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**Reply to:** 2670 (FS)  
6840 (BLM-OR931)

**Date:** May 24, 1995

**Subject:** Implementation of PACFISH

**To:** USDI Bureau of Land Management: Vale, Spokane, Prineville, Ukiah, Bakersfield Districts and Upper Columbia-Salmon/Clearwater Ecosystem Office;  
USDA Forest Service: PACFISH Forest Supervisors

The PACFISH Implementation Team has consolidated and responded to the questions raised at the five PACFISH Field Implementation workshops held during March and April at which over 450 BLM and FS field staff attended. Responses to these questions have been reviewed by the appropriate Regional and State office staff units and will provide the direction to be followed by field units.

The PACFISH Implementation Team has given special emphasis to the range program and the glossary term "retard attainment of RMOs" (Enclosure B).

Field units were to complete the screening of ongoing projects within watersheds with designated critical habitat within 30 days of the signing of the PACFISH EA and within 60 days of signing for those watersheds outside designated critical habitat. The former has been completed; for areas outside designated critical habitat we are extending the date for completion of the screens to July 1 (Enclosure C).

Implementation monitoring as discussed at the field team workshops has been refined and will be provided to the field units the first week of June. The PACFISH Field Implementation Team will be conducting field visits during the last half of calendar year 1995 to assess the compliance with and effectiveness of the PACFISH direction.

If you have any questions regarding PACFISH implementation, please contact Mike Crouse or Gordon Haugen. We would like to reiterate that implementation of this strategy is one of our highest priorities.

/s/ John E. Lowe /s/ Michael R. Crouse for  
JOHN E. LOWE ELAINE Y. ZIELINSKI  
Regional Forester State Director, Oregon/Washington

Enclosures (3)

cc:  
PACFISH DRFS  
PACFISH FISH MGRS  
PACFISH FWL DIRECTORS  
PACFISH-PLAN

## PACFISH Q&As

### GENERAL

1. **What are the procedures for amending LRMPs/RMPs/MFPs?** The PACFISH EA amended the Forest Plans to the extent of incorporation of PACFISH direction and amended the BLM RMPs/MFPs where the PACFISH direction was in conformance with the plan. Conformance determinations have since been made on the BLM plans and have resulted in the determination that PACFISH direction is in conformance with existing plans, therefore, the LUPs do not need further amendment. (FS see #2 in RCHAs/RMOs above.)
2. **If existing LRMP/RMP/MFP is more restrictive does it still apply?** Where direction contained in existing plans is more restrictive than PACFISH direction the plan direction applies.
3. **As the PACFISH strategy is interim in nature and will be supplanted by the Eastside Ecosystem Management Project (EEMP) and EISs, what are the consequences of a delay in the completion and implementation of this plan and EISs?** If this situation were to arise two things must occur. First, the Decision Record (DR) for PACFISH Environmental Assessment (EA) must be amended. Second, consultation with the National Marine Fisheries Service (NMFS) must be reinitiated and a Biological Opinion (BO) issued by the NMFS.
4. **As the California National Forests and BLM Districts are outside the geographical scope of the EEMP and EISs what are the options for long-term implementation?** In California, the BLM and FS have solicited public comments on the development of a long-term management strategy for anadromous fish producing watersheds which will be used to determine the appropriate level of NEPA analysis and interagency coordination necessary to insure consistent implementation. The level of NEPA analysis determined appropriate, based on results of analysis of public comments and existing management direction, will focus the options available for long-term implementation. Some possible options are addressed in the California BLM and FS Notice for Public Comment found in Appendix H of the PACFISH EA.
5. **How will implementation of the PACFISH strategy be funded?** In the short-term (i.e., FY95) implementation will have to be funded out of available base funding. Over the longer-term (i.e., FY96) the FS Regional Fisheries Program Managers have prepared budget documents requesting additional funding for implementation. The BLM Anadromous Fish Habitat Management and Funding Strategy for the Columbia and Snake River Basins currently used in out year budget planning adequately addresses costs of implementing the PACFISH strategy.

### RIPARIAN HABITAT CONSERVATION AREAS (RHCAs) & RIPARIAN MANAGEMENT OBJECTIVES (RMOs)

1. **How will RHCAs be delineated?** This will be appropriate to the level of implementation for which the RHCAs are being delineated. For example, at the broad planning level (i.e., LRMP/RMPs) the RHCAs would be delineated on maps or GIS themes at scales appropriate to the geographic scope of the plan. However as this level of delineation can be grossly imprecise, project level planning and implementation would require more precise methods

ranging from delineation on smaller scale maps to actual on the ground delineation (i.e. boundary tags within timber harvest units).

