ISRP Recommendation and Summary Comments: *Response Requested for project 2008-207-00 CTUIR Ceded Are Priority Stream Corridor Conservation and Protection*

This project is potentially beneficial to both anadromous and resident species. As the Tribes state, this project is important because it is the major project for land acquisition under the Accords. They also provide reference that land acquisition is generally more cost-effective than easements (Prose et. al, 1986). However, not enough detail is provided in the proposal to fully assess potential benefits to fish and wildlife.

This is a potentially important project, but, before the ISRP can make a final recommendation, a response is requested in the following areas:

Comment 1): Does this proposal constitute the "Acquisition Plan"? Will a comprehensive acquisition document be developed as a work element associated with this proposal?

Response: The proposal is not an acquisition plan. The proposal articulates a process to achieve an integral component of a comprehensive habitat conservation and restoration effort. Much work has been done to analyze and prioritize habitat for conservation and protection in the subbasins targeted under this proposal including QHA and EDT modeling. The process is guided by priorities established in the Subbasin Plans, focused on achieving BiOp requirements for habitat conservation and positions the CTUIR to effectively prospect for and secure lands on a willing seller-willing buyer basis. All potential acquisitions will go through a 3 tier prioritization process.

1) The four Subbasin Plans that encompass ceded lands of the Umatilla (Grande Ronde, Umatilla, Walla Walla, John Day) & two Recovery Plans (Middle Columbia Steelhead ESA Recovery Plan & Draft Oregon Snake River Recovery Plan) have identified through EDT & QHA priority areas for protection. Willing seller inquiries will be focused within these areas.
2) These areas will be further evaluated within the framework of the FCRPS BiOp to focus on areas where there is the greatest Habitat Quality Improvement need.
3) The Ranking Criteria within the original proposal will then be used to further evaluate the benefits of the property relative to other priority area properties.

Comment 2): In either case, within the proposal, more explanation is needed on the quantitative anticipated benefits to fish and wildlife in terms of protection or restoration of productivity, abundance, diversity, and spatial structure (presumably from EDT/QHA estimates).

Response: Achievement of benefits to fish and wildlife will be characterized though BiOp metrics for each acquisition as completed and through M&E associated with restoration and management of each conserved tract. Priority areas identified in Recovery Plans and EDT modeling help to identify the priority properties for purchase and protection in order to address limiting factors for key species in specific basins. . -**Please see the attached addendum highlighting the available science behind our acquisition**

priorities. Quantitative changes in productivity, abundance, etc will be evaluated at a watershed and subbasin scale as part of ongoing natural production R,M and E and not at the project or reach scale.

Comment 3): Some indication is needed of (a) the prioritization of the four subbasins – Grande Ronde, Umatilla, Walla Walla, and John Day – that are components of the acquisitions and (b) the anticipated extent of the acreage to be acquired.

Response: The "Hillman Method" used by the Action Agencies to estimate population productivity improvement was not conducted in such a way as to permit comparison between subbasins. As stated within the proposal, CTUIR's highest priority basin is the Grande Ronde. This is due to analysis conducted under the FCRPS BiOp showing a high probability to improve the population status of listed Snake River Spring Chinook through protection of key spawning habitat areas identified in the Subbasin Plan and Recovery Plan (see documentation below under next question). Although this is our highest priority from our analysis, acquisitions or conservation easements in other key locations within the CTUIR Ceded Lands also have potential to realize signification benefits to listed species. As in the Grande Ronde, priorities in other basins will also be based on analysis conducted within each of the applicable Subbasin Plans and subsequent recovery plan analysis as well as analysis conducted under the FCRPS BiOp. Although areas will be identified and prioritized within CTUIR's Ceded lands that would have the highest species benefits, and our outreach efforts will focus on those areas, acquisition is based on willing seller opportunities. This project will provide the CTUIR a framework to prioritize areas for acquisition within the selected basins that have the highest probability of quantifiable benefits (using existing data) to listed species. Within those priority areas, available properties will be further evaluated using the Ranking Criteria outlined within the proposal.

Although CTUIR have identified some key areas and properties as priorities, due to sensitivities & uncertainty surrounding acquisition of private properties, exact size of land parcels to be acquired can not be guaranteed. CTUIR is laying out a framework on how they will prioritize properties for potential acquisition throughout their Ceded Lands.

Comment4): Priority areas identified in the Subbasin Plans and by EDT need to be discussed in some detail, including expected gains in production and abundance resulting from the acquisitions.

Response: As indicated, the Grand Ronde basin has been determined to be the highest priority due to the likely ability to improve the population status of listed Snake River Spring Chinook through protection of key spawning habitat. However, should prioritized properties not be available within the Grand Ronde or should funding allow for additional acquisitions, the CTUIR will use the above framework to identify additional areas within the CTUIR Ceded Lands (John Day, Umatilla, and Walla Walla) to prioritize a protection strategy. Expected percentage change in abundance and relative protection benefit (high, medium, low) resulting from implementation of protective measures was determined in

Subbasin and recovery planning analysis. **—Please see the attached addendum highlighting the available science behind our acquisition priorities.**

CTUIR has attempted to describe the ranking and prioritization process that will be used prior to initiating acquisition negotiations; however, exact gains in production and abundance resulting from the acquisitions on individual property basis is hard to determine at this time due to the uncertainty surrounding the willingness of property owners to sell. If the highest priority properties become available in the Grand Ronde, the CTUIR estimates based on the application of the "Hillman method" which is in use by the Action Agencies, that the protection will bring about a 28% Population Productivity Improvement over a 10 year period in coordination with active restoration efforts (2008 BPA Fish Accords MOA Attachment G). Due to the sensitive nature of landowner privacy and negotiations, exact properties will not be identified within this document. If funding allows and sale opportunities are available, additional high priority properties will be evaluated using the third tier ranking criteria. If negotiations are not successful for priority properties in the Grande Ronde, production estimates may be lower.

Comment 5): More detailed discussion is needed of how scoring of criteria would be done (expert opinion, data analysis, EDT or QHA, etc.)

Response: See question 3 above. Potential properties will be evaluated through a 3 tier process as described above. Once they have been identified to fit within priority areas for protection within Subbasin and Recovery Plans they are then evaluated on their ability to help meet the Habitat Quality Improvement needs identified within the FCRPS BiOp. Relative benefit of protection and restoration from EDT or QHA geographic area analysis will provide the basis for establishing priority areas. Following that, the criteria outlined in the Narrative will be used to evaluate opportunities within the priority areas and to develop targeted properties for prospecting opportunities in the future. These Ranking Criteria will be used to compare two or more like projects.

Potential project evaluation will be done by a multidisciplinary team consisting of CTUIR staff with BPA and other conservation partner support.

Comment 6): More details and definitions are needed for Criteria 3.
Response: Criteria 3 focuses on the long term defensibility of the conservation values associated with the tract. Will acquisition provide the ability to address limiting factors identified in management plans, and will those qualities be able to be protected into the future? This criterion requires the evaluation team to consider long term defensibility issues related to a specific tract of land. The evaluation team will need to consider the potential for a specific acquisition to be successful at protecting or restoring habitat and addressing an identified limiting factor or a degraded condition over the long term. In cases where defensibility of rate payer investment is in question, further analysis and/or a more extensive conservation strategy may be required before advancing project to acquisition. In response to ISRP comments we have revised this criteria as follows:

Revised Criteria 3: Degree of defensibility relative to size and configuration of acquisition tract and adjacent threats.

- High probability of long term defense of conservation values (e.g. - limited threats from adjacent properties or upstream influences, large project size configured with minimal defense perimeter). (+1 pt)
- Limited potential for significant or long term loss or extensive short term loss of conservation values (e.g.- Limited potential for significant long term loss might include potential for a land use zone change that permitted conversion of adjacent lands to low density residential, while extensive short term loss could include extensive upstream and/or adjacent private forest lands w/ potential for future logging activities) (-1 pt)
- Significant potential for limited long-term or extensive short term loss of conservation values (-2pts)
  (e.g.- Significant potential for limited long term loss might include existing land use zoning permitting conversion of adjacent lands to low density residential, while significant potential for extensive short term loss could include extensive corporate timber lands upstream and/or adjacent logging activities).
- Significant potential for extensive long-term loss of conservation values (e.g. – small conservation property with extensive defense perimeter within urban growth boundary) (-3pts)

Comment 7): A list and relatively detailed description of sites that will be acquired or have the potential for acquisition, in so far as they are known, should be provided in the proposal or an acquisition plan. This list would aid in understanding the general characteristics of the types of areas that would be acquired under this project, and why they have been selected. (If necessary this list could remain confidential and will not be distributed beyond the ISRP.)

Response: General descriptions of priority conservation areas are provided in the attached addendum. We have articulated a framework and prioritization process based on available science that outlines areas where habitat protection will bring about the greatest benefit to species, followed by further evaluation with the ranking criteria proposed in the narrative. Though CTUIR and BPA have worked cooperatively together to identify some key areas for acquisition, it would be inappropriate to identify private properties on a map until the landowners are consulted and have become willing sellers. While we appreciate ISRP's willingness to keep information confidential, the Tribe's legal advisors are not confident the ISRP could honor that in the face of a public records request.

Comment 8): Develop a monitoring and evaluation framework.

Response: The Confederated Tribes are committed to comprehensive interagency monitoring and evaluation effort throughout the Columbia Basin. Products from these efforts support decision making at all levels of fish and wildlife management and will inform both the prioritization of conservation and prescription of associated restoration efforts. CTUIR will continue to coordinate and integrate efforts of model watershed (s), ODFW, WDF, CRITFC, USFS, BOR to meet VSP, hatchery, and habitat effectiveness monitoring. CTUIR monitoring plans reflect on other monitoring efforts to avoid overlap and maximize the efficient use of resources. CTUIR will continue to share and coordinate monitoring elements that are of standardized biological metrics for fish status and trend monitoring. This collaborative analytical approach will ensure that CTUIR is responsive to management questions and continues to coordination with co-managers and

action agencies. The purpose of the project is to acquire land that has been previously indentified through various sources (SBP, Recovery Plans, FCRPS BiOp analysis) as a high priority for protection in order to bring about the recovery of critical habitats and listed species. Monitoring and evaluation for this project will be incorporated into existing multiagency efforts in the basins where the acquisition takes place as well as looked at in the context of Population Improvements gained under BPA's actions under the FCRPS BiOp.

