

PACFISH/INFISH FIELD REVIEW
Missoula & Helena, Montana

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IIT Field Review Team members

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Review Team

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General Field Review Objectives

1. Determine if the Biological Opinions have been implemented in accordance with the mechanisms, terms and conditions.
2. Determine if on-the-ground management decisions are consistent with the Biological Opinions, PACFISH and INFISH Goals and Objectives.
3. Determine if PACFISH and INFISH Standards and Guides have been correctly interpreted and implemented on the ground.

4. Determine if grazing implementation monitoring activities have been evaluated to eliminate duplication between the PACFISH/INFISH Grazing Implementation Monitoring Module and other grazing implementation monitoring activities.

5. Improve communication and coordination between agencies. Strengthen interagency commitment to watershed management under the management direction of PACFISH/INFISH.

FINDINGS

Missoula Field Office - BLM

Commendations: The Team was very impressed with the amount of project work being implemented with clearly positive results. With mixed and fragmented ownership, the Field Office has been innovative in the way it applies the 6-step process and use of collaborative approaches with adjacent landowners. The use of native plant materials and low-impact restoration techniques are commendable. There appears to be a positive relationship with the consulting agency.

OBSERVATIONS AND PRELIMINARY RECOMMENDATIONS

Thobideau Campground – fuels reduction and recreation use mitigations

Observations: Fuels treatments (e.g. thinning) were conducted within the RHCA. The RHCA width was not modified, and treatments were implemented to be compliant with Standards and Guidelines. Vegetative treatments were located on a terrace above the river within zones of non-hydric vegetation, and outside of slopes adjacent to the river. Recreation use on those slopes, causing erosion/sedimentation to the river, was controlled using fencing,



as shown in the photo, and by building stepped paths down to the rivers edge. There was a discussion on silvicultural treatments in the RHCA and the application for watershed analysis. A 12,000 acre focused landscape analysis was conducted in this area in conjunction with the project. Field unit is monitoring vegetation and erosion using mainly photo points.

Recommendations: INFISH standards and guides require watershed analysis for salvage cutting in the RHCA's of priority watersheds (TM1a). TM1b is the standard applicable to fuels or silvicultural treatments designed to acquire desired vegetation characteristics, and there is no watershed analysis requirement stated in TM1b. The intent of the project was to be consistent with the INFISH requirement to acquire desired vegetation characteristics that help to attain the RMO's. Obviously monitoring would be required to track attainment of those desired vegetation characteristics and RMOs, as a result of the project through time. Monitoring results could be entered into the Implementation Monitoring (IM) Module database to document the successfulness of the applied Best Management Practices used to move towards Riparian Management Objectives. The IM Module would assist in tracking this management action over time for future evaluation and to assist future field unit experts, not currently in the Field Office, with a better understanding of what the objectives were and what actions were taken.

Whitaker Boat Launch (old and new)

Observations: The old and new boat ramps were treated to control erosion/sedimentation into the river and minimize site disturbance by recreationists. Coir fabric wrap of soil, shown in the photo of a treated boat ramp (at right), was covered with shrub cuttings, a unique approach to stabilizing the streambanks. Vegetative plantings used native species along the disturbed streambanks. There were boulders placed on the road to reduce or prevent access to closed sites.



A new boat ramp was constructed and



vegetative protections installed along the previously degraded river banks. These treatments appear to be effective at controlling bank erosion as shown in the photo at left. We had some discussion about the potential for revegetation and vegetative protections along the streambanks of large rivers. It was indicated to the team that this ramp was originally designed with a short, straight approach. This design was concurred with by the US Fish and Wildlife Service in the ESA consultation on the project. Project designs were changed at the time of implementation, constructing a right-angled approach as shown in

the photo, without notifying US Fish and Wildlife Service, or the BLM's Level 1 Team member. Fish and Wildlife Service was subsequently involved in post-project mitigations, including the re-vegetation and bank stabilization work.

Recommendations: The use of bank revegetation techniques using fabric wraps and native shrubs is innovative and appears effective. Both sites have been improved and the actions are consistent with the INFISH requirement to adjust practices that prevent attainment of riparian management objectives. The potential for vegetative protection, what kinds and densities of species would be expected along the margins of this river (e.g. desired future conditions), would be a key question addressed in watershed analysis. The watershed analysis for the lower Blackfoot Corridor could have been appended to address this key question during project design. The watershed analysis could also identify the best places to construct a new boat ramp, in lieu of the obvious challenges at the present location. The communications issue with US Fish and Wildlife Service, on this project, appears to be an isolated incident in an otherwise excellent relationship. This field review should serve as a reminder that ESA consultation requires frequent communication between practitioners implementing projects

and the Level 1 Team. Results of this project could be tracked in the Implementation Monitoring Module.

