

A Framework for Incorporating The Aquatic and Riparian Habitat Component of the Interior Columbia Basin Strategy into BLM and Forest Service Plan Revisions

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Introduction

The purpose of this document is to provide a framework for use in developing the aquatic and riparian resource components for land management plan revisions. This document is intended to provide a consistent foundation for implementation of the Aquatic and Riparian Habitat component of the January 2003 Interior Columbia Basin Strategy (Strategy) in BLM and Forest Service plan revision efforts. The Strategy (page 4) recognizes that land and resource management plans provide the explicit programmatic direction that governs management of Federal lands. This framework does not constitute a change in the Strategy but clarifies, interprets, and in some instances supplements the principles and guidance found in the Strategy. This framework facilitates consistency among plans in terms of the structure of the riparian and aquatic components, while providing for a high level of discretion to agency decision makers in the substance of individual plan revisions. Responsibility for adopting management direction, including setting restoration priorities, rests with the agency official responsible for approving the management plan.

Specific guidance for aquatic and riparian conservation provided in this framework should be integrated with other management direction. Conservation of fish, wildlife, plants, and habitats at risk should be considered together with the full array of broad-scale ecosystem components addressed by the Strategy (i.e., landscape dynamics, terrestrial source habitats, aquatic species and riparian and hydrologic processes, and social-economics and Tribal governments).

Discussed below are six components addressing aquatic and riparian management that should be incorporated into revised plans. The framework should be read in concert with the Aquatic and Riparian Habitat component of the Interior Columbia Basin Strategy (pages 7-9). Each of these components (except the one titled 'Management Direction') is specifically addressed in the Strategy. For each component, a number of guiding principles, and in some cases definitions and examples, are provided or identified.

References are included at the end of each component narrative. Many of the details associated with the components are discussed therein. These are provided as a tool to help ensure that local aquatic strategies are based on the best available science. The list of references is not comprehensive.

The six components are as follows:

- Riparian Conservation Areas (or appropriate direction accomplishing the same end – this document uses “RCA” to connote either type of direction)

- Protection of Population Strongholds for Listed or Proposed Species and Narrow Endemics
- Multiscale Analysis
- Restoration Priorities and Guidance
- Management Direction (Desired conditions, objectives, management actions – names differ between Forest Service and BLM planning)
- Monitoring/Adaptive Management

It is not intended that the framework components be addressed or displayed in plans in exactly the same way. Because of differences between BLM and Forest Service planning processes, actual plans may name or display the components differently. The intent is that all the components be incorporated into each plan, with the decision maker retaining discretion over how they are addressed. This provides for a level of consistency essential for effective conservation of aquatic resources that span multiple land management units. The components are intentionally general to preserve the discretion of local managers to fill in the details of their aquatic land management direction. NOAA Fisheries, US Fish and Wildlife Service, and EPA should be involved early in the process of developing aquatic resource direction.

Risk Management (Balancing Short-term risks and long-term benefits) -- Plans should balance short-term risks (to aquatic and other resources) with long-term benefits as actions are considered to move toward natural variability of conditions. Plans should support management of short-term risks for long-term benefits to multiple resource objectives, including hazardous fuels reduction.

Riparian Conservation Areas or Appropriate Direction (RCAs) (Strategy, pages 7-8)

Land management plans should differentiate or delineate areas of particular value for aquatic conservation. This may be accomplished in a variety of ways such as mapping, through establishment of default widths, or through the use of criteria. RCAs should include streams, ponds, lakes, and wetlands and unstable lands which are likely to affect the condition and/or function of the channel network and aquatic habitat. Values to consider in identification and management of RCAs, in addition to those addressed in the Strategy (pages 7-8) include: fine organic litter, bank stability, sediment control, nutrients and other dissolved materials, riparian microclimate and productivity, wind throw, importance of small (perennial and intermittent) streams, and importance of hill slope steepness.

Management considerations:

- RCAs are areas where riparian-dependent resources receive management emphasis. However, they are not intended to be treated as ‘no management’ zones since treatments may be essential to achieving or maintaining desired riparian conditions.
- Plans should allow for adjustment to RCAs to reflect site conditions recognizing watershed wide riparian conditions and trends.

- Management actions on unstable lands should account for aquatic functions and values.