**2. What flexibility is allowed in refining and/or modifying Riparian Management Objectives (RMOs) and Riparian Habitat Conservation Areas (RHCAs); can they be adjusted in the 18 month period of time; what is the process for making these adjustments?**

RMOs and RHCAs can be adjusted to meet local conditions. When adjustments are to be made in any of these two elements, it is to be done as a result of either a site-specific analysis or a watershed scale analysis (a watershed scale analysis is required when designated critical habitat could be affected). This must be documented in the NEPA process (e.g., project EA). These changes in RMOs and RHCAs require additional amendments to the forest plan. Documentation of these amendments must be made in the project level NEPA decision documents. A watershed scale analysis would follow the current approved version of the "Federal Guide for Watershed Analysis." However, it can be project driven and the degree of detail required should be commensurate with the project involved. For example, a watershed scale analysis driven by proposed road construction within an RHCA would examine such things as the amount of large wood in the system at the watershed scale and the source and transport processes at work and the condition of spawning gravels and the source and transport processes for gravels and sediments within the watershed. This information would then be used in the location and design of the road or even to make the decision that new road construction would be too impactful to fish habitat. The key is expanding the analysis away from the reach specific level to the watershed scale without becoming trapped in a search for data or detail extraneous to the issue and/or question being addressed. The watershed scale analysis is not to be construed as a procedure which will take immense amounts of time and staffing. Forests and BLM Districts should not view watershed analysis as a barrier to accomplishing field activities. Also see response to question #3 under RHCAs and RMOs and question #1 under S&Gs.

**3. Who approves changes in RHCAs and RMOs and what if any oversight will there be?**

The line manager responsible for the geographic area involved, typically the FS District Ranger or BLM Resource Area Manager, has final decision authority for changes in RHCAs or RMOs. Of course, any changes must follow procedures outlined in the strategy (see pages C-7 and C-5 respectively). To ensure consistency in application of these procedures the PACFISH Implementation Team has established review procedures. See attached "Documentation Form for Changes to Interim PACFISH RMOs and/or RHCAs" (Enclosure A). This form describes justification needed to modify RMOs and/or RHCAs, the approval process, and review process. The form will be completed and forwarded to the appropriate contact listed on the form. The PACFISH Quality Control Review Team will provide review back to the line manager within 30 days of receipt of the Documentation Form. The review will include a critique of the justification and will recommend ways to improve the modification process in the future, if necessary.

**4. How will 100 year floodplains be determined?** Where the 100 year floodplain has been officially designated (i.e., COE, FEMA, etc.) this delineation should be used. Where this has not been accomplished and if potential affects would dictate such an intensive effort (e.g., facilities construction) a similar methodology should be used. For other actions the following general definition should be applied: the 100-year floodplain would be comprised of the area

inundated by a stream flow equal 2 1/2 to 3 times the maximum bank full depth. Additional guidance will be provided at a later date.

**5. How do you refine RMOs to incorporate natural variability such as catastrophic events?** Catastrophic events often do help shape habitat features described by the RMOs. However, this should be only considered when analyzing whether existing conditions are a result of human induced changes or simply long-term watershed processes. For example, if the large wood component of a watershed is outside the range specified in the PACFISH strategy then one must examine how large wood is normally supplied to the system. If catastrophic events such as landslides or blowdown appear to be the major sources for large wood then the existing conditions must be considered in the context of the timing of these events.

## **STANDARDS AND GUIDELINES**

**1. Is a watershed analysis required prior to either salvage harvest or road construction within RHCAs?** TM-1 only requires a watershed analysis in watersheds with listed salmon or designated critical habitat. RF-2a states that no new roads will be built in RHCAs until watershed analysis is completed. Both of these S&Gs layout clear and concise direction. Several Forests indicated that this was going to be hardship and they cannot accomplish this. However, this should not be viewed as an impossible barrier to implementation of FS or BLM activities.

**2. How are road management projects which increase sediment delivery to stream over the short-term but are intended to correct erosion sources to reduce sediment delivery over the long-term addressed?** When analyzing any action, not just roads, both short- and long-term effects must be considered and managed. While short-term effects must not be great enough to jeopardize the fish population affected, avoidance of all short-term effects should not be allowed to preclude management changes or restoration actions necessary for the long-term recovery of habitats and/or populations.

**3. Clarify prohibition of the sidcasting of snow within or abutting RHCAs in watersheds containing designated critical habitat for listed anadromous fish (RF-2 f.).** This includes the obvious, snow containing soil and road surface materials. However, it is also intended to address the creation of berms or piles of snow which in melting or acting as barriers would concentrate melt water resulting in destabilized streambanks through saturation conditions elevated above "normal" conditions or actual hydraulic damage from flowing water.

**4. Clarify FM-4 (prescribed burns).** Any prescribed fire, including natural or accidental starts which are essentially managed as prescribed fires, either entirely within or including RHCAs must be managed under prescriptions which contribute to attainment of the RMOs of the particular RHCAs affected.

**5. To who and when is the report on the implementation of the Road Management Plans to be sent?** In watersheds containing listed anadromous fish or designated critical habitat the annual monitoring report to the NMFS will report on progress towards completing the plans. The plans will be provided to the NMFS when completed, however, there is no requirement to

complete them within the lifespan of the strategy. The BO does include the conservation recommendation that the "FS and BLM should attempt, to the extent practicable, to complete Road Management Plans and Transportation Management Plans within the period of PACFISH implementation." In watersheds without listed anadromous fish or designated critical habitat there is no requirement in PACFISH to report on implementation of road management plans. Here normal public involvement procedures should be followed to ensure full public input.