ISRP Comments

1. Technical Justification, Program Significance and Consistency, and Project Relationships (sections B-D)

The rationale for selection of sites for acquisition based on priority areas identified in the Subbasin Plans and on EDT/QHA modeling is reasonable, but the proposal provides insufficient detail for scientific review. Although the project is coupled directly to Subbasin Planning and is also linked to a number of other ongoing projects, benefits to fish and wildlife are not provided. The sponsors should be commended for developing a set of criteria for selection of sites for acquisition. Each of the criteria will be scored for a site, and the total score will play a role in prioritizing the site for acquisition.

The proposal could be improved if more detailed information on the priority sites identified in the Subbasin Plans and from EDT was provided. This information could include locations of the sites within the various basins (with a map of sites in the context of each basin as a whole); size of the area; connectivity to other sites; whether the sites are used for spawning and/or rearing; and expected gains in productivity, abundance, and diversity (presumably from EDT/QHA estimates).

In the Technical Justification section, we have some questions about Criteria 3 in the Project Prioritization Table: Some definition is required for these criteria. What constitutes a "high probability"? What constitutes limited potential, significant or long-term loss, extensive short-term loss? It is not clear how these criteria would be applied.

2. Objectives, Work Elements, and Methods (section F)

The objectives and methods pertain primarily to the process that will be used to select and acquire sites. The proposal would be strengthened if there was more detailed discussion of how selection criteria would be scored. Would the scoring be based on expert opinion, data analysis, or by some other means or combination of means? Some terms in the criteria such as connectivity should be better explained in the context of the scoring procedure.

If possible, the sponsors should provide a list of the sites that will be acquired or have the potential for acquisition (with a relatively detailed description of each) as examples of the kinds of areas that would be acquired under this project.

Based on the description of the methods, the proposal is basically requesting permission to acquire all lands possible that achieve some minimum score in the rating scheme? However, there should be some technical review of the lands included as potential acquisition or easement candidates from EDT/QHA and how these sites were scored using the criteria. Some of the scoring criteria appear to be fairly subjective. Some examples of how these criteria are being interpreted would provide a better indication of how they are being applied.

Under method 5. Negotiate Sale Price, it would be prudent to determine if the landowner is amenable to sale or establishing a conservation easement before going to the trouble and expense of an appraisal.

3. M&E (section G, and F)
No M&E program is specified. The sponsors should demonstrate a commitment to M&E and describe the M&E program. Sufficient detail should be provided to demonstrate that benefits to fish and wildlife have occurred in the three watersheds. This project may provide an opportunity to compare relative benefits that accrue from different types of acquisitions.

CTUIR Ceded Area Priority Stream Corridor Conservation and Protection Project
Addendum to Question 4

The CTUIR 3 tier prioritization process is based on EDT/QHA analysis performed for subbasin and recovery planning and the needs analysis in the FCRPS BiOp. Further evaluation for each parcel will be conducted using the remaining ranking criteria in the original proposal (2008-207-00) Survival improvement analysis will be conducted per RPA 35 (Habitat Strategy 1—Protect and Improve Tributary Habitat Based on Biological Needs and Prioritized Actions) for the FCRPS BiOp at the basin scale and evaluated at the subbasin scale through site-specific RM&E efforts.

The four subbasin plans and the Draft Snake River and Mid-Columbia River recovery plans document the importance and benefit of long-term protection of key habitats many which are privately owned. Thus, the basis for developing an acquisition plan that capitalizes on opportunities to secure private and other parcels as these become available and will contribute to BPA objectives for recovery.

The FCRPS BiOp evaluated mitigation actions throughout the basin based on the contribution to recovery of listed species. Through the Columbia River Basin Accord process, states and Tribes throughout the basin estimated the types of habitat actions that would contribute to recovery. Through this process, stream reaches and adjacent lands were identified for their potential contribution to recovery objectives. The Ceded Area Acquisition project provided key information to analyzing the need for and the extent of land area that might contribute to recovery objectives.

Context Setting

Conservation of existing quality habitat that supports core production and primary life history types, as well as quality migration habitats within populations and across distinct population segments is a critical first step to recovery and provides a basis for a comprehensive land acquisition program. Land acquisition that affords the opportunity to protect and restore normative ecological processes throughout a species life cycle is a guiding principle of this proposal (Draft Oregon Snake River Recovery Plan April 8, 2008).

Conservation Strategies and Priorities by Basin

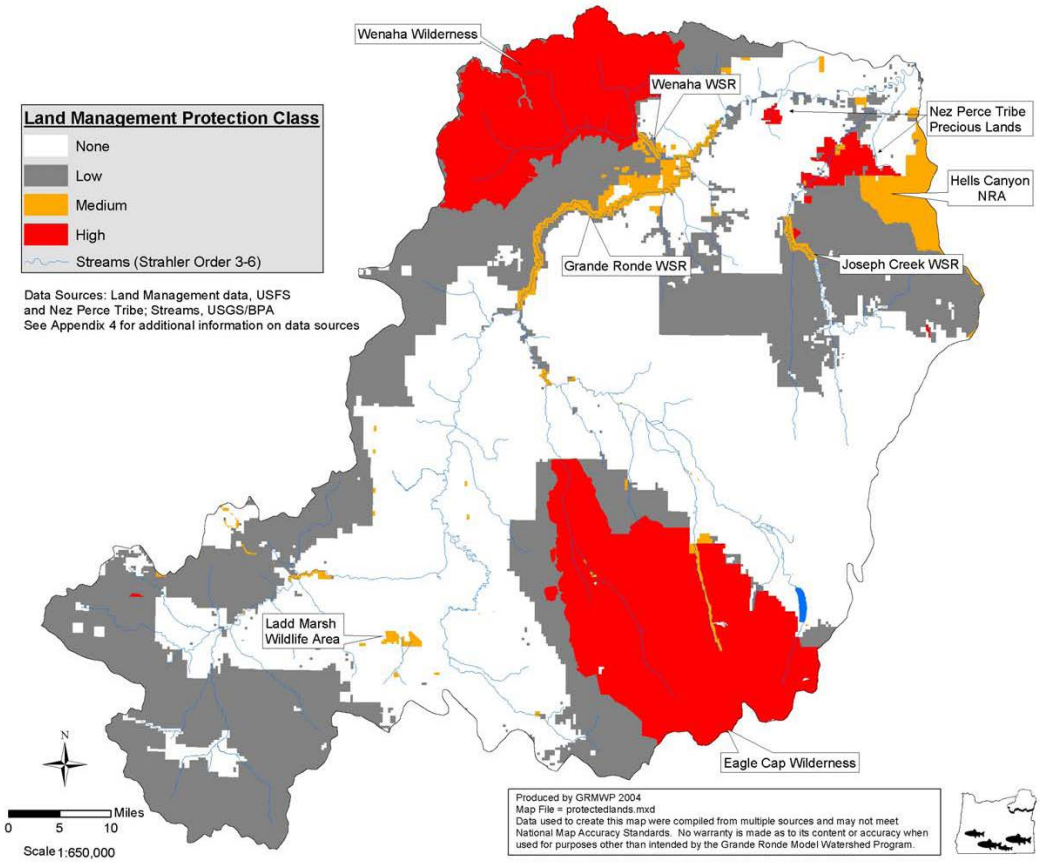
<u>Upper Grande Ronde River Basin</u>

Goals for maintaining the integrity of aquatic systems in the Grande Ronde include protecting high quality habitat, restoring degraded habitat, and establishing or re-establishing habitat connectivity (Grande Ronde Subbasin Plan Page 258**)**
Each contributes to the goal to manage for healthy ecosystems that support aquatic resources and native species.

Table 60. Summary of priority attributes identified by EDT for each watershed in the Grande Ronde Subbasin.

Watershed	Priority Attributes
Wenaha	none
Lower Grande Ronde	Habitat Diversity (primary pools, glides, spawning gravels) Key Habitat Quantity (wood, hydromodifications to channel) Sediment
Joseph Creek	Sediment Temperature Key Habitat Quantity (reduced wetted widths)
Wallowa River	Key Habitat Quantity (reduced wetted widths) Habitat Diversity (reduced wood, riparian function) Sediment Temperature Flows
Minam	Key Habitat Quantity (reduced wetted widths) Habitat Diversity (reduced wood, riparian function) Sediment
Lookingglass Creek	Key Habitat Quantity (reduced wetted widths) Habitat Diversity (reduced wood, riparian function) Sediment
Catherine Creek	Key Habitat Quantity (reduced wetted widths) Habitat Diversity (reduced wood, riparian function) Sediment Flow Temperature
Upper Grande Ronde	Sediment Flow Temperature Key Habitat Quantity (reduced wetted widths)

.



(Page 224, Grande Ronde Subbasin Plan, 2004)

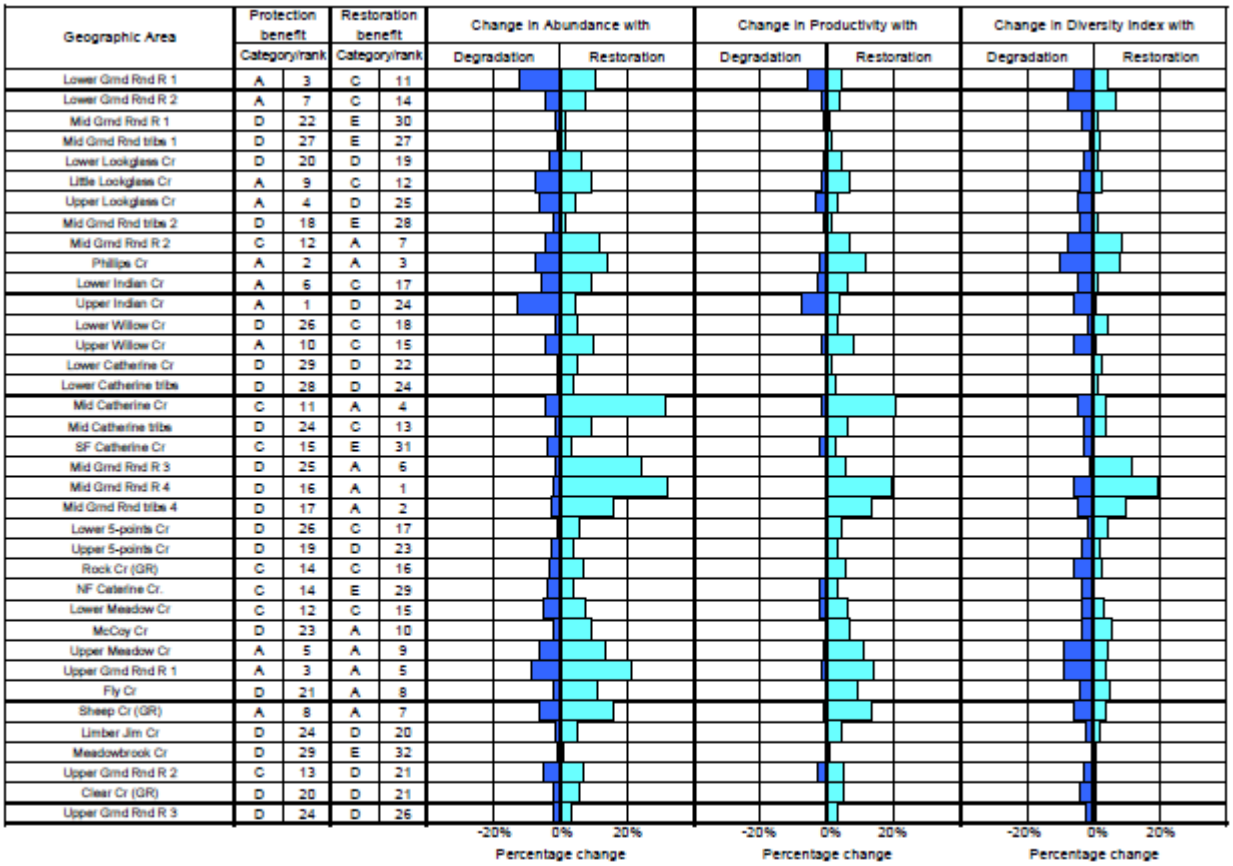


Figure 29. Upper Grande Ronde Summer Steelhead geographic area restoration and protection priorities