The following references provide additional information useful in identification of RCAs:

Quigley and Arbelbide (1997) An Assessment of Ecosystem Components in the Interior Columbia Basin and Portions of the Klamath and Great Basins, Volume III (PNW-GTR-405, 1997): An Ecosystem Approach to Salmonid Conservation (NFMS TR-4501-96-6057, 1996);

Naiman et al. (2000) Riparian Ecology and Management in the Pacific Coastal Rain Forest, *Bioscience*, November 2000 Vol. 50 No.11, pages 996-1011;

Megahan and Hornbeck (2000) Lessons Learned in Watershed Management: A Retrospective View, USDA Forest Service Proceedings Rocky Mountain Research Station – P-13. 2000

Spence et al. (1996) An Ecosystem Approach to Salmonid Conservation, December 1996 TR-4501-96-6057;

USDA Forest Service (1997) Riparian Reserve Evaluation Techniques and Syntheses, Supplement to Section II of Ecosystem Analysis at the Watershed Scale: Federal Guide for Watershed Analysis, Version 2.2

Protection of Population Strongholds for Listed or Proposed Species and Narrow Endemics (Strategy, page 8)

Plans should identify watersheds (e.g. 5th or 6th field hydrologic unit codes) of value for protection of populations of listed and proposed aquatic species and narrow endemics. The intent is that strongholds will provide high quality habitat for species, and support expansion and recolonization of species to adjacent watersheds. These areas should conserve key processes likely to influence the persistence of populations or metapopulations (see Rieman and Dunham below).

Management considerations:

- In general, these areas are at the scale of the species' subpopulation and contribute to their conservation and recovery.
- Characteristics/considerations for stronghold delineation include: high genetic integrity, connectivity, relationship of the subpopulation to the species as a whole, and restoration and population expansion potential into adjoining watersheds.
- For wide-ranging species, build on existing definitions of areas of high value for survival and recovery. Much work has already been done in delineating strongholds (e.g., recovery plans, ICB documents, PACFISH/INFISH key and priority watershed maps). Use this work as a starting point and refine or validate

at the local level. It is important to coordinate with adjacent land managers in identifying these strongholds.

- Plans should provide for additions, deletions, or modifications of strongholds based on new information.
- As with RCAs, management activities in strongholds should emphasize achieving or maintaining the riparian and aquatic values, including key processes, for which they are being managed. Active management within strongholds may be required to achieve and maintain these values. Passive management strategies can also be an effective tool at meeting stronghold objectives in some watersheds.
- Watersheds may also be identified for purposes such as protection of other emphasis species or other high value riparian-dependent resources.

References:

Quigley and Arbelbide (1997) An Assessment of Ecosystem Components in the Interior Columbia Basin and Portions of the Klamath and Great Basins, Volume III (PNW-GTR-405, 1997): An Ecosystem Approach to Salmonid Conservation (NFMS TR-4501-96-6057, 1996) p1264, 1354-1368;

Rieman, B.E., and Dunham, J.B., Ecology of Freshwater Fish 2000: 9: 51-64

Multiscale Analysis (Strategy, page 10)

The Strategy directs that plan analyses describe how multiscale analysis was used in plan amendments or revisions, and how multiscale analysis will be used in subsequent project-level decisions. The four potential analysis scales are: basin, subbasin, watershed, and project. It is generally recognized that analysis at the appropriate scale provides needed context for (and thus improves) decision making.

Management considerations:

- Plans are generally developed and analyzed at the scale of the land management unit, normally analogous to a subbasin (or group of subbasins) scale.
- Subsequent finer scale analysis, such as to support restoration prioritization and monitoring strategy development, should include interagency coordination.
- Such assessments should include evaluation of existing conditions, factors limiting aquatic species populations, resource risks, management needs, and restoration opportunities.
- Information developed at the finer scale should be considered in implementation of the aquatic conservation elements and used to make adjustments or modifications to the elements, as warranted.
- Multiscale analysis provides a basis for integration and prioritization of conservation measures for wide-ranging species.

Reference:

Interior Columbia Basin Ecosystem Management Project: Ecosystem Review at the Subbasin Scale. Volume 1. The Process

Restoration Priorities and Guidance (Strategy, page 8)

Plans should identify restoration priorities by general types and geographic areas, normally as a part of desired conditions and restoration objectives.