**6. Can PACFISH road S&Gs be implemented prior to completion of Road Management Plans?** It is expected that implementation of S&Gs pertaining to roads will begin immediately. The Road management plans will serve to provide a documented plan for accomplishing PACFISH objectives through road management and should be completed as quickly as possible but should not hold up implementation of actions designed to minimize impacts of roads on aquatic habitat.

**7. Does RF-2 c. 5. ("regulation of traffic during wet periods") require the closing of these roads?** No, the "regulation of traffic" is expected to range from prohibiting use by certain classes of vehicles (e.g. heavy trucks) to complete closure to all traffic including ATVs.

**8. When is reconstruction/maintenance considered as "new construction" (i.e., PACFISH S&Gs must be applied)?** The practical test should be whether the impact from maintenance or reconstruction is similar in magnitude to those occurring from initial construction. If so, then reconstruction/maintenance should be considered to be new construction. In any event, road reconstruction and maintenance cannot retard or prevent the attainment of RMOs.

**9. Are stream fords considered stream crossings (RF-4)?** Yes. It is expected that such things as armoring of approaches and streambed to reduce sedimentation from traffic or erosion from high flows would be addressed.

**10. Can Forest or District elect to proceed with a timber sale without upgrading culverts to meet RF-4?** Yes, unless upgrading culverts that pose a substantial risk to riparian condition is a part of road reconstruction tied to the timber sale. Otherwise, requirements to meet S&Gs are not tied to any particular action. However, it would be prudent and logical to use any available opportunity that a project (such as a timber sale) might offer to upgrade culverts or comply with other S&Gs. If there is no opportunity to upgrade culverts as part of the project, then the FS/BLM would proceed to comply with PACFISH S&Gs based on other available opportunities and based on the degree of threat posed by the culverts. Upgrading culverts that pose a substantial risk to riparian condition should, of course, be a part of any road reconstruction or maintenance project.

**11. Will ROW applicant be required to apply PACFISH S&Gs before hauling over FS/BLM ROWs?** In general, yes, if a FS/BLM permit is required, the permittee should comply with applicable PACFISH S&Gs. Remember, PACFISH does not apply to private lands.

**12. When, if ever, does an on-going project become a new project as determined by PACFISH?** For the purposes of PACFISH implementation any project meeting the test of an

on-going project will be considered to remain an on-going project if it is the same as what was in place at the time of PACFISH signature (Feb. 24, 1995). If this condition cannot be met, the project should be treated as a new project, i.e., PACFISH S&Gs applied.

For the purposes of Section 7 consultation an on-going project for which a new permit or lease is issued will be treated as a new action and require reinitiation of consultation prior to issuance.

However, if the project meets the criteria for an on-going project under PACFISH (see first part of this response) then it is expected that consultation would be quickly accomplished by tiering to the previous consultation documents.

**13. What is meant by Retard Attainment of RMOs as related to grazing S&Gs?** The RMOs established by PACFISH describe habitat features which exhibit change relatively slowly, thereby, making it difficult, if not impossible, to detect change with the 18-month lifespan of PACFISH. Since the condition of the riparian vegetative community directly affects these RMOs and changes in riparian vegetation are generally detectable within short time periods, the recovery of the vegetation component of the riparian system will be used to predict whether grazing will ultimately degrade, retard, or prevent the attainment of the RMOs.

It is important to understand that for changes in grazing systems to be meaningful, they must be in place over the long term. This appears to conflict with the short-term nature of PACFISH. However, management put into place through implementation of PACFISH would be expected to continue through the long term if it conforms with direction provided by the EEMP and ICBEMP when these plans are completed. Based on the current state of knowledge of the effects of grazing on riparian and aquatic systems, it is expected that this would in fact occur. Therefore, the implementation of PACFISH can correctly be envisioned as the initiation of management changes over the next 18 months which will likely continue and whose benefits to aquatic habitat will become apparent through the long term.

Enclosure B which provides a discussion on the effects of grazing on riparian systems and recommended guidelines is based on this premise. These guidelines should be considered for livestock management outside watersheds with designated critical habitat or listed salmon. For watersheds with designated critical habitat or listed salmon, terms and conditions in the appropriate biological opinion must be followed.

## **TERMS**

1. **Project:** As used in the PACFISH strategy project refers to actions such as timber sales, grazing allotments, road maintenance (combined at the watershed level), or developed campground maintenance (again combined at the watershed level). Individual actions associated with these larger "projects" such as harvest units, road segments associated with timber sales, fences, reservoirs, grazing systems, or painting or repair of campground facilities would not be considered to be separate "projects".

2. **Pool:** **Main Channel Pool:** A scour or dammed pool that is a discrete fluvial (slow to directed scour thread) geomorphic (dished-out channel bed depression) channel unit that

occupies the majority of the wetted channel width. Main channel pools are bounded by a head crest (upstream break in slope) and a tail crest (downstream break-in-slope). Main channel pools are used in the calculation of pool frequency, and for summaries of pool geometry, i.e. pool max-depth, wetted width and length, pool area and volume, width-to-max-depth, and residual depth.