(Page 78, Grande Ronde Subbasin Plan, 2004)

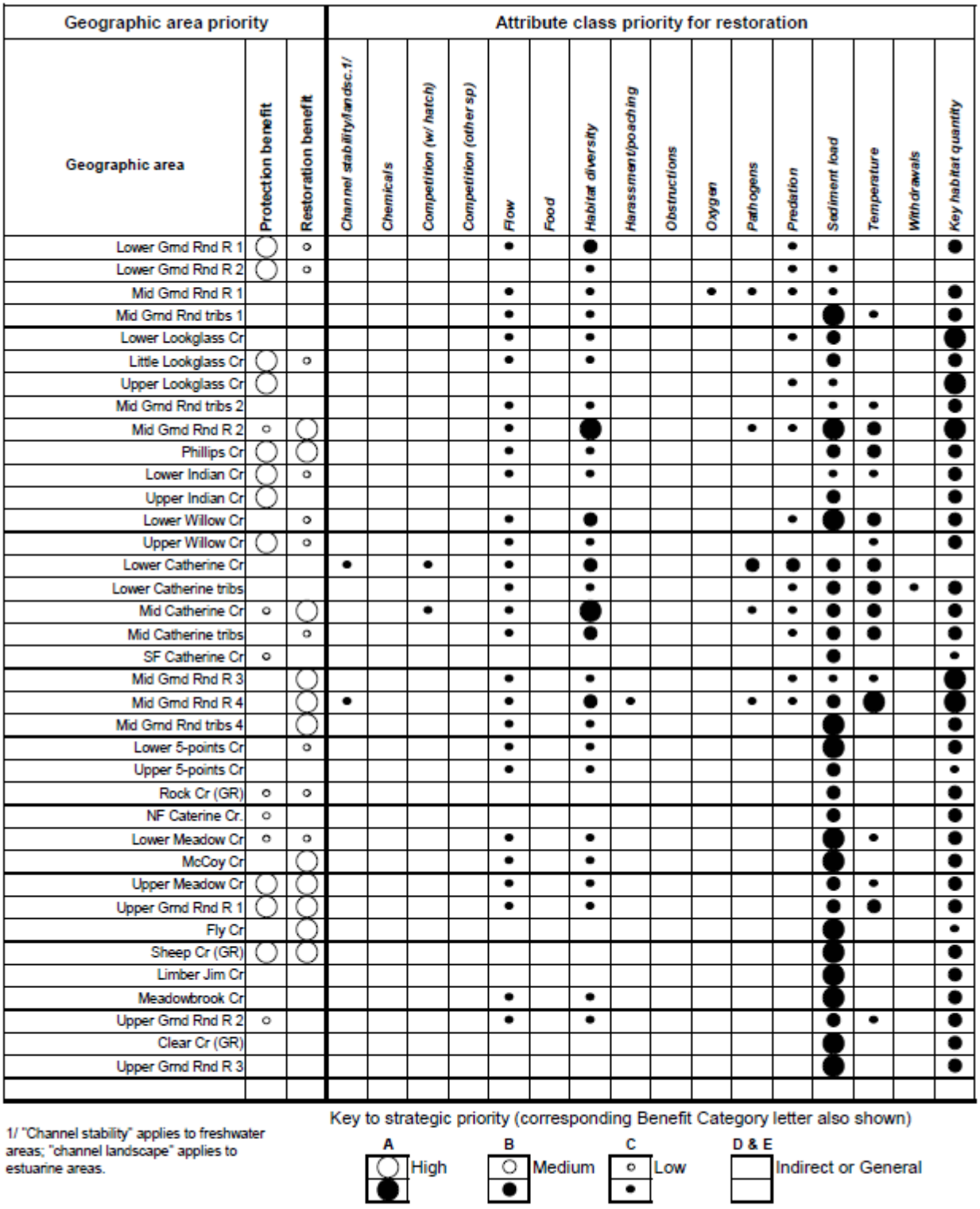


Figure 30. Upper Grande Ronde Summer Steelhead geographic area attribute impact summary.

(Page 79, Grande Ronde Subbasin Plan, 2004)

Grande Ronde Priority Areas

The results of EDT modeling for the Upper Grande Ronde River Spring Chinook Salmon identified the highest priority area for protection and restoration is the upper Grande Ronde from Meadow Creek to Limber Jim (Grande Ronde Subbasin Plan Page 63). In addition, restoration of the Middle Grande Ronde from the upper Grande Ronde Valley to Meadow Creek, Fly and Sheep Creeks would significantly increase abundance. Sediment, temperature, key habitat quantity and habitat diversity are the attributes that most often are limiting habitat for this population in these areas. In the priority reaches for restoration flow is also identified as a limiting factor

John Day River Basin

Protection of existing high quality habitat that contributes to meeting biological habitat objectives for focal species is a priority for the John Day River Basin (John Day River Subbasin Plan Page 270). Other related objectives are likely to be met through habitat protection and natural recovery of upland and riparian areas. Land acquisition and established conservation easements will facilitate habitat protection as well as implementation of restoration projects that target the biological attributes of habitat. Specific objectives addressed by each restoration project will vary by project and site and will be evaluated on a case-by-case basis. At a minimum, the habitat objectives for the John Day River Basin included in Table 69, Strategies - Habitat Objective Linkages on the Subbasin Plan will provide a starting point for site selection and EDT attributes that would be prioritized and/or addressed. In addition, the following strategies would be used to prioritize acquisition/restoration.

Protect Existing High Quality Habitat Areas -- Many areas in the John Day Subbasin currently provide high quality fish and wildlife habitat and/or are expected to given continuation of current management. Protecting these areas from the negative affects of use for commodity production or other purposes is an objective that will contribute to maintaining and improving fisheries habitat in the subbasin (Strategy G. John Day Subbasin Revised Draft Plan) (March 15, 2005).

Acquisition & Management of Land -- Where extremely high habitat values are present, it may be desirable to purchase private lands to protect and enhance those values (Strategy G1. John Day Subbasin Revised Draft Plan) (March 15, 2005). The Ceded Area Land Acquisition project would prioritize these sites for acquisition.

Acquisition & Management of Conservation Easements -- Conservation easements are an effective tool for gaining assurance that conservation values will be protected (Strategy G2. John Day Subbasin Revised Draft Plan) (March 15, 2005). In many cases, establishing conservation easements may be preferable to acquisition as lands remain in private ownership and accommodate continued commodity production for economic and other purposes. Establishing conservation easement may be more economical than

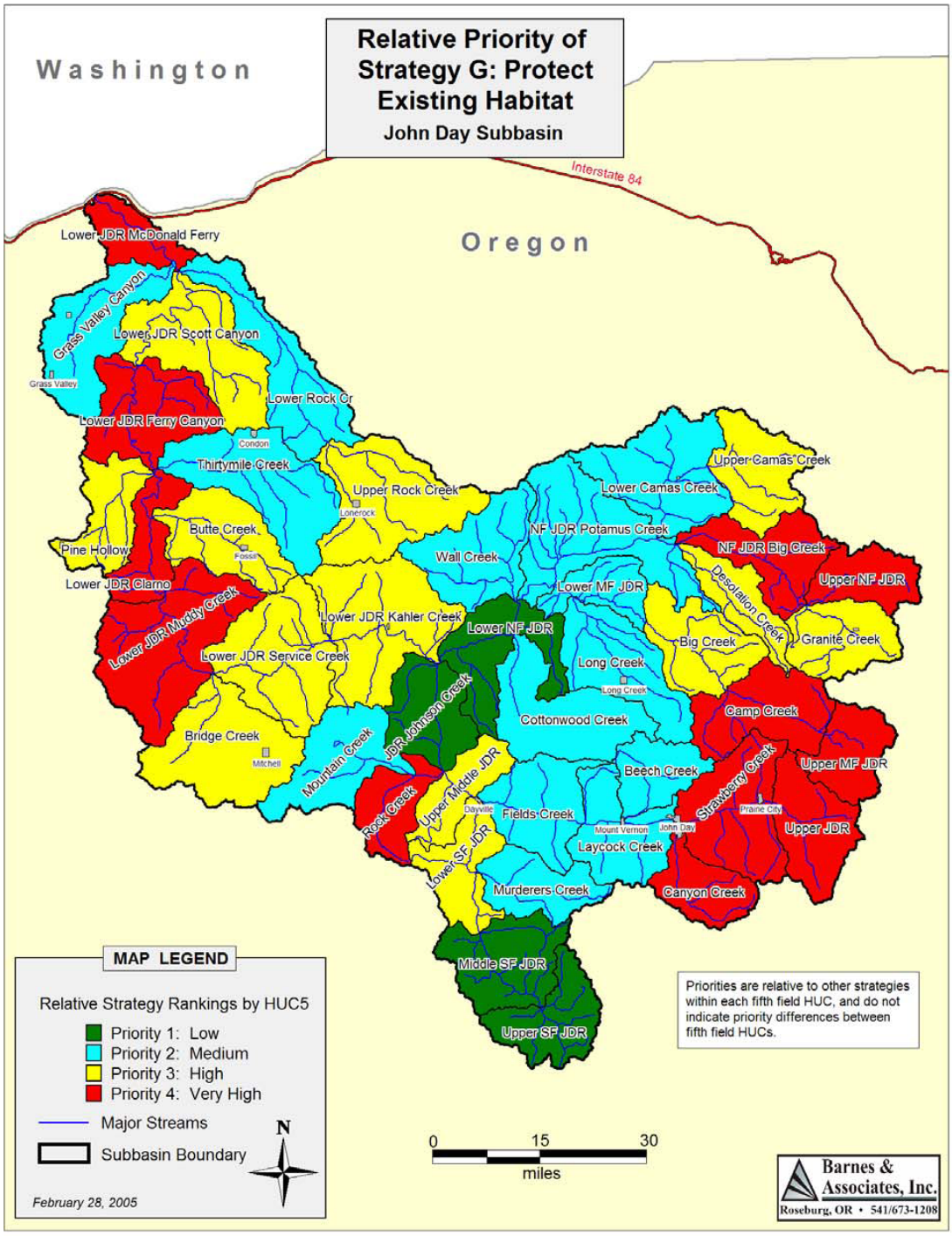
acquiring land and require less long-term maintenance. Much depends on the type of easement that can be negotiated to include provisions that enhance key habitat attributes. The Ceded Area Land Acquisition Project would prioritize establishing easements in areas where acquisition is not an option.