Belmont Creek LWD project

Observation: This degraded stream, with little or no habitat structure, was restored using large woody debris to create pools and graveled spawning areas. Since construction of the project, beaver have added material to the logs, effectively increasing water levels (e.g. damming), and raising the local water table. The rise in water table appears to be expanding the composition of hydric vegetation communities in the floodplain. Redd counts prior to the project indicated little or no spawning in this reach. Post-project monitoring indicated large numbers of cutthroat and rainbow redds. There were 70



logs (pictured at right) installed using horse teams with cable and pulley systems to move the large wood into place. The cost was minimal and the return on the investment appears to be high. How does restoration at this site contribute to achieving the overall conservation strategy for the Blackfoot River bull trout population? Sediment is one of the big problems for the Blackfoot and lower Belmont Creek. At one time bull trout were known to spawn in this reach. Sediment used to fall out in Lower Belmont meadow. When the stream was straightened by the previous landowner, sediment was flushed to the river. The project was then designed to restore the depositional geomorphic condition of the river, and that will improve water quality in the Blackfoot River. The Field Office is monitoring changes in substrate, bed elevation and quantity/quality of habitat features. They have Wolman Pebble Count transects, cross section profiles comparing changes in various features in restored and geomorphically analogous sites, plus pre/post habitat feature evaluations (simple counts of habitat features). Some of the monitoring sites on Belmont Creek have been obliterated by Beaver.



Anything done to improve water quality and habitat quality in streams supporting remaining local populations of bull trout is important for the larger population. Belmont Creek is one of the few streams where there is still connectivity with the main stem Blackfoot River, and therefore supports a fluvial population. Belmont and Gold Creeks are the only 2 in the lower Blackfoot that have fluvial fish. When the Milltown Dam on the Clark's Fork is

removed, there will be opportunities for connectivity between fluvial populations between the Rock Ck and Blackfoot River tributaries such as Belmont and Gold Creeks.

Prior to initiating work in Belmont Creek, radio-telemetry and genetics work by David Schmetterling and his group revealed the relative importance of Belmont Creek to the fluvial populations in the Blackfoot Basin. Belmont Creek used to be a notorious contributor of road sediment derived from the sub-standard Plum Creek road system in the upper watershed. Even now, although the situation has improved, in the spring, Belmont Creek looks like chocolate milk. Other than the beaver dams immediately above the meadow and whatever roughness has been added to the meadow by the LWD project, any sediment reaching the meadow is going into the Blackfoot River unless it's diverted into bed or floodplain storage in the meadow. It would appear that the new beaver dams, connecting the stream even more tightly to the floodplain, will increase future filtering during flood discharges.

Recommendations: This project appears to be consistent with the INFISH requirement to conduct such projects in a way to promote long-term ecological integrity and contribute to RMO attainment. This project was opportunistic and, designed in the short-term, to acquire, immediate increased habitat productivity and improved water quality in the lower Blackfoot, locally benefiting fish populations. This project will likely also achieve long-term ecological benefits by the natural riparian vegetative restorations. Monitoring should continue to be conducted to evaluate and document both positive short-term and long-term trends and responses to management actions here. The monitoring questions being addressed are: What is the change in pool habitat and spawning substrate through time? What vegetative responses are occurring in the floodplain? In addition to the monitoring already being implemented, we suggest the addition of channel vegetative composition cross sections in the floodplain of this meadow to document changes as water tables rise. We suggest using Al Winward's method for this purpose, as documented in his 2000 publication.

Belmont Creek Cattle Fence and Old Road Crossing

Observation: Cattle were fenced from an area of concentration along Belmont Creek, and the disturbed reach of stream was restored using brush fascine, fabric wrap, and willow cuttings, as shown in the photo at right. Cuttings used were not the dominant vegetative species in this particular reach. The fence crossed a road with raised prism. Because of cultural resources near the old road prism, they did not remove all the old road fill. There were native vegetative plantings on the old stream crossing. Monitoring of vegetation and streambank recovery is being conducted mainly with photo points.



Recommendations: This project is consistent with the INFISH requirement to design restoration projects that promote long-term ecological integrity of ecosystems and contributes to attainment of RMOs. Monitoring should be conducted on all projects designed to attain RMOs. We highly recommend that managers and specialists use the Implementation Monitoring Module to document what was done, where it was done, was it completed as intended, and if not why not, and any measures taken to mitigate the alterations that were made. Once cultural resources have been evaluated, removal of the road fill and re-planting with native vegetation would be an appropriate action within the RHCA. There were concerns about using non-native willow species for planting in the streambank. Vegetative materials used for rehabilitation should match local species to be consistent with INFISH Standard and Guideline WR-1.