**Pocket Pools:** Small bed depressions, often <30% of wetted width, formed around flow obstructions (boulder, logs, irregular bank or bank vegetation, jutting peninsulas, within fast water habitat types. These do not represent main channel pools, and are not used in the calculation of pool frequency or for summaries of channel geometry.

3. **Salvage:** See TM-1 and current agency direction. The definition of salvage used for PACFISH will not differ from that currently in use by the implementing agency at the time of project implementation.

4. **Road:** Travelway, currently or previously, used by motorized vehicles that affect or has the potential to affect the hydrologic and/or sediment regimes within a watershed.

5. **Avoid:** See PACFISH EA Glossary

6. **Avoid to the Greatest Extent Practicable/Possible:** See page 51 of the NMFS BO for PACFISH (Appendix J of the PACFISH EA).

7. **Substantial Risk:** See RF-4

8. **Unacceptable Risk:** See PACFISH EA Glossary. "Unacceptable Risk" screens are used to make final determination.

9. **Measurable:** Can be measured (detected) using commonly accepted scientific field methods. Use PACFISH monitoring procedures when available. In the interim see Section 7 Habitat Monitoring Protocol for the Upper Columbia River Basin dated June 1994.

10. **Modify:** Make changes in project design (e.g., grazing system, road design, etc.) to ensure that the goals and objects of the PACFISH strategy are achieved.

## **KEY/PRIORITY WATERSHEDS**

1. **What are the criteria for what constitutes a watershed where "anadromous fish can be reestablished"?** "Anadromous watersheds" would generally be 4th or 5th field watersheds. Watersheds historically but currently not containing anadromous fish would be considered as an "anadromous watershed" if the barrier could reasonably be eliminated. For example a major barrier (i.e., scale of Hell's Canyon or Pelton Dams) would be considered to mark the upstream limits of an "anadromous watershed" while a stream reach dewatered from irrigation withdrawal would not be considered as such.

2. **Clarification of key watersheds for non-listed species.** The PACFISH strategy only designated key watersheds where critical habitat for listed salmon had been designated. While

providing for the designation of key watersheds outside designated critical habitat the strategy deferred the designation of those to geographically-specific environmental analyses already in preparation or to be prepared (see page 17 of the PACFISH EA). However, this does not prevent Forests and Districts from stratifying watersheds for the purposes of prioritizing management opportunities based on the criteria for key watershed (see Appendix C, page C-19 of the EA). In fact this is encouraged where appropriate.

3. **As the boundaries of key watersheds in California have not been delineated what criteria will be used to delineate these boundaries?** During the interim strategy period, USGS 4th field watersheds will provide the boundary delineations upon which "key watersheds" are defined where designated critical habitat for winter-run chinook salmon occurs. "Key watershed" designations for the long-term strategy implementation will probably be similar in scale to "key watersheds" identified within the range of the northern spotted owl by the Northwest Forest Plan in California (e.g., generally 4th to 6th field).

### **WATERSHED ANALYSIS**

1. **What is the scale of watersheds on which watershed analysis will be performed?** The PACFISH strategy follows guidance developed for the Northwest Forest Plan, i.e. generally watershed analysis will be performed on watersheds 20-200 square mile in size. Projects on mainstem rivers with watersheds greatly exceeding this size criteria should be analyzed based on a subwatershed of appropriate size. This may at times result in the delineation of "analysis watersheds" which do not totally conform to normal watershed delineation conventions (e.g., front drainages).

2. **Should Section 7 watershed BAs be used as an information/data source when performing watershed analysis prior to preparation of grazing NEPA documents within the Snake River Basin?** Yes, they should be used and the NEPA documents should reference them.

3. **When is watershed analysis required?** See the S&Gs.

4. **How much specific information is needed for watershed analysis?** Initially use existing information but identify missing data to be gathered and used in subsequent iterations. The level of information should be commensurate with the issues being addressed. The deciding official will determine exactly what constitutes adequate information.

5. **Need to cost out and define watershed analysis.** It is estimated that a watershed analysis will require from 4 to 6 weeks and \$60K to \$120K to complete.

6. **What watershed analysis procedure will be used in PACFISH and how does it compare to FEMAT and EEMP?** All three efforts are expected to utilize the same procedure, i.e., Federal Watershed Analysis Guide.

### **MONITORING**

1. **Implementation monitoring procedures need to be better defined.** Implementation monitoring, as developed by the PACFISH Implementation Team, consists of three parts; a summary monitoring form (see Enclosure C) to be used by the interagency PACFISH Quality Control Team for follow-up random sampling of on-going and completed projects to verify if S&Gs and RHCAs were applied and to complete an annual monitoring report for all FS and BLM units, a pre-project form for proposed changes in RHCA and RMO to be reviewed by the Quality Control Team, and a monitoring report providing detailed written and photographic documentation of all monitoring and inventory activities by specific watershed and like activities, including establishment of RHCAS, application of S&Gs, and progress toward attainment of RMOs. These procedures are now being finalized and will be provided as direction by early June.