Within the Subbasin plan numerous strategies are evaluated for the potential to affect limiting factors (EDT attributes) within the basin. Habitat protection has the potential to contribute to almost every limiting factor (John Day River Subbasin Plan Page 245).

Table 82. Linkage between Protecting High Quality Habitat Areas and EDT Attributes

	Physical and Biological Effects	EDT Attribute	Dispersal Downstream	Lag Time to Biological Effect
1	Maintain and Protect current high quality habitat conditions	Flow High	High	None
		Flow Low	High	None
		Flow Interannual	High	None
		Channel Length	None	None
		Width Max	None	None
		Width Min	None	None
		Gradient	None	None
		Confinement-Hydro	None	None
		All Habitat Types	None	None
		Bed Scour	Low	None
		Icing	Medium	None
		Riparian Function	None	None
		Embeddedness	Medium	None
		Fine Sediment	Medium	None
		Wood	Low	None
		All Water Quality Parameters	High	None
		All Biological Parameters	Low	None

(John Day River Subbasin Plan Page 271)



(Page 272, John Day River Subbasin Plan Figure 57. Map illustrating relative priority for protecting high quality habitat by HUC5.)

Strategy 1. Protect and conserve natural ecological processes that support the viability of populations and their primary life history strategies throughout their life cycle.						
Strategic Actions and Impacts on Limiting Factors, Threats, and Population						
Actions	**Geographic Locations (1-first priority, 2-second priority)**	**Factors Addressed**	**Threats Addressed**	**VSP Parameters Addressed**	**Life Stages Affected**	**Discussion**
Protect high quality habitats through acquisition or conservation easements	Tributaries of the North Fork John Day River within the NF John Day Wilderness (1); North Fork John Day River, from Big Cr upstream to headwaters (1); Granite Cr (2); South Fork Desolation Cr (1); upper Clear Cr (1); upper Hideaway Cr. (2)	Degraded floodplain connectivity and function, degraded channel structure and complexity, degraded riparian area, altered hydrology, degraded water quality, altered sediment routing	Many threats including livestock overgrazing of riparian area, mining, channelization, stream bank armoring, agricultural practices (fertilizers, herbicides, sediments, changes in plant communities), water withdrawals, loss of beaver dams	Abundance, productivity	All	Protection of high quality habitats is the most cost effective way of ensuring high quality habitat. It is much less expensive over the long term to protect high quality habitat than it is to degrade the habitat and then try to restore it. Land acquisitions, easements, and cooperative agreements facilitate protection.
Adopt and manage Cooperative Agreements	Cottonwood (1); Deer (1), and Rudio crs (2); North Fork John Day River, below Wall Cr (2)	Same as above	Same as above	Abundance, productivity	All	
Special management designations in forest and BLM plans	Recently acquired BLM parcels on the North Fork John Day River, between Monument and Camas Cr (1); areas identified in existing Forest Plans (2)	Same as above	Livestock overgrazing of some riparian areas, changes in plant communities	Abundance, productivity	All	
Designate additional wilderness and wild and scenic status	Those areas identified in the Umatilla National Forest Plan Revision and in the BLM Management Plan currently being developed (2)	Same as above	Livestock overgrazing of riparian area, changes in plant communities	Abundance, productivity	All	
Protect access to key habitats	The lower reaches of Hideaway (1), Cable (1), Desolation (1), Owens (2), Camas (2), Meadowbrook (2), Rudio (2), and Cottonwood (1) crs	Passage barriers, altered hydrology, channel structure		Abundance, productivity, distribution		Current state law requires ODFW to review any new or substantially modified structure with regard to fish passage. Potential still exists for access to be blocked by warm water temperatures and flow alterations. Channel structure may be severely modified by higher than natural flows.

Strategy 1. Protect and conserve natural ecological processes that support the viability of populations and their primary life history strategies throughout their life cycle.						
Consistently apply Best Management Practices and existing laws to protect and conserve natural ecological processes.	Population-wide	All	Same as above	Abundance, productivity	All	

Action Implementation						
Actions	**Implementing Entity**	**Status**	**Spatial Coverage**	**Implementation Timeframe**	**Expected Biophysical Response Timeframe**	**Certainty of Outcome**
Protect the highest quality habitats through acquisition or conservation easements	CTUIR, TNC, RMEF, John Day Basin Trust, SWCDs	Ongoing	Water quality improvement have high dispersal downstream, stream corridor and function improvements would be confined to the specific site	Existing conservation agreements are complete. Full implementation of conservation measures will take 5-15 years or more	5-15 years with passive restoration approaches	High, based on previous cooperative agreements
Adopt and manage Cooperative Agreements	ODFW, SWCDs, FSA	Ongoing	Same as above	Agreements are for 10-15 years	Long term	High, although not in perpetuity
Special management designations in forest and BLM plans	USFS, BLM	Ongoing as identified	Same as above	Many complete, potentially subject to change in Forest Plan revisions	Immediate and long term	High, although subject to change from Forest Plan or management plan revision
Designate additional wilderness and wild and scenic status	UDFS, BLM Oregon State Parks	Ongoing as identified	Water quality and flow improvements would have high dispersal downstream, stream corridor and function improvements confined to the specific site	Unknown	5-15 years	Unknown, subject to availability of areas that meet criteria
Protect access to key habitats	SWCDs, Watershed Councils, BLM, USFS	Ongoing	Immediate area only	Long term	5-15 years	High
Consistently apply Best Management Practices and existing laws to protect and conserve natural ecological processes.	NRCS, SWCDs, USFS, ODFW, ODF, DSL, BLM, ODOT, CTWSRO, ODA, FSA, private landowners	Ongoing	Population-wide	Long term	5-15 years	High

Status of Existing Programs through which Actions are Implemented				
Agency/Organization	**Program Name**	**Geographic Locations**	**Sufficient* (yes, likely, uncertain, no)**	**Sufficiency Rationale**
USFS, BLM	Wilderness Areas, Wilderness Study Areas, Wild and Scenic River corridors, Special Management Area designations, PACFISH	FS and BLM lands for PACFISH, North Fork Wilderness, North Fork Wild and Scenic Corridor	Yes, PACFISH standards are good, but implementation is inconsistent between forests. See discussion below.	See USFS/BLM Program Sufficiency Assessment -- Appendix E.
ODFW	Cooperative Agreements	Privately owned lands, Camas, Cottonwood/Fox, Granite creeks	No	The agreements are for only 10-15 years and need to be for longer timeframes.
FSA	CREP	Privately owned lands, primarily on Cottonwood/Fox Creek	No	The agreements are for only 10-15 years and need to be for longer timeframes.

Strategy 1. Protect and conserve natural ecological processes that support the viability of populations and their primary life history strategies throughout their life cycle.				
NGOs	Lease or purchase of lands	Cottonwood Creek conservation easement	Yes	Important to secure critical habitat and/or water rights.
ODA	Agricultural Water Quality Management Program	Private lands throughout the North Fork watershed		See State of Oregon programmatic review – Appendix F.
CTUIR	Watershed Restoration	Camas and Desolation creeks	Uncertain	Needs expansion.
ODF	Oregon Forest Practices Act	Private and state owned lands		See State of Oregon programmatic review – Appendix F.
Local Government	City and County Planning and Zoning	Private lands	Uncertain	Needs expansion.

Program Sufficiency and Gaps (including current and near-term efforts, and additional efforts needed, constraints)

The North Fork John Day River from Camas Cr (RM 57) to the headwaters (RM 112) is designated as a Federal Wild and Scenic River. The North Fork John Day from near Monument (RM 20) to the North Fork wilderness boundary (RM 76.5) is designated a State Wild and Scenic River. A wild and scenic designation requires development to be consistent with protecting the ORVs for which the river was designated, requires review of any activity that may affect ORVs within the ¼ mile river corridor, and protects the free flowing condition of the river. Designation as W&S essentially precludes construction of any major dam. A Management Plan was adopted by BLM and Oregon State Parks Department in 2001 for the designated rivers segments. Implementation of all the actions identified in the plan will likely take many years, however grazing management plans for most of the allotments within corridor are complete. All BLM allotments have grazing plans, except recently acquired lands.

Wilderness areas within the boundaries of the North Fork population include the North Fork John Day Wilderness (85,000 acres). The primary rationale for designating the North Fork Wilderness was for protection of anadromous fish habitat. Adding additional wilderness areas and wild and scenic river segments would require designation by Congress.

Implementation of PACFISH standards and guides for Forest and BLM programs, including grazing management, has been highly successful over most of this population's area, but implementation of PACFISH Standards and Guides for FS grazing management programs remains challenging in a few locations.

Cooperative and conservation agreements on private land are tools for protecting high quality habitats. ODFW has used cooperative agreements over the last 21 years to protect riparian corridors that have been fenced to exclude livestock grazing. Unfortunately those agreements are for only 15 years and there have not been funds or personnel needed to extend them for longer time periods. In the North Fork subbasin, a perpetual conservation agreement to prevent subdividing a 10,000 acre parcel is in place on Gilmore and Straight crs and includes approximately 3.3 miles of steelhead spawning and rearing habitat.

See discussion for Strategy 1, Lower Mainstem John Day River population.

(Page 9-95 Oregon Mid Columbia Steelhead Recovery Plan, 2009)

Table 8-24. Limiting factors and priorities for protection and restoration as defined by EDT for North Fork John Day Steelhead.