Helena NF

Commendations: The Forest has made a good effort at collecting and using allotment monitoring data helpful to adaptive management. The Forest is commended for the changes they made in recent years in the Blossburg Allotment. Having the Deputy Forest Supervisor and a Ranger on the review is indicative of management support and interest in implementing PACFISH, INFISH and the Biological Opinions. The Forest is working closely with permittees in a challenging situation. The Forest is commended for taking the team to their most difficult and complex projects in order to foster good discussion and problem solving. There has been a good working relationship with the consulting agency. Completing the more detailed roads analysis is a major step towards priority setting and travel planning.

OBSERVATIONS AND PRELIMINARY RECOMMENDATIONS

Blossburg Allotment:

Observation: Dog Creek here is located on private lands, and part of a mixed ownership allotment managed by the Forest Service. In addition to heavy grazing in the past, there has been heavy recreational use, and extensive mining in the area.

Implementation monitoring initiated in 1999 indicated that the operation was unable to meet terms and conditions of the BO. In 2000 the Forest applied the Helena NF riparian guidelines and bank disturbance transects. Since that time a number of measures have been taken to bring the allotment into compliance. The photo at right is located in the Meadow Creek pasture where many of the measures have been implemented. They include electric fencing exclosures (photo below), numbers and/or season reduced by 20%, off-stream



tank with solar pump, range consultant to work with permittees on the bank disturbance issue, riders to control distribution, and the exclosure in lower Meadow Creek Pasture. There was obvious recovery along the margins of Dog Creek evidenced by colonizing vegetation along the water line, increaser hydric vegetation types in the green line, and some bank stabilization. Most of the current season's disturbance was trailing in the floodplain, with little bank disturbance observed outside of the crossing sites.

Management measures are implemented via the AOP and have not been formalized within the Allotment Management Plan. The AMP is old and outdated, yet there is little flexibility to change the permit without new NEPA and updates to the AMP. The Forest uses a 20% bank disturbance and 6" stubble height on key hydric species (sedges) on the greenline as the local standard for livestock use (in-season and end-of-season). Bull trout have not been found in this reach of Dog Creek, but have been documented 2 miles downstream, where there is better habitat and presence of beaver. Brown and cutthroat trout currently occupy the Meadow Creek portion of Dog Creek. The potential for bull trout occupancy is unknown, but is likely constrained at this time by presence of competing brown trout and habitat conditions conducive to higher stream temperatures. Currently streamside vegetation is dominated by mesic graminoids with patches of carex and some willow. Observations in the Lower Meadow Creek pasture exclosure suggest that a mix of willows and sedges would likely dominate the riparian vegetation composition, if allowed to continue to recover.

Management of private lands within a federal grazing allotment can be challenging. There was a discussion about the ESA interrelated effects of grazing on an allotment dependant upon private lands associated with listed species habitat. There is a land exchange proposal being discussed that would result in FS ownership, and could alleviate some of the management difficulties associated with private property rights and federal regulatory authority. Because of high costs, this is not likely to be achieved in the near future, if at all.

Different implementation monitoring sites were established for stubble height (IIT Monitoring) versus bank disturbance (BO's). Failure to meet standards for these indicators resulted in re-initiation of consultation on 3 different occasions. More recently, changes were made without re-initiating consultation, but by refining the AOP. Annual standards for the implementation indicators are being used as the resource objective (BO terms and conditions). There were discussions about recent findings of the University of Idaho's Stubble Height Study Team. We also had a discussion about the need to develop long-range management planning of the allotment in an AMP, which would not only provide the context for the long-term objectives for both stream/riparian and upland ecosystems, but also the ability to adapt long-range management strategies without having to re-initiate NEPA on every management refinement made.



We examined a unique approach to riparian restoration using a “cow-be-gone” (photo at right) to divert water to a trough outside of a permanent exclosure (photo below).