2. **Effectiveness monitoring procedures need to be better defined.** The goal of effectiveness monitoring is to determine if applied PACFISH S&Gs are effective in protecting, maintaining, and restoring fish habitat conditions. Centralized team(s) are recommended to ensure that a standardized approach is implemented to facilitate consistency, timeliness, and reporting. A core group consisting of scientists and specialists would design the monitoring strategy, and regional teams would implement. The regional teams would be responsible for training, quality control, data processing and management, and a summary report. Because all projects can not be monitored, a sub-sampling scheme stratified by like geoclimatic channels tiered to the Aquatic Ecomap Hierarchy, grouped like disturbances, and a reach specific core set of habitat variables would be used. A sufficient number of monitoring projects would be determined to adequately represent projects across the PACFISH area. Adequate sample sizes would be determined to ensure that monitoring would have the power to detect differences through time.

NOTE: Field units need to keep in mind that monitoring for PACFISH implementation does not release them of other project implementation monitoring requirements not related to PACFISH.

ENCLOSURE A

DOCUMENTATION FORM FOR CHANGES TO  
INTERIM PACFISH RMOs AND/OR RHCAs

Background: In general, changes to interim Riparian Management Objectives (RMOs) and/or interim Riparian Habitat Conservation Area (RHCA) widths must be supported by data provided in Watershed Analysis. In the absence of Watershed Analysis, PACFISH also provides for modifications to RMOs and/or RHCAs if watershed-specific or stream reach-specific data are available to support a change. Regardless, any changes to RMOs and/or RHCA widths should be documented and reported to the PACFISH Quality Control Review Team. Such proposed changes should be prepared and/or reviewed by agency fisheries biologist, hydrologist, and geomorphologist/soil scientist. The appropriate agency line officer (Forest Service District Ranger or BLM Area Manager) should document their approval of the proposals by signature on this form. This form, with supporting data and site-specific map(s), should be submitted as follows as soon as possible following approval.

For activities on Forest Service administered lands:

Kerry Overton  
PACFISH Quality Control Review Team  
Intermountain Research Station  
316 E. Myrtle  
Boise, ID 83702

For activities on BLM administered lands:

Robert House  
PACFISH Quality Control Review Team  
Idaho State Office - BLM  
3380 Americana Terrace  
Boise, ID 83706

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Describe watershed/stream reach (attach map):

Specifically describe proposed changes to RMOs and/or RHCAs (include on attached map):

Do federally-listed salmon occur in affected watershed?

Yes: \_\_\_\_\_

No: \_\_\_\_\_

If Yes, completion of Section 7 consultation is required by NMFS prior to implementation of any reduction in RMOs or RHCAs. What is status of Section 7 consultation process:

Provide rationale for proposed changes (attached Watershed Analysis and/or stream-specific data that support proposed changes):

Prepared by: \_\_\_\_\_ Date: \_\_\_\_\_

Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

## ENCLOSURE B

### RECOMMENDED LIVESTOCK GRAZING GUIDELINES

#### KEY ASSUMPTIONS

- \* Influences of livestock grazing must result in riparian restoration at a minimum of "near natural" rates. We recognize that some environmental effects are inherent with the presence of livestock. However, we believe that "near natural" rates of recovery can be provided if we limit environmental effects to those that do not carry through to the next year, thereby avoiding cumulative, negative effects.
- \* Adverse affect to aquatic habitat associated with livestock grazing can be avoided, and riparian restoration provided by controlling:
  - season of use (tied to plant phenology and soil characteristics rather than calendar dates); and
  - amount of use.
- \* Providing for the health, form and function of riparian systems should remain the focus of management efforts.
- \* Stream gradient, inherent stability characteristics, potential vegetative communities, and type of degradation (i.e., vegetation vs. bank/channel characteristics) are important factors in determining restoration potential and guidelines that will lead to restoration.
- \* Guidelines for developing allotment specific prescriptions can be identified at the programmatic level. However, in general, the prescriptions themselves must be developed to fit "on-the-ground" conditions within the context of those guidelines.
- \* In some definable cases, avoiding adverse affects can only be accomplished by suspending livestock grazing. These cases include problems related to ecological status.
- \* Effective monitoring using specific measurement approaches, as well as administration are essential.

#### PROGRAMMATIC GUIDELINES FOR LIVESTOCK GRAZING

As noted in the assumptions above, the goals, or desired outcomes of management efforts provide the foundation for the recommended programmatic livestock grazing guidelines. The guidelines and resulting site specific prescriptions are of value only to the extent they contribute to meeting these goals. The Environmental Assessment for PACFISH interim direction provides suitable riparian goals for the land management agencies (See PACFISH EA, APPENDIX, pages C-3 and C-4). All management activities implemented, including non-livestock related activities, should contribute to accomplishment of these goals.