Management considerations:

- Plans should identify restoration objectives, desired conditions, and identify the types of management actions likely to be used to achieve those objectives or desired conditions.
- Finer scale prioritization is a part of plan implementation rather than plan development.
- Restoration prioritization needs to be supported by analysis at the appropriate scale (e.g., subbasin, watershed)
- Plans should integrate aquatic and terrestrial restoration priorities. Two methods for doing this are found in the references identified below.
- Emphasis should be placed on restoration opportunities that provide benefits for multiple resources.
- Consider available sources for prioritization information in addition to those identified in the Strategy on page 8 (e.g., All-H, recovery plans).

References:

Ecosystem Review at the Subbasin Scale (August 1999), Interior Columbia Basin Ecosystem Management Project, p. 32
(<http://www.icbemp.gov/implement/subbas.shtml>)

IIT Restoration Task Team. 2000. An Interim Watershed Restoration Strategy: A Commitment Made as Part of the Biological Opinions for Chinook Salmon and Steelhead (Snake River and Upper Columbia River) and Bull Trout (Columbia and Klamath Rivers – Areas not Covered by the Northwest Forest Plan). USDA Forest Service, USDC National Marine Fisheries Service, USDI BLM, and USDI Fish and Wildlife Service.

Management Direction (Desired conditions, objectives, management actions – names differ between Forest Service and BLM planning)

Plans should provide management direction that identifies desired outcomes and conditions for aquatic resources, and that sets management sideboards as needed to assure that actions implementing plans are consistent with, and contribute to achieving, those desired outcomes and conditions. Relevant elements include:

- Water quality (temperature, fine sediment, nutrients),
- Habitat access,
- Habitat elements (substrate, pools, large woody debris, off-channel habitat, refugia),
- Channel condition and dynamics (channel width or width/depth, stream bank stability),
- Flow/hydrology (flow regime),
- Watershed conditions (disturbance regimes), and
- Riparian vegetation.

Management considerations:

- Plans should include qualitative and quantitative descriptions of desired (*i.e.* properly functioning) watershed, riparian, and aquatic conditions. In BLM plans these would be included in land health standards or objectives. In Forest plans these would be included as desired conditions, objectives, and standards.
- Plans should include appropriate activity-specific standards (Forest Service) or management actions (BLM) that support conserving or achieving those desired conditions.
- Consider using prescriptive and outcome-based approaches in combination to guide activities appropriate to resource needs and objectives.

The following references provide additional information useful in setting desired outcomes and conditions for aquatic and terrestrial resources:

NMFS. 1996 Making Endangered Species Act Determinations of Effect for Individual and Grouped Actions at the Watershed Scale. Habitat Conservation Program, Portland, Oregon.

US Fish and Wildlife Service. 1998. A Framework to Assist in Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Bull Trout Subpopulation Watershed Scale.

Monitoring/Adaptive Management (Strategy, page 9)

Plan monitoring should (1) determine if a plan is being implemented correctly and is achieving desired results, (2) provide a mechanism for accountability and oversight, (3) evaluate the effectiveness of recovery and restoration efforts, and (4) provide a feedback loop so that management direction may be evaluated and modified.

Management considerations:

- Focus monitoring on key questions that inform decision making and allow adjustments to management.
- Monitoring emphasis and intensity should be commensurate with the importance of the question being asked. For example, if adaptive decision making is being

used, it will be important to monitor the key parameters to the degree necessary to support the current course of action or to trigger an alternate approach.

- Plan level monitoring should make use of, and not duplicate, broad scale monitoring programs. To the extent practicable, monitoring done at the plan scale should be compatible with, and complementary to, broader and finer scale monitoring.
- Monitoring should be coordinated with, and where possible consolidated with similar efforts of other agencies.
- Outcome-based management approaches rely on monitoring for their success. These approaches typically require a different level and type of monitoring than prescriptive approaches.
- Monitoring commitments in Plans should be feasible and achievable.

References:

Interagency Implementation Monitoring Core Team. 2003. Implementation Monitoring Program for PACFISH, INFISH, and the 1998 Biological Opinions for Salmon, Steelhead, and Bull Trout. 82p.

Kershner, J.L, M. Coles-Ritchie, E. Cowley, R. C. Henderson, K. Kratz, C. Quimby, L. C. Ulmer, and M. R. Vinson. 2002. A Plan to Monitor the Aquatic and Riparian Resources in the Area of PACFISH/INFISH and the Biological Opinions for Bull Trout, Salmon, and Steelhead.