Recommendations: The Forest is monitoring using the Implementation Monitoring Module (IM – formerly the IIT module) and to meet requirements of local ESA consultation. As we have observed elsewhere, there may be the perception that the IM Module was intended to be a separate and unique monitoring effort on top of local monitoring requirements. We observed that the Forest splits monitoring attributes up into different locations, perhaps a response to the differing requirements of the IM Module and the local ESA consultation. In fact, all local requirements for stream/riparian monitoring can and should be included as part of IM monitoring and recorded in the IM module. The Module facilitates tracking any indicator associated with land management actions and streams containing listed fish species. All monitoring indicators should be collected at the same designated monitoring area(s) on the stream so that stubble heights, for example, can be calibrated against bank disturbance and woody utilization. IM monitoring has been, and continues to be refined. The Forest would likely benefit by some field-level, hands-on orientation to the IM Module database and recent protocols for selecting the designated monitoring site, as well as methods for monitoring both short- and long-term streamside indicators related to livestock grazing. Forest grazing specialists received training in the IM Module training on October 13th, 2004, but continued refinements, and similar needs of other specialists will necessitate occasional future workshops.

The Forest and permittees are working in concert to come to a common understanding, and this needs to continue. As described in the University of Idaho’s Stubble Height Report : prepared by the University of Idaho Stubble Height Study Team in July, 2004, compliance and non-compliance should not be based upon meeting monitoring criteria, but on compliance with required numbers, timing, and duration of grazing. Monitoring indicators should be used as a prompt to assess future refinements in the grazing strategy. The reasons why monitoring indicators are not appropriate as permit performance standards are documented in the University of Idaho’s Stubble Height Study Team Report. The previous standards would

be replaced with adaptive management as the means to make changes. Obviously these need to be simple and understandable by the permittee. The Stubble Height report is available online at:

http://www.fs.fed.us/rm/boise/teams/techtran/projects/pac_grazingdocs.htm

The Forest should make sure that monitoring indicators (livestock move triggers and end-of-season indicators) at any given site are not limited to just a single indicator, e.g. stubble height or bank disturbance, but that multiple indicators are observed concurrently in the same location. Monitoring needs to answer the key questions: Are we moving towards attainment of long-term resource objectives for key riparian indicators? Also the question: Are the 20% disturbance and 6" stubble height standards valid? Recently some have suggested that bank stability, green line vegetative composition, woody species regeneration, would be effective long-term indicators and efficiently answer these questions. The streamside indicators (bank stability, vegetation, woody regen) have been used as surrogates for overall stream habitat condition essential to listed fish, and are comparatively easy to assess. The long-term indicators are monitored less frequently (3 to 5 years). The Northern Region of the Forest Service is currently working on appropriate sampling designs and methods for these attributes, as they relate to effectiveness (long-term indicator) monitoring.

Refer to the University of Idaho Stubble Height Report for recommendations on the within season vs end of season measurements. Usually both are needed and we recommend that the Forest continue this practice. End of grazing period is the best time to assess bank alteration from current seasons grazing use. The end of the growing season is the best time to assess residual vegetation heights. End of growing season is also a good time to assess whether drift, unauthorized use, wild ungulates, etc. are affecting riparian conditions, and also to sample residual stubble height after re-growth. We encourage close communication between permittees and the agency to ensure understanding of the use and measurement of within-season triggers as well as end-of-season conditions.

During the review, there was a discussion about the meaning of the words “**Do not retard the attainment of RMO’s**” as required by Standard GM-1. Ron Wiley, acting director of the National Riparian Service Team, recently provided a description of the conclusions of riparian experts on this subject. Basically, current season’s disturbance from livestock grazing must minimize bank alteration and leave adequate vegetation heights on key riparian species to result in: 1). Increasing trends for degraded riparian areas, or 2). Stable trends in functional riparian areas. The amounts of bank alteration/disturbance and stubble heights on key riparian species may vary locally according to site potentials. Adaptive management, using the results of multiple-indicator monitoring, should be used to determine the appropriate criteria for bank alteration and stubble height. Initially the criteria could be based upon Forest Plan standards (e.g. 4-6 inch stubble height or 20% bank alteration), but refined through time as monitoring validates or refines the default criteria. Not meeting the criteria repeatedly over multiple years, or severely overgrazing in just 1 or 2 years, depending upon climatic conditions, would effectively constitute slowing the near natural rate of recovery. Monitoring streambank stability and composition of desired vegetation types along the greenline every 3 to 5 years would help to validate rates of recovery. A two page write-up explaining this

approach in simple verbage, understandable to the permittees, is being prepared by the National Riparian Service Team, and will be provided to the Forest.