Where these goals are met, the following on-the-ground attributes will be evident (See BLM Technical Note 1737-9, Process for Assessing Proper Functioning Condition):

- (1) Floodplains are inundated by relatively frequent events (i.e., 1-3 years).
- (2) Stream sinuosity, width/depth ratio, and pool frequency reflect the capabilities of the setting (i.e., landform, geology, and bioclimatic region).
- (3) Lateral stream movement is associated with natural sinuosity (i.e., streambank stability reflects the inherent capabilities of the setting).
- (4) The overall system is vertically stable.
- (5) Streambank morphology reflects the inherent capabilities of the ecological setting.
- (6) Upland watershed conditions within the allotment are not contributing to degradation of riparian habitation conservation areas.
- (7) Riparian vegetation characteristics:
  - diverse age structure for woody species (where such species are a part of the natural system);
  - plants exhibit high vigor;
  - species present indicate maintenance of riparian soil moisture;
  - streambank vegetation protects stream banks and dissipates energy during high flows (i.e., consider community type composition, rooting characteristics, and plant density); and
  - provide an adequate source of coarse and/or large woody debris (where such debris is a part of the natural system).

## MANAGEMENT CONSIDERATIONS

Based on the key assumptions previously outlined, the following guidelines are recommended for use in modifying applicable allotment management plans/annual operating plans/project decision documents/instructions to permittees to provide a high degree of assurance that objectives for conservation and restoration of anadromous fish habitat will be met.

These recommendations do not specifically address "priorities" for taking action. Taking action to conserve Columbia River Anadromous Fish is not optional. However, we believe priorities can be identified where there are insufficient resources to "do it all." Those priorities are as follows:

- 1) Maintain or improve conditions, where the criteria for "late seral" ecological status are met or exceeded (i.e., it is easier to protect healthy riparian systems than restore degraded ones).

- 2) Adjust management practices, where the criteria for "mid-seral" ecological status are met but the trend is static or downward. This is especially important, where vegetative factors are primarily responsible for the "fair" rating (i.e., making adjustments at this stage is likely to prevent stream bank/channel damage of a lasting nature).
- 3) Adjustments in management practices, where the criteria for "early seral" ecological status are met, and primarily tied to deteriorated stream bank/channel conditions (especially in cases of severe channel downcutting where channel evolution has not re-created a floodplain), may contribute little to the recovery of the system in the near term.

## RECOMMENDATIONS

- \* Continue current grazing prescriptions in pastures/allotments where ecological status is "late seral" (or better) based on either riparian vegetation or stream bank/channel conditions. Ensure residual herbaceous vegetation heights of at least 6 inches, and that no "condition thresholds" are exceeded. (See Key Definitions - Residual Herbaceous Vegetation Heights)
- \* Where ecological condition is "mid-seral," limit grazing in pastures/allotments to provide at least 6 inches of residual herbaceous vegetation and to ensure that no "condition thresholds" are exceeded. For moderate and low gradient (i.e., Rosgen "B" and "C" channel types) channels, with substrates composed of medium to fine easily eroded materials, also limit use to early season grazing to provide for recovery of stream bank/channel characteristics. (See key definitions--early season grazing.)
- \* In pastures/allotments where ecological condition is "early seral", the following is strongly recommended:
  - In moderate and low gradient (i.e., Rosgen "B" and "C" channel types) channels, with substrates composed of medium to fine easily eroded materials consider rest.
  - In all moderate to high gradient stream systems (Rosgen "A" and "B" type channels) with coarse substrate materials that provide inherent stability, whose ecological status rating of poor is tied entirely to vegetation characteristics, grazing may be permitted if limited to early season use, residual herbaceous vegetation heights of at least 6 inches are met, and no "condition thresholds" are exceeded.
- \* Where early season grazing, as prescribed above, would result in adverse affects or is impractical mid- or late-season grazing may be alternatives. However, residual herbaceous vegetation requirements would still have to be met and no "condition thresholds" could be exceeded.
- \* Appropriate "condition thresholds" will be monitored in all pastures/allotments. Results are to be reported on an annual basis, and appropriate adjustments made to the annual

operating plans. (See likely consequences of implementation of this recommendation in the following section.)

## KEY DEFINITIONS

**Condition Thresholds:** A number of indicators of impending impacts that would carry-over to the next years would be monitored during the period of use and act as "triggers" to prevent damage. These should not be exceeded anytime during the grazing season. The recommended triggers and associated threshold values are as indicated below:

**New bank alteration:** bank instability that becomes evident after livestock grazing is initiated in a pasture/allotment in a given year. This assumes that early season use occurred following peak flows, when most of the additional bank damage can be tied to land use activities. The recommended threshold is 5% of the lineal bank distance (includes both sides of the stream).

**Riparian area alteration:** two measures of riparian area alteration are proposed. Each keys on areas away from stream banks that are good early indicators of impending riparian damage. The first relates to use of "riparian islands" - those portions of riparian areas slightly higher and drier than the rest of the riparian area. These are often dominated by Kentucky bluegrass. The recommended threshold is 25% of the areas with visible trampled soils or a vegetation height of 2 inches, whichever is reached first.

The second measure relates to livestock use of "riparian sinks" - those portions of riparian areas slightly lower and more moist than the rest of the riparian area. These are often dominated by carex species. The recommended threshold is utilization in excess of a vegetation height of 3 inches.

Riparian "island" and "sinks" are not significant components of all riparian areas. Generally only one of these features would be used as an indicator of impending riparian damage (i.e., the one that represents a significant component of the riparian area away from the stream side and/or which first shows signs of damage).