Geographic area priority			Attribute class priority for restoration																
Geographic area	Protection benefit	Restoration benefit	Channel stability	Chemicals	Competition (w/ hatch)	Competition (other sp)	Flow	Food	Habitat diversity	Harassment/poaching	Obstructions	Oxygen	Pathogens	Predation	Sediment load	Temperature	Withdrawals	Key habitat quantity
Cottonwood Creek		○	●				●		●				•		●	●		●
Desolation Creek	○	o	•												●	•		●
Granite Creek	○	○	•				•		•						●			●
JDR Johnson Creek									•					•	•			●
Lower Camas Creek	o	o	•				•		●						●	•		●
Lower JDR Clarno	o								•					•				●
Lower JDR Ferry Canyon									•					•				●
Lower JDR Kahler Creek	o						•		●							•		●
Lower JDR McDonald Ferry	○								•					●				
Lower JDR Muddy Creek	o								●					•				●
Lower JDR Scott Canyon	o								•					•				●
Lower JDR Service Creek	o						•		●						•	•		●
Lower MF JDR									●							●		•
Lower NF JDR	o	o	•				•		●				•		●	●		●
NF JDR Big Creek	○	○	●						•		●				•	•		●
NF JDR Potamus Creek	○	○	•				•		●						●	•		●
Upper Camas Creek	○	o	•				•		•						●	•		●
Upper NF JDR	○	○	●						•						●	•		●
Wall Creek	○	○					●		•						●	●		●

Key to strategic priority (corresponding Benefit Category letter also shown)

A ○ ● High B ○ ● Medium C o • Low D & E Indirect or General

1/ "Channel stability" applies to freshwater areas only.

(Page 8-49 Oregon Mid Columbia Steelhead Recovery Plan, 2009).

Table 8-25. Habitat limiting factors summary for the North Fork John Day River steelhead population.

Population MaSA and MiSA	Major Limiting Factors	Sites Affected*	VSP Characteristics Impacted	Threats	Life Stages Affected
NORTH FORK JOHN DAY POPULATION					
North Fork John Day Population	degraded floodplain and channel structure (pools, connectivity, diversity); altered sediment routing; water quality (temp, toxic mine waste)	MaSAs and MiSAs	Productivity and abundance most affected; possible slightly altered spatial structure.	Riparian disturbance, stream channelization and relocation, grazing, forest practices, road building, irrigation withdrawals, mining and dredging	Parr-to-smolt survival and egg-to-fry survival. All stages affected by toxic leaching in Granite Cr. and NF John Day R.
Lower Camas MaSA	degraded floodplain and channel structure; altered sediment routing; water quality (temp)	Camas between Hideaway and Wilkins (T, F, CS, R, H, S	Productivity and abundance most affected; possible slightly altered spatial structure	Livestock grazing, forest practices, roads,	Parr-to-smolt survival and egg-to-fry survival.
Potamus MaSA	degraded floodplain and channel structure; altered sediment routing; water quality (temp)	Potamus [T,S,F,CS]	Productivity and abundance most affected; possible slightly altered spatial structure	Livestock grazing, forest practices, roads,	Parr-to-smolt survival and egg-to-fry survival.
Big Wall MaSA	degraded floodplain and channel structure; altered sediment routing; water quality (temp); altered hydrology	[H (lower), F, CS,S,T,IP,R]	Productivity and abundance most affected; possible slightly altered spatial structure	Livestock grazing, forest practices, roads,	Parr-to-smolt survival and egg-to-fry survival.
Upper NF John Day MaSA	degraded floodplain and channel structure; altered sediment routing; water quality (toxic mine waste)	[WQ (mine sites), F,CS,S,]	Productivity and abundance most affected; possible slightly altered spatial structure	Livestock grazing, forest practices, roads, mining and dredging	Primarily parr-to-smolt and egg-to-fry survival. All stages affected by toxic leaching
Desolation MaSA	degraded floodplain and channel structure; altered sediment routing; water quality (temp)	[F,CS,S,T]	Productivity and abundance most affected; slightly altered spatial structure	Livestock grazing, forest practices, roads,	Primarily parr-to-smolt and egg-to-fry survival.
Granite MaSA	degraded floodplain and channel structure; altered sediment routing; water quality (toxic mine waste); altered hydrology	[H (Pete Mann ditch system), WQ (mine sties), F,CS, S,T,R]	Productivity and abundance most affected; possible slightly altered spatial structure	forest practices, roads, mining and dredging	Parr-to-smolt and egg-to-fry survival. All stages affected by toxic leaching
Cottonwood MaSA	degraded floodplain and channel structure; altered sediment routing; water quality (temp); altered hydrology; degraded riparian communities	[H, IP (lower reaches), F,CS, S, WQ, R (biological criteria)]	Productivity and abundance most affected; possible slightly altered spatial structure	Livestock grazing, forest practices, roads, irrigation withdrawals	Primarily parr-to-smolt and egg-to-fry survival.
Owens MaSA	degraded floodplain and channel structure	[F, CS, S, T]	Productivity and abundance most affected; possible slightly altered spatial structure	Livestock grazing, forest practices, roads, irrigation withdrawals	Primarily parr-to-smolt and egg-to-fry survival.
Upper Camas MaSA	degraded floodplain and channel structure; altered sediment routing; water quality (temp)	[F, CS, S, T,]	Productivity and abundance most affected; possible slightly altered spatial structure	Livestock grazing, forest practices, roads	Primarily parr-to-smolt and egg-to-fry survival.

* Abbreviations for limiting factors: degraded floodplain connectivity and function (F); degraded channel structure and complexity (CS); degraded riparian communities (R); altered hydrology (H); degraded water quality (WQ), temperature (T); altered sediment routing (S); man-made block to migration (BP); impaired fish passage (IP).

(Page 8-50, Oregon Mid Columbia Steelhead Recovery Plan, 2009)

John Day Priority Areas (from John Day River Subbasin Plan, 2004)

Priority conservation areas in the John Day River Basin include the lower John Day River mainstem from McDonald Ferry to the Forks, Pine Hollow, Butte Creek, Upper Rock

Creek, Kalher Creek, Service Creek and Big Creek. Above the forks, high and very high priority areas include; Rock Creek and the lower South Fork in the South Fork Drainage; Upper Middle Mainstem John Day River, Canyon Creek, Strawberry Creek, and Upper Mainstem John Day River in the Mainstem Drainage; Camp and Big Creek in the Middle Fork Drainage; and Granit Creek, Big Creek , Desolation Creek, Big Creek and Upper Norht Fork in the North Fork Drainage.

Umatilla River Basin

Priority geographic areas for protection in the Umatilla River Basin were identified in the Assessment section of the subbasin plan. These are the areas the EDT analysis revealed would have a negative impact on focal species as a consequence of degraded habitat conditions. Within protected areas, action to protection and/or avoid degradation would include 1) conservation easements and other agreements to secure the protection of streams and riparian zones, 2) passive restoration, and 3) upland management and treatments including CRP, filter strips, sediment retention basins, and terracing to prevent sediment transport the streams. Passive restoration involves a change in land use that accommodates stream and riparian recovery. Passive restoration can contribute to protection or further degradation of habitat attributes on which focal species depend. In most cases, modest improvements to habitat can be expected during the 10 to 15 year planning timeframe. Protective actions are not limited to priority areas, but may also be proposed and constructed in priority sites. The subbasin plan direction intends to limit actions outside of the priority geographic area. However, it is understood that some factors limiting fish within a particular geographic area (e.g., sediment) may require attention outside of the geographic area where significant sources that contribute to downstream habitat degradation exist (Umatilla/Willow Subbasin Plan Page 5-40) (May 28, 2004).

Table 139. Priority geographic areas for steelhead habitat protection.

Geographic Area	Geographic Area Description	EDT Rank
GA 42	North Fork Umatilla R., mouth to headwaters including tributaries	1
GA 40	Umatilla R., Meacham Cr. to forks including all tributaries except Ryan Creek	2
GA 44	Buck Cr. and tributaries	3
GA 35	North Fork Meacham Cr. and tributaries	4
GA 19	East Birch Cr., Pearson Cr. to headwaters including Pearson Cr.	5
GA 46	South Fork Umatilla R., Thomas Cr. to headwaters including Shimmiehorn Cr.	6
GA 43	South Fork Umatilla R., mouth to Thomas Cr.	7
GA 37	East Meacham Cr. and Butcher Creek and tributaries	8
GA 45	Thomas Cr. and tributaries (South Fork Umatilla)	9
GA 9	Umatilla R., Butter Cr. to Westland Dam & Stanfield Dam to McKay Cr.	10
GA 18	East Birch Cr., California Gulch to Pearson Cr	11
GA 2	Umatilla R., Three Mile Dam to Butter Cr.	12
GA 36	Meacham Cr., North fork to Sheep Creek	13
GA 15	West Birch Cr., Bear Cr. to top of gorge, including tributaries	14
GA 16	West Birch Cr., gorge to headwaters	15

Priority geographic areas have also been determined for Spring and Fall Chinook as well as coho and bull trout. Where these areas overlap with listed Mid-C Steelhead populations would improve the overall score of the Ranking Criteria.