Some participants indicated a desired to receive copies of recent refinements to the monitoring program, including: The University of Idaho Stubble Height Study Team Report, The Multiple Indicator Monitoring Protocol, and the streambank alteration evaluation paper prepared by the PACFISH/INFISH Effectiveness Monitoring Team. All of these are available on the PACFISH/INFISH web site at:

http://www.fs.fed.us/rm/boise/teams/techtran/projects/pac_grazingdocs.htm

GENERAL

Watershed Analysis: Our observations for both BLM and the Forest are that fish issues generally do not drive watershed analysis. Under INFISH, Watershed Analysis is a prerequisite for determining processes affecting fish and riparian habitats, and is essential for defining RHCA's and RMO's. It forms the basis for evaluating cumulative effects, and defining restoration priorities. The Bull Trout BO requires priorities and schedules for watershed analysis will be developed concurrently with identification of restoration opportunities and treatments, and updated annually. Completing watershed analysis in INFISH priority and special emphasis watersheds is a priority required by the Biological Opinion. Field units should schedule and implement watershed analysis, using the 6-step process, specifically to benefit listed fish and their conservation and restoration. The analysis should guide the selection of locations and types of projects addressing factors that most influence listed species recovery. Furthermore, the choices for where to conduct watershed analysis should be focused upon priorities defined at a larger scale (e.g. subbasin assessments).

Lessons learned: PACFISH/INFISH/BO's have been in implementation for 6 years. During that time period, field reviews and monitoring have provided information that could be the basis for a summary of "lessons learned" from past efforts to implement the direction. It was suggested that a compendium of successes and recommendations be compiled for the benefit of the Field Units.

INFISH and the Bull Trout BO included a number of steps and actions to address conservation and recovery of listed fish. These include the Restoration Strategy, Watershed Analysis, Roads Density Analysis, Inventory, Monitoring, Oversight, and the step-down process. Collectively these steps and actions are intended to place a priority on restoration and conservation of listed fish. Either because of competing priorities, budgets, or lack of opportunities to meaningfully apply these requirements, these actions have not been fully implemented.

FEEDBACK FROM THE UNITS TO THE REVIEW TEAM AND THE IIT

Collaboration: BLM – Programmatic BA’s have been developed in L1 collaboration, other programs (budget, environmental baseline, watershed analysis) are not developed collaboratively. FS - L1 collaborates on team consultation tasks, some environmental baseline updates, and site-specific analysis; but generally not on the Forests annual program of work, budget, staffing, and broad-scale watershed analysis.

L1/L2 - Batching/bundling BA’s: Batching/bundling is a Steelhead BO requirement.

L1/L2 - IIT Restoration Report: BLM – not being used. FS – not being used.

L1/L2 - RHCA modifications: BLM – No modifications. FS – few modifications and all are coordinated with L1 Team.

L1/L2 - IIT Roads binder and Low Road Density analysis: BLM – Not used, FS – while the roads analysis was not used, the Forest has implemented the recommendations of the RDAT analysis to step down to roads analysis by segment.

Adjacent L1 Teams – consistent implementation of PACFISH/INFISH/BO’s: BLM – does not apply INFISH, but the Bull Trout Conservation Strategy directive. FS – Some effort through the L1 Team, but not project-specific.

Low Road Density Analysis: BLM – Not used. FS – Not used.

Step-down products: BLM – Subbasin assessment used where available, Watershed analysis used extensively but not focused upon listed species restoration. Extensive collaboration is not used to refine RMO’s, RHCA, or S&G’s. FS – Subbasin assessment not used, broad-scale prioritization for fish conservation is lacking, do not use to adjust RMO’s, RHCA’s, or S&G’s, some road conservation measures are coming out of watershed analysis.

IIT Monitoring: BLM – Do not use to make management changes, are using it on Cat. 1 allotments, used in conjunction with other monitoring, has not replaced other monitoring requirements, is considered an additional workload that takes time and resources away from more important activities. FS – Use the module for stubble height monitoring which sometimes results in management changes, has been used in conjunction with other monitoring requirements of BO’s, the reporting part of the IM module was not as useful.

Summary feedback from Field Units

Review Team’s Response:

INFISH and the Bull Trout BO included a number of steps and actions to address conservation and recovery of listed fish. These include the Restoration Strategy, Watershed Analysis, Roads Density Analysis, Inventory, Monitoring, Oversight, and the step-down

process. Collectively these steps and actions are intended to place a priority on restoration and conservation of listed fish. It does not appear that this priority has been fully implemented.

The BLM's bull trout conservation strategy (1998 directive) expired. BLM came under the requirements of the Forest Service's version of INFISH via the Plan-level BA developed as part of the Bull Trout consultation in 1998. Therefore, BLM is obligated to implement INFISH to satisfy the requirements of the 1998 Biological Opinion for Bull Trout.