**Woody vegetation utilization:** proposed limitations on season and amount of use, suggest that woody vegetation utilization would seldom be of concern. Monitoring of this feature would generally be limited to those circumstances where the prescription calls for mid- or late-grazing or where there is a documented problem with woody vegetation utilization. The recommended threshold is 30% of the current year's growth, measured as incidence of use.

**Early Season Grazing:** Early season grazing is defined in terms of the phenology of the vegetation. Early season grazing is limited to that period where upland vegetation is green but not drying. It typically begins about the second to third leaf stage and ends between boot and flowering of perennial upland bunch grasses. Caution should be used to avoid soil compaction and bank alteration from physical damage that can occur in some settings with early season grazing.

Ecological Status: Al Winward, in Clary and Webster (1989), defined "ecological status" as a measure of the degree of similarity between current vegetation and potential vegetation for a given riparian area. Our definition of "ecological status" adds to Winward's definition, recognizing the importance of stream bank and channel features. Definitions follow for each of the three condition categories:

Early Seral (Non-functioning)\*

- Percent similarity of riparian vegetation to the potential natural community/composition  $\leq 25\%$ ; or,
- Stream bank/channel condition rating "poor." (See following rating system for rating stream bank/channel conditions.)

Mid-Seral (Functioning at risk)\*

- Percent similarity of riparian vegetation to the potential natural community/composition 26-50% or better; and
- Stream bank/channel condition rating of at least "fair."

Late Seral (Properly functioning)\*

- Percent similarity of riparian vegetation to the potential natural community/composition  $\geq 50\%$ ; and,
- Stream bank/channel condition rating "good" or better.

\* If similarity of riparian vegetation information is lacking or cannot be readily obtained, a similar vegetation rating methodology such as BLM Technical Note 1737-9 (functional rating) can be used.

Greenline: That specific area on or near the waters edge where a more or less continuous cover of perennial vegetation is encountered. Natural plant species forming the greenline are composed primarily of large, hydric species such as beaked sedge, Nebraska sedge, bluejoint reedgrass, or other especially strong rooted species capable of buffering the forces of water at the bankfull discharge level. Disturbance activities, such as overgrazing or trampling by animals or people, result in changes to shallow rooted species such as Kentucky bluegrass, which have a reduced ability to buffer water forces.

Late Season Grazing: Late season grazing generally begins after sugar storage in woody vegetation is complete and leaf fall has started. Upland plant seeds have shattered and mean air temperatures begin to cool.

Near Natural Rate of Recovery: Synonymous with PACFISH requirement not to "retard" or "measurably slow" recovery of degraded riparian features. Further defined in these recommendations within the context of effects that "carry over to the next year." Any effect

that carries over to the next years is likely to result in cumulative negative effects, and measurably slow recovery of degraded riparian features.

Residual Herbaceous Vegetation Height: Residual herbaceous vegetation height, measured at the end of the growing or grazing season (which ever occurs latest), is used as an indicator of a systems ability to withstand erosive stream flows, filter sediment and build stream banks. Residual herbaceous vegetation height measurements are to be taken on those hydric species along the greenline with the capability to buffer water forces. (See above discussion of "greenline.")

Riparian Capability Groups: Winward (1992) has defined bank stability potential based on percent stream gradient and substrate classes (Winward et. al., 1992). It is used in conjunction with the channel condition rating to determine ecological status.

Stream Bank/Channel Condition Rating: One of two ratings used to determine ecological status for riparian areas (the other rating evaluates vegetation composition). The following key is used:

Stream Bank Sub-Rating:

- Meets or exceeds the expected bank stability (based on Riparian Capability Groups). (3 points)
- Is below expected bank stability by 5% or less. (2 points)
- Is below expected bank stability by more than 5%. (1 point)

NOTE: Where channel type information is lacking, the following stream bank sub-rating may be applied as an alternative.

- Meets or exceed PACFISH standards for bank stability and lower bank angle. (3 points)
- Meets or exceed PACFISH standards for bank stability or lower bank angle. (2 points)
- Does not meet PACFISH standards for bank stability or lower bank angle. (1 point)

Stream Channel Sub-Rating:

- Meets or exceeds PACFISH standards for temperature,\* pool frequency, and width/depth ratio. (3 points)
- Meets or exceeds PACFISH standards for temperature,\* and pool frequency, or width/depth ratio. (2 points)

\_\_\_ Does not meet PACFISH standards for temperature, \* pool frequency, or width/depth ratio. (1 point)

Total Stream Bank/Channel Condition Rating:

\_\_\_ Where: 6 = Excellent  
5 = Good  
4 = Fair  
≤3 = Poor

\*Consider temperature only where livestock grazing is likely to be a contributing factor to maximum stream temperatures.

RW

## ONGOING ACTIVITY SCREENING - PACFISH NON-LISTED ANADROMOUS FISH

### Introduction

PACFISH requires that ongoing activities (projects), outside the area of listed anadromous fish, within the area covered by the strategy be screened to determine if ongoing actions or groups of actions pose a unacceptable risk to non-listed anadromous fish. This screen is to be completed by July 1, 1995. If an "unacceptable risk" determination is made, interim standards and guidelines would be applied to avoid an unacceptable risk. For those activities that rank as "high risk," modifications will be made prior to the action continuing. Ongoing projects, considered not to pose an unacceptable risk will be allowed to continue, during the interim period, under the direction that was in effect at the time of project approval, even if such projects are not fully in compliance with PACFISH Standards, guidelines and other provisions of the strategy.

