department of Fish and Game for management of the adjacent Tex Creek Wildlife management area. A memorandum of understanding between agencies may be needed to help prioritize this effort.
3. Do riparian improvement work (eg. erosion control, fencing) and willow planting projects in Fall Creek including the upper portion, South Fork and lower parts above Echo Canyon. Erosion from stream banks have been pointed out by many to be the source of sediment in Fall Creek. Coordinate with IDFG to maintain viable populations of beaver in the watersheds.
4. Management Project is needed to better manage motor vehicle use in riparian habitats, particularly dispersed recreation in Fall Creek (eg. use of large boulders to control vehicle access and signing).
5. Consider cooperative work, grants and agreements with private land owners in watershed to help them improve riparian habitats on private lands below the Forest boundary in Pritchard, Garden and Fall Creeks.
6. Continue to cooperate and coordinate with other agencies and private land owners from Garden Creek to Fall Creek along the South Fork of Snake River for the health of the wildlife resources, for continued viability of bald eagle and peregrine falcon nesting, and for the viability of cottonwood, dogwood and willow habitats as defined in the South Fork of Snake River Activities/ Operations Plan and Interagency Memorandum of Understanding for the South Fork.
7. Continue to work with the Quarter Circle O Ranch to find a suitable National Forest parcel of land to trade for the 640 acres in the upper Fall Creek basin to

insure the ecological integrity of the big game herds there as well as other wildlife. This should be considered one of the more important land exchange priorities on the Forest.

#### Inventory/Monitoring

1. Do Beaver Inventory, mapping and survey for present and past use.
2. Do aspen condition inventory to determine the proper treatment of existing clones (eg. fire, cutting, logging, ripping).
3. Do spring time Sage Grouse monitoring in Fall Creek watershed for potential leks there.
4. Map all sagebrush habitats in the watersheds with the various seral stages.
5. Do a more refined analysis and data collection (than in this document) for existing motorized routes and elk hiding cover to determine the Elk Habitat Effectiveness (EHE) for the watersheds.

## RECREATION

### Restoration/Protection

1. Increase Law enforcement efforts in the analysis area for illegal off road/trail travel.
  - a. Work with local clubs and other citizen groups to form citizen patrols for motorized control in the analysis area.
  - b. Dedicate funds to hire summer seasonal who can patrol motorized use using motorized patrol methods.
  - c. Develop an educational program to be taken to the public and ATV dealers showing proper and illegal ATV use on the national Forest.
2. Improve wording on regulatory signs to eliminate confusion. Change wording to show areas closed to an activity rather than open.
3. Change travel plan to separate use between ATV and motorcycles trails. Develop a network of trails for ATV and limit them on more primitive narrow trails.
4. Revise Forest Travel Plan to restrict motorcycle use of 250cc engines and greater. Most damage to the trails and hill climbs are a result of larger machines with greater horsepower. Travel on the national Forest should be for trail riding and not motor cross experience.
5. Restrict vehicle parking next to Fall Creek by closure order and physical barriers. General rule of no closer than 25 feet.
6. Hard surface group parking areas around Echo Canyon along Fall Creek.
7. Restrict all fording of Fall Creek.
8. Replace second ford on the South Fork of Fall Creek with a bridge and rehab the ford.
9. Replace the gate at the concrete bridge at Echo Canyon with a gate, which is ATV friendly.
10. Put ATV cattle guards on all fences crossing on improved ATV trails.
11. Restrict or do not allow any winter commercial outfitting within the big game winter range including the designated route along Fall Creek.
12. Place fire rings at the dispersed areas along Fall Creek to reduce the number of rock rings formed each year.

### Inventory/Monitoring

1. Inventory and monitor dispersed sites along Fall Creek Road by numerically assigning them a number and inventory for new sites, and impacts on existing sites.
2. Increase funding for trail inventory in the Analysis area to better determine resource impacts and use.
3. Allow no new commercial hunting in the analysis area.
4. Continue with the outfitter capacity study recommendations for this area.
5. Place Fall Creek overlook on a higher priority for development through the CIP process.

## Recommendations

6. Limit development of facilities in the analysis area to maintain a more dispersed experience.
7. Allow no summer time outfitting camps near Fall Creek Road.

**TRANSPORTATION**

1. Roads #182 Bates Canyon and #056 Gibson Creek need some maintenance to correct the drainage problems off from the roads. Gibson Creek Road needs regular maintenance for resource protection.
2. Blacktail Canyon road #066 where the road crosses Fall Creek the bridge does need to be replaced sometime in the future.
3. There is a need for the Forest to acquire a right-of-way across private land between FS Road 057 and FS Road 066.
4. The road going up Rash Canyon could require a culvert where it crosses Fall Creek or an open bottom or box culvert.
5. The road #376 June Creek has five small stream crossings, which are fords. There is a need for at least culvert placements at these crossings to facilitate snow grooming and to decrease sedimentation. Use bottomless structures in fish-bearing water.
6. The road #085 South Fork of Fall Creek is a short road and then turns in to a motorized trail. We may look at putting a trailhead on the other side of the creek and then build a trail bridge over Fall Creek or upgrade the ford with a good solid bottom across the creek. Road/trail #085 needs regular maintenance for resource protection.
7. There are segments of Fall Creek Road that were constructed in the floodplain of Fall Creek. These segments are constricted to a location encroaching upon Fall Creek due to a slope on the opposite side of the stream. They cannot be relocated, so stream bank stabilization is needed to decrease the erosive force of the water on the side of the road.