Strategy 1. Protect and conserve natural ecological processes that support the viability of populations and their primary life history strategies throughout their life cycle.						
Strategic Actions and Impacts on Limiting Factors, Threats, and Population						
Actions	Geographic Locations (1-first priority, 2-	Factors Addressed	Threats Addressed	VSP Parameters Addressed	Life Stages Affected	Discussion
Protect high quality habitats through acquisition, conservation easements and cooperative agreements	North Fork Umatilla R (1); Umatilla R., Meacham Cr. to forks (1); Buck Creek (1); NF Meacham Cr. (1); E. Meacham Cr (1); Thomas Cr.(1); W. Birch Cr., Bear Cr. to headwaters (1); E. Birch Cr., California Gulch to headwaters (1); SF Umatilla R., mouth to	Loss of habitat quantity and diversity, channel stability, sediment, low flow and high temperatures	Cultivation, forestry, grazing, urban development	Abundance, productivity	All	Agreements (conservation easements, cooperative agreements, etc.) could be made with private landowners in areas where priority habitats exist to maintain the current habitat values. Agreements in areas with priority habitats may include: Putting in no-cultivation riparian buffers on agricultural lands that are currently

Continue existing protections and/or increase protection of Federal lands; implement Forest Practices Act and PACFISH	North Fork Umatilla R (1); Umatilla R., Meacham Cr. to forks (1); Buck Creek (1); NF Meacham Creek (1); East Meacham Cr (1); Thomas Cr. (1); West Birch Cr., Bear Cr. to headwaters (1); E. Birch Cr., California Gulch to headwaters (1); SF Umatilla R., mouth to Thomas Cr. (1)		Forestry, cultivation, grazing, urban development	Abundance, productivity	All	Current protections on USFS lands such as Riparian Habitat Conservation Areas should be continued and maintained. Protection on Federal lands may be increased through the NEPA process or ESA consultation. Aquatic habitat issues are addressed through both processes. Actions may include expanding riparian buffers, changing management within or near riparian areas, and identifying sensitive areas to avoid. All the options listed for added protection are directed through PACFISH program/management direction but would be considered "New" actions to be applied if/when the need is identified. Forest Plan management direction (landscape-scale) for roadless areas, wildlife management emphasis and Wilderness are unlikely to change significantly in the near future.
Establish setbacks to protect waterways from forest management, agricultural activities, and other land use practices that would disrupt ecosystem function	Umatilla R., Meacham Cr. to forks ; Thomas Creek (1); West Birch Cr., Bear Cr. to headwaters (1); Bear Creek (West Birch) and tribs (1); E. Birch Cr., mouth to headwaters (1); SF Umatilla R., mouth to Thomas Cr. (1); Umatilla R., Butter Cr. to Westland Dam and Stanfield Dam to McKay Cr (2); Umatilla R., Three Mile	Same as above	Same as above	Abundance, productivity	All	Setbacks could include: no-cultivation riparian buffers on agricultural lands that are currently cultivated up to the channel's edge, increasing riparian buffer widths associated with forested areas, protecting unstable areas, or changing other types of management in riparian areas.
Consistently apply Best Management Practices and existing laws to	Subbasin-wide	above	Same as above	Abundance, productivity	All	To prevent degradation of existing habitat, Best management Practices and existing laws that protect aquatic habitat should be applied across the subbasin
Review, modify and enforce existing land use planning documents and ordinances pertaining to	Subbasin-wide	above	Urban development	Abundance, productivity	All	Enforce existing land use laws that affect aquatic habitat and update laws that do not provide adequate protection.
Incorporate priority habitat areas into the Natural Area Overlay Zone provision of the Umatilla County Development Ordinance	Umatilla R., Meacham Cr. to forks (1); W. Birch Cr., Bear Cr. to headwaters (1); Bear Creek (West Birch) and tribs (1); E. Birch Cr., mouth to headwaters (1); Umatilla R., Butter Cr. to Westland Dam and Stanfield Dam to McKay Cr. (1); Umatilla R., Three Mile Dam to Butter Cr. (1); Birch Cr., mouth to forks (1); Umatilla R.,	above	Urban development	Abundance, productivity	Abundance , productivity	Incorporating MCR steelhead priority habitat areas into the Natural Area Overlay Zone provision of the Umatilla County Development Ordinance would allow the priority habitat areas to be protected while providing an expedient process for reviewing land uses.

Explore opportunities to incorporate priority areas into state legislation	NF Umatilla R (1); Umatilla R., Meacham Cr. to forks (1); Buck Creek (1); NF Meacham Cr (1); East Meacham Cr (1); Thomas Cr (1); West Birch Cr., Bear Cr. to headwaters (1); E. Birch Cr., California Gulch to headwaters (1); SF Umatilla R., mouth to Thomas Cr. (1); Umatilla R., Butter Cr. to Westland Dam and Stanfield Dam to McKay Cr. (1); Umatilla R., Three Mile Dam to Butter Cr. (1)	above	Rural and urban development	Abundance, productivity	All	Look for opportunities to make amendments that would incorporate increased protection for priority habitat areas.

Action Implementation

Actions	Implementing Entity	Status	Spatial Coverage	Implementation Timeframe	Expected Biophysical	Certainty of Outcome
Protect high quality habitats through acquisition, conservation easements and cooperative agreements	CTUIR, ODFW, UBWC, TNC, RMEF, SWCDs	Ongoing	Water quality improvement have high dispersal downstream, stream corridor and function improvements would be confined	Existing conservation agreements are complete. Full implementation of conservation measures will take 5-15 years or	5 years to decades with passive restoration approaches	High, based on previous cooperative agreements
Continue existing protections and/or increase protection of Federal lands; implement Forest Practices Act and PACFISH	USFS, ODF	Ongoing	Benefits accruing since 1995 for all streams in Umatilla subbasin on USFS lands, including priority GAs. Forest Practices Act	Long term	Maintenance/improvement of existing conditions	High
Establish setbacks to protect waterways from forest management, agricultural	CTUIR, ODFW, USFS, FSA, NRCS, SWCD	When need identified	Riparian areas associated with priority habitat areas	Long term	Immediate with continued improvement for up to 50 years. After 50 years habitat	High
Consistently apply Best Management Practices and existing laws to	USFS, SWCDs, ODA, FSA, NRCS, CTUIR, ODSL, USACE	Ongoing	All priority areas within the Umatilla subbasin	Long Term	Maintenance of existing conditions	Moderate
Review, modify and enforce existing land use planning documents and ordinances pertaining to	Municipalities	Unknown	Mid and lower subbasin; High dispersal downstream	Ongoing - unknown	Response is uncertain	It is unknown to what extent governments will address this need.
Incorporate priority habitat areas into the Natural Area Overlay Zone	Umatilla County, CTUIR, ODFW	When possible	All priority areas within the Umatilla subbasin	Short term	Immediate with continued improvement for up to 50 years. After 50 years habitat	Moderate, depends on implementation and enforcement
Explore opportunities to incorporate priority areas into state legislation.	ODFW, CTUIR	When funding is available and amendment is possible	All priority areas within the Umatilla subbasin	Long term	Immediate with continued improvement for up to 50 years. After 50 years habitat effectiveness	Low

Status of Existing Programs through which Actions are Implemented

Agency/Organization	Program Name	Geographic Locations	Sufficient* (yes, likely, uncertain,	Sufficiency Rationale
CTUIR	CTUIR Umatilla River Basin Anadromous Fish	Birch Creek, Meacham Creek,	No	Yes, there is still potential for more conservation easements.
ODFW	Umatilla River Subbasin Fish Habitat Improvement	Birch Creek, Meacham Creek,	No	Yes, there is still potential for more conservation easements.
USFS	North Fork Umatilla River Wilderness and other specific Forest	Meacham Creek, North and South Fork Umatilla River	Yes	See USFS/BLM Program Sufficiency Assessment -- Appendix E.
USFS	Land Exchange Program	Meacham Creek, North and South Fork Umatilla River and tribs,	No	See discussion below.
USFS	PACFISH/Umatilla Forest Plan	Meacham Creek, North and South Fork Umatilla River and tribs, West Birch Creek,	Yes	See USFS/BLM Program Sufficiency Assessment -- Appendix E.
USFWS	Umatilla Wildlife Refuge	Umatilla Wildlife Refuge	Yes	
US Army Corps of Engineers	Section 404/401 water alteration permitting	Subbasin-wide	No	Compliance validation and enforcement is inadequate due to lack of resources
ODSL	Waterway alteration	Subbasin-wide		See State of Oregon programmatic review --
ODA, SWCD	Agricultural Water Quality	Subbasin-wide		See State of Oregon programmatic review --
FSA, NRCS, SWCD	CREP, CCRP, CSP, EQIP	Subbasin-wide	No	The potential coverage of these programs has not been realized in Umatilla County.
CTUIR	Iskuulpa Creek	Iskuulpa Creek	Yes	Program meeting objectives.

Program Sufficiency and Gaps (including current and near-term efforts, and additional efforts needed, constraints)

CTUIR and ODFW conservation easement programs have been effective at protecting and improving riparian habitat condition in the Umatilla subbasin. There is potential for considerable expansion of these programs. Emphasis should be placed on priority habitat areas for establishing easements. These agreements are typically 10 or 15 years in duration. Continuation of management and derived benefits are uncertain once agreements expire.

The Umatilla National Forest should emphasize protecting priority areas during project planning and implementation. Ongoing management actions sufficiently protect high priority aquatic habitats. These existing protections should be continued. PACFISH/Forest Plan Programs per se are sufficiently protective for lands in current ownership and require changing management or increasing buffers only when need is identified site-specifically ("New" actions). Most of FS lands (Meacham watershed, SF and NF Umatilla R. are already essentially fully protected under Forest Plan by protective management direction,- Roadless and Wilderness and Wildlife Emphasis Management Areas that prohibit road building and forest practices except in rare circumstances; PACFISH protections apply to all such activities. Meacham and Umatilla watersheds (FS) are essentially unroaded and unharvested, majority of existing road system is located on ridgetops, very little in stream bottoms. When/if needs are identified, additional aquatic habitat could receive increased protective status and a "new action".Adding additional wilderness areas and wild and scenic river segments would require designation by Congress. Priority areas for habitat protection as listed above that

reside within the Umatilla National Forest should be assessed as to whether administrative designations apply to the areas that will support protection of these areas over the long term.

While permit processes implemented by the US Army Corps of Engineers are thorough and actions authorized are protective of aquatic resources, the program lacks personnel resources to insure that terms and

conditions of permitted actions are followed. In addition, the agency lacks resources to adequately monitor waterways for non-permitted actions or act upon non-permitted situations reported by other agencies or private parties.See State of Oregon programmatic review -- Appendix F for comments on ODSL.

The USFS land exchange program has the potential to bring existing private lands under federal ownership and PACFISH protections. However, this program is completely voluntary on the landowner's part and the landowner would acquire public land and could very likely lower standards of resource protection. The land exchange is, however, a tool that could be used under very controlled circumstances to see increased protection of important aquatic habitats. But the purpose of the program is focused on consolidating land holdings and not necessarily protection of habitat.

The Umatilla and Walla Walla Agricultural Water Quality Management (AgWQM) Area Rules require that management on agricultural lands allow the establishment, growth and maintenance of riparian or stream-side vegetation, consistent with site capability, to promote habitat and protect water quality by filtering sediment, stabilizing streambanks, naturally storing water, and providing shade. The AgWQM program is outcome-based rather than prescriptive, therefore allows landowners the flexibility to achieve water quality goals using available equipment, technology and innovation. The rules for each Management Area provide the enforceable backstop to the voluntary initiatives. The SWCDs are the local management agencies that provide the outreach, education and technical assistance. ODA is responsible for complaint investigations and enforcement actions. Technical and financial assistance is available through state and federal programs to landowners for establishing adequate riparian areas.