This activity is intended to gauge the effectiveness of ongoing Federal actions in maintaining the quality and quantity of anadromous habitat. It is accomplished by reviewing individual or groups of like activities against a series of questions. The process will rely on existing information and the use of professional judgement. The review is to be accomplished by an Interdisciplinary Team, with final results and risk determinations made by a journey level fisheries biologist and reviewed by a line officer.

Federal actions are defined (FSM 2670 and 40 CFR 1508.18) as any action authorized, funded, or carried out by a Federal agency. Ongoing Federal actions are defined as those actions that, prior to the decision notice for PACFISH, have been implemented, or have contracts awarded or permits issued.

For purposes of this screen these actions include such categories as grazing permits and AOP's, timber sales, road and trail maintenance, mining activities, and special use permits which are being reissued or which have an annual operation plan. Other actions such as management of dispersed recreation activities, water diversions, and special use permits which do not have an annual operating plan should be included if there is a potential adverse impact.

An additional page (Supplemental information) is included to identify conditions or non-Federal actions not addressed but which may be causing significant adverse effects to anadromous habitat or populations. This information will be useful in identifying and prioritizing future restoration opportunities, but will not be used to determine unacceptable risk.

**ONGOING ACTIVITY SCREENING - PACFISH  
NON-LISTED ANADROMOUS FISH**

Forest/BLM Unit: \_\_\_\_\_

Watershed being evaluated: \_\_\_\_\_

Basin Name: \_\_\_\_\_

Description of Ongoing Actions or Group of Actions that are being tested against screens: \_\_\_\_\_  
\_\_\_\_\_

Fisheries Biologist Performing Evaluation: \_\_\_\_\_

Telephone Number: \_\_\_\_\_ Date: \_\_\_\_\_

## DETAILED SCREENING PROCESS

### CHECKLIST

Respond with a Y (Yes) or N (No) to each component of the following question. Provide a brief rationale for responses, (i.e., Cite the applicable references to support your response. In the absence of data, document the professional judgement that supports the response).

1. Is it probable or foreseeable that the ongoing actions or group of ongoing actions would affect any of the following features of habitat (i.e., a yes to any element of this question may likely result in a positive response to the second question).

#### Migration, Spawning and Rearing Habitats

\_\_\_\_\_ Water quality (e.g., chemical, suspended sediment, temperature)

**Rationale:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_ Water quantity (i.e., magnitude, duration, timing of high/low flows)

**Rationale:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_ Juvenile or adult migration and passage

**Rationale:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_ Quantity or quality of spawning habitat

**Rationale:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_ Quantity or quality of rearing habitat

**Rationale:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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\_\_\_\_\_ Riparian vegetation (does the action degrade existing conditions)

**Rationale:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_ Riparian vegetation (does the action retard recovery of vegetation)

**Rationale:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_ Harassment of fish (including the results of increased human access) or physical disturbance of redds.

**Rationale:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. It is probable or foreseeable that any of the adverse impacts identified in step 1, would be of sufficient magnitude to result in an unacceptable risk (likely to contribute to the need for listing of an anadromous fish population). A determination of an "Unacceptable Risk" will be made for any ongoing action, or group of actions, that result in a positive response to the element in question 2. Note: An adverse impact to one or more of the habitat elements evaluated in step 1 may not result in a positive response to question 2.

\_\_\_\_\_ Reduced anadromous fish growth or survival (includes increased mortality, reduced growth of fitness, reduced reproductive success, etc.)

**Rationale:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Use the following matrix to determine a relative priority for corrective action based on overall risk.

! Relative Magnitude ! (Degree/Extent of Impacts)		Relative Probability of Impact Occurring ----->		
		<u>High</u>	<u>Med</u>	<u>Low</u>
!	High	H	H	M
!	Med	H	M	L
!	Low	M	L	L

NOTE: If "At Risk" populations are affected, the relative rating will be increased one category for Med or Low ratings (for example, a Med rating would be increased to High).

The following list of projects has been assessed and determined to have a high (H), moderate (M), or low (L) risk of effecting anadromous habitat or populations.

HIGH RISK	MODERATE RISK	LOW RISK
_____	_____	_____
_____	_____	_____
_____	_____	_____

Prepared by:

\_\_\_\_\_  
Signature of Fisheries Biologist

\_\_\_\_\_  
Date

Reviewed and Concurred with:

\_\_\_\_\_  
Forest Fisheries Biologist

\_\_\_\_\_  
Date

## **SUPPLEMENTAL INFORMATION**

Identify conditions or activities (non-Federal actions) not addressed but which may be causing significant adverse effects to anadromous habitat or populations. These may include but are not limited to interaction with non-native fish, natural perturbations to the environmental baseline such as mass failures or existing transportation systems. This will be useful in identifying and prioritizing future restoration opportunities.