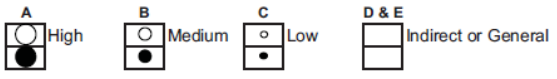
(Page 9-159, Mid-Columbia Steelhead Recovery Plan)

Table 8-36. Limiting factors and priorities for protection and restoration as defined by EDT for Umatilla River summer steelhead population.

Geographic area priority			Attribute class priority for restoration															
Geographic area	Protection benefit	Restoration benefit	Channel stability	Chemicals	Competition (w/ hatch)	Competition (other sp)	Flow	Food	Habitat diversity	Harassment/poaching	Obstructions	Oxygen	Pathogens	Predation	Sediment load	Temperature	Withdrawals	Key habitat quantity
GA1		○	●		●		●		●					●	●	●		●
GA2	○	○	●		●		●		●				●	●	●	●		
GA3			●				●		●						●			●
GA4		○	●				●		●	●					●	●		●
GA5		◯	●				●		●	●	●		●		●	●		●
GA6		○	●				●		●	●					●			●
GA7			●				●		●				●		●	●		●
GA8			●				●		●				●		●	●		●
GA9	○	○	●		●		●		●					●	●	●		
GA11			●		●		●		●					●	●	●		
GA12	○	◯	●				●		●		●		●		●	●		●
GA13		○	●				●		●	●	●		●		●	●		●
GA14	○	○	●				●		●						●	●		●
GA15	○	◯	●				●		●		●				●	●		●
GA16			●				●		●							●		●
GA17		○	●				●		●	●					●	●		●
GA18	○	○	●				●		●						●	●		●
GA19	◯	○	●				●		●							●		●
GA20		○	●				●		●	●				●	●	●		●
GA21		◯	●				●		●		●		●	●	●	●		●
GA22			●				●		●				●			●		●
GA24			●				●		●							●		●
GA25			●		●		●		●					●	●	●		
GA26			●				●		●						●	●		●
GA27		○	●				●		●						●	●		●
GA28	○	◯	●		●		●		●				●	●	●	●		●
GA29		○	●				●		●				●		●	●		●
GA30			●				●	●	●							●		●
GA31		○	●				●	●							●	●		●
GA32		○	●				●	●	●						●	●		●
GA33	◯	◯	●		●		●	●	●					●		●		●
GA34	○	○	●		●		●		●					●	●			●
GA35	◯	○	●		●		●		●		●			●		●		●
GA36	○	◯	●		●		●		●					●		●		●
GA37	○		●		●		●		●					●				●
GA38		○	●		●		●		●					●	●			●
GA39			●		●		●				●			●	●			●
GA40	◯	◯	●				●		●							●		●
GA41			●				●	●	●									●
GA42	◯	○	●															
GA43	◯	○	●				●	●	●									
GA44	◯		●				●											
GA45	○	○	●				●	●	●									●
GA46	◯	○	●				●		●									

Key to strategic priority (corresponding Benefit Category letter also shown)

1/ "Channel stability" applies to freshwater areas only.



Key to geographic areas: Planners identified the following geographic areas in the Umatilla subbasin as EDT geographic areas during the Northwest Power and Conservation Council's recent subbasin planning process (NPCC 2004c): GA1-2: Lower Umatilla, GA4-8: Butter Creek and tributaries, GA9-11: Mainstem Umatilla from Butter Creek to McKay Creek, GA12-19: Birch Creek and its tributaries, GA20-24: McKay Creek and its tributaries, GA25: Umatilla mainstem from McKay Creek to Mission Bridge, GA26-27: Wildhorse Creek and its tributaries, GA28-32: Umatilla mainstem from Mission Bridge to Meacham Creek and its tributaries, GA33- 37: Meacham Creek and its tributaries, GA40-41: Umatilla from Meacham Creek to the forks and its tributaries, GA42: North Fork Umatilla, GA43-46: South Fork Umatilla and various tributaries.
(Page 8-70, Oregon Mid-Columbia Steelhead Recovery Plan).

Table 8-37. Habitat limiting factors summary for the Umatilla River steelhead population.

Population MaSA and MiSA	Major limiting Factors	Sites Affected*	VSP Characteristics Impacted	Threats	Life Stages Affected
UMATILLA RIVER POPULATION					
Umatilla River Population	Degraded floodplain and channel structure (complexity, diversity, braided channels, sloughs, pools); altered sediment routing; altered hydrology; water quality (temp, pH, ammonia, bacteria); blocked and impaired fish passage; degraded riparian communities, LWD recruitment	MaSAs and MiSAs	Abundance, productivity, spatial structure and diversity	Agricultural cultivation and practices, livestock grazing, water storage and diversion, flood control, forest practices, urban development	All life stages
Butter MaSA	Altered sediment routing; water quality (temp); altered hydrology; degraded floodplain and channel structure; blocked or impaired fish passage	Butter Cr. [BP (flash boards - RM 7.9, irrigation dams- RM 27.2 and 43)]; Johnson Cr. [IP (culvert RM 0.3)];	Abundance, productivity, spatial structure and diversity	Agricultural cultivation and practices, livestock grazing, water storage and diversion, urban development	All life stages
East Birch MaSA	Water quality (temp); altered sediment routing; degraded floodplain and channel structure; impaired fish passage	East Birch Cr. [T (mouth to Pearson C) and F, CS (mouth to headwaters); IP (irrigation dams RM 4.0, 9.0)]	Abundance, productivity, spatial structure and diversity	Agricultural cultivation and practices, livestock grazing, water storage and diversion, forest practices	All life stages
Little Butter MaSA	Altered sediment routing; degraded floodplain and channel structure; altered hydrology		Abundance, productivity, spatial structure and diversity	Agricultural cultivation and practices, livestock grazing, water storage and diversion	All life stages
McKay MaSA	Degraded floodplain and channel structure; altered hydrology; water quality (temp, pathogens); altered sediment routing; impaired fish passage	McKay Cr. [T and B (mouth to reservoir), McKay Dam blocks steelhead access to 108 miles of productive habitat]; NF McKay [T,S, F, CS (mouth to headwaters)]	Abundance, productivity, spatial structure and diversity	Agricultural cultivation and practices, livestock grazing, water storage and diversion, urban development, forest practices	All life stages
Meacham MaSA	Water quality (temp); degraded floodplain and channel structure; impaired fish passage; altered sediment routing; altered hydrology	Meacham Cr. [T and F, CS (mouth to headwaters), S (above EF)] NF Meacham [T and F, CS (mouth to headwaters)]; EF Meacham [T (mouth to headwaters)]	Abundance, productivity, spatial structure and diversity	Agricultural cultivation and practices, livestock grazing, water storage and diversion	All life stages
Middle Umatilla MaSA	Altered sediment routing; water quality (temp); degraded floodplain and channel structure; altered hydrology; degraded riparian communities		Abundance, productivity, spatial structure and diversity	Agricultural cultivation and practices, livestock grazing, water storage and diversion, Union Pacific railroad, roads, forest practices, flood control, urban development	All life stages

Population MaSA and MiSA	Major limiting Factors	Sites Affected*	VSP Characteristics Impacted	Threats	Life Stages Affected
UMATILLA RIVER POPULATION					
Upper Umatilla MaSA	Water quality (temp); degraded floodplain and channel structure (diversity/complexity); altered sediment routing; impaired fish passage		Abundance, productivity, spatial structure and diversity	Agricultural cultivation and practices, livestock grazing, water storage and diversion, Union Pacific railroad, roads, forest practices, flood control	All life stages
West Birch MaSA	Impaired fish passage; altered sediment routing; degraded floodplain and channel structure	West Birch Cr. [T and S (mouth to headwaters); IP (irrigation dams- RM 1, 3.5, 5.5, 8.5; bridge – RM 3.8)] Bridge Cr. [BP (culvert – RM 2)]	Abundance, productivity, spatial structure and diversity	Agricultural cultivation and practices, livestock grazing, water storage and diversion, forest practices	All life stages

* Abbreviations for limiting factors: degraded floodplain connectivity and function (F); Degraded channel structure and complexity (CS); degraded riparian communities (R); altered hydrology (H); degraded water quality (WQ), temperature (T); altered sediment routing (S); man-made block to migration (BP); impaired fish passage (IP).

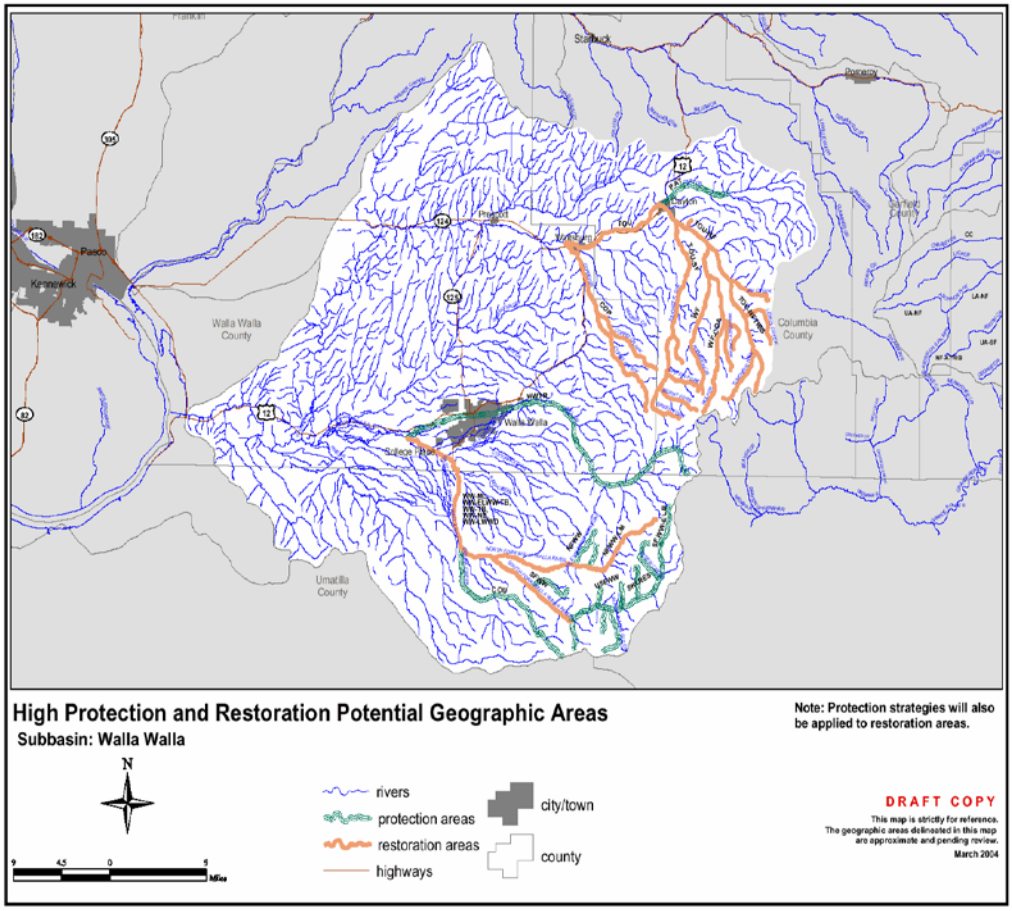
(Page 8-72 & 73 Oregon Mid-Columbia Steelhead Recovery Plan).

Umatilla Priority Areas

Priority conservation areas for the Umatilla River Basin as determined by EDT analysis include: North Fork Umatilla River; Umatilla River from Meacham Creek to the forks; Buck Creek; North Fork Meacham Creek; East Meacham Creek; Thomas Creek; West Birch Creek from Bear Creek to headwaters; East Birch Creek from California Gulch to headwaters; and South Fork Umatilla River from the mouth to Thomas Cr.

Walla Walla River Basin

Protect High Quality Habitat -- Where specific reaches or segments of a stream reach have value related to productive capacity or general importance to a particular species, they should be protected to maintain that value. This can be accomplished by easements or other protection agreements. On public lands where various protections authorized by statute or rule are available similar objectives may also be accomplished. Multiple objectives for protection and improvement of riparian and instream habitat and upland condition would be emphasized (Final Addendum to the Walla Walla Subbasin Plan Page 6) (November 2004). The Ceded Area Land Acquisition Project would prioritize acquisition and establish easements in areas where acquisition is not an option.



(Page 60, Walla Walla Subbasin Plan, 2004)

Strategy 1. Protect and conserve natural ecological processes that support the viability of populations and their primary life history strategies throughout their life cycle.						
Strategic Actions and Impacts on Limiting Factors, Threats, and Population						
Actions	Geographic Locations (1-first priority, 2-second priority)	Factors Addressed	Threats Addressed	VSP Parameters Addressed	Life Stages Affected	Discussion
Protect high quality habitats through acquisition, conservation easements and cooperative agreements	SF Walla Walla, Elbow to headwaters (1); SF Walla Walla Tribs (1) ; NF Walla Walla Little Meadows to headwaters (1); Walla Walla, Dry Cr. to Mill Cr.(2); Yellowhawk mainstem (2); Couse Cr. drainage (2)	Loss of habitat quantity and diversity, channel stability, sediment, low flow and high temperatures	Cultivation, forestry, grazing, urban development	Productivity, abundance	All	Agreements (conservation easements, cooperative agreements, etc.) could be made with private landowners in areas where priority habitats exist
Implement Forest Practices Act	SF Walla Walla, Elbow to headwaters; SF Walla Walla Tribs;	Same as above	Forestry	Productivity abundance	All	

Establish setbacks to protect waterways from forest management, agricultural	SF Walla Walla, mouth to headwaters (1); SF Walla Walla Tribs (1); NF Walla Walla mouth to headwaters (1);	Same as above	Same as above	Productivity, abundance		Setbacks could include: no-cultivation riparian buffers on agricultural lands that are currently
Protect and conserve rare and unique	Upper South Fork Walla Walla (1)	Same as above	Same as above	Productivity, abundance	All	Priority areas can be identified and appropriate
Consistently apply Best Management Practices and existing laws to	Subbasin-wide	Same as above	Same as above	Productivity, abundance	All	To prevent degradation of existing habitat, Best management
Review, modify and enforce existing land use planning documents and ordinances pertaining to	SF Walla Walla, mouth to headwaters (1); SF Walla Walla Tribs (1); NF Walla Walla mouth to headwaters (1);	Same as above	Urban development	Productivity, abundance	All	Enforce existing land use laws that affect aquatic habitat and update laws that do not provide adequate
Incorporate priority habitat areas into the Natural Area Overlay Zone provision of	SF Walla Walla, mouth to headwaters (1); SF Walla Walla Tribs (1); NF Walla Walla mouth to	Same as above	Urban development	Productivity, abundance	Productivity, abundance	Incorporating MCR steelhead priority habitat areas into the Natural Area
Explore opportunities to incorporate priority areas into state legislation.	SF Walla Walla, mouth to headwaters (1); SF Walla Walla Tribs (1); NF Walla Walla mouth to	Same as above	Rural and urban development	Productivity, abundance	All	Examine opportunities to amend laws that would increase protection for priority habitat

Action Implementation

Actions	Implementing Entity	Status	Spatial Coverage	Implementation Timeframe	Expected Biophysical Response Timeframe	Certainty of Outcome
Protect high quality habitats through acquisition, conservation easements and cooperative agreements	CTUIR, ODFW, WWBWC, WDFW,TNC, RMEF, SWCDs, CD's	Ongoing	Water quality improvement have high dispersal downstream, stream corridor and function improvements	Existing conservation agreements are complete. Full implementation of conservation	5 years to decades with passive restoration approaches	High, based on previous cooperative agreements
Implement Forest Practices Act and PACFISH	ODF, WDOE	Ongoing	Forest Practices Act applies to all commercial timber operations on private lands	Long term	Maintenance/improvement of existing conditions	High
Establish setbacks to protect waterways from forest management, agricultural activities, and other land use	CTUIR, ODFW, WDFW, WDOE, USFS, FSA, NRCS, SWCD, CD's, WWBWC	When need identified	Riparian areas associated with priority habitat areas	Long term	Immediate with continued improvement for up to 50 years. After 50 years habitat effectiveness will be	High
Protect and conserve rare and unique functioning habitats	USFS, BLM	Protection ongoing	Affected area	Long term	Immediate – maintain existing high quality conditions where found; maintain or	High
Consistently apply Best Management Practices and existing laws to protect and conserve natural	USFS, BLM, SWCDs, WDOE, WDFW, ODFW, ODA, FSA, NRCS, CTUIR, ODSL,	Ongoing	All priority areas within the Walla Walla subbasin	Long term	Maintenance of existing conditions	High for federal lands; moderate

Review, modify and enforce existing land use planning documents and ordinances pertaining to riparian and floodplain	Municipalities, Counties	Unknown	Mid and lower subbasin; high dispersal downstream	Ongoing - unknown	Response is uncertain	It is unknown to what extent governments will address
Incorporate priority habitat areas into the Natural Area Overlay Zone provision of the Umatilla County	Counties, CTUIR, ODFW, WDFW	When possible	All priority areas within the Umatilla subbasin	Short term	Immediate with continued improvement for up to 50 years. After 50 years habitat	Moderate, depends on implementation
Explore opportunities to incorporate priority areas into state legislation.	ODFW, CTUIR, WDFW, WDOE	When funding is available and	All priority areas within the Umatilla subbasin	Long term	Immediate with continued improvement for up to 50 years. After 50 years habitat effectiveness will be	Low

Status of Existing Programs through which Actions are Implemented

Agency/Organization	Program Name	Geographic Locations	Sufficient* (yes, likely, uncertain, no)	Sufficiency Rationale
CTUIR	CTUIR Walla Walla River Basin Anadromous Fish Habitat		No	Yes, there is still potential for more
USFS	Roadless Areas		Yes	See USFS/BLM Program
ODF	Forest Practices Act			See State of Oregon
BLM	South Fork Walla Walla ACEC		Yes	See USFS/BLM Program
USFS	PACFISH, Umatilla Forest Plan		Yes	Existing actions are adequate as
CTUIR	Rainwater		Yes	Maintain current
USACE, ODSL	Waterway work permitting		No	Funding is not
ODA, SWCD	Walla Walla Ag.WQM rules			See State of Oregon
SWCD/CDs/WWBWC/Tr-state Steelheaders	Watershed restoration		No	Programs have inadequate resources.
Municipalities	Land use ordinances		No	
Counties	Comprehensive plan		No	
FSA, NRCS, SWCD	CREP, CCRP,		Uncertain	The potential coverage of these
OLCD	Statewide			See State of Oregon

Program Sufficiency and Gaps (including current and near-term efforts, and additional efforts needed, constraints)

CTUIR conservation easement programs have been effective at protecting and improving riparian habitat condition in the Walla Walla subbasin. There is potential for considerable expansion of this program. Emphasis should be placed on priority habitat areas for establishing easements.

The Umatilla National Forest should emphasize protecting priority areas during project planning and implementation. Ongoing management actions sufficiently protect high priority aquatic habitats. These existing protections should be continued. PACFISH/Forest Plan Programs per se are sufficiently protective for lands in current ownership and require changing management or increasing buffers only when need is identified site-specifically ("New" actions). Most of FS lands are already essentially fully protected under Forest Plan by protective management direction - Roadless and Wilderness and Wildlife Emphasis Management Areas that prohibit road building and forest practices except in rare circumstances; PACFISH protections apply to all such activities. When/if needs are identified; additional aquatic habitat could receive increased protective status and a "new action". Priority areas for habitat protection as listed above that reside within the Umatilla National Forest should be assessed as to whether administrative designations apply to the areas that will support protection of these areas over the long term. Adding additional wilderness areas and wild and scenic river segments would require designation by Congress.

Actions implemented under PACFISH on Federal lands allow for a near natural rate of recovery. An individual action may result in a short-term disturbance with minor effects. This assures that conditions are maintained over the long term.

While permit processes implemented by the US Army Corps are thorough and actions authorized are protective of aquatic resources, the program lacks personnel resources to insure that terms and conditions of permitted actions are followed. In addition, this agency lacks resources to adequately monitor waterways for non-permitted actions or act upon non-permitted situations reported by other agencies or private parties. See State of Oregon programmatic review -- Appendix F for ODSL.

The USFS land exchange program has the potential to bring existing private lands under federal ownership and PACFISH protections. However, this program is completely voluntary on the landowner's part and the landowner would acquire public land and could very likely lower standards of resource protection. The land exchange is, however, a tool that could be used under very controlled circumstances to see increased protection of important aquatic habitats. But the purpose of the program is focused on consolidating land holdings and

(Page 9-178, Oregon Mid-Columbia Steelhead Recovery Plan)

Table 8-39. Limiting factors and priorities for protection and restoration as defined by EDT for the Walla Walla River steelhead population.

Geographic area priority			Attribute class priority for restoration																
Geographic area	Protection benefit	Restoration benefit	Channel stability	Chemicals	Competition (w/ hatch)	Competition (other sp)	Flow	Food	Habitat diversity	Harassment/poaching	Obstructions	Oxygen	Pathogens	Predation	Sediment load	Temperature	Withdrawals	Key habitat quantity
Lower Walla Walla (mouth to Touche)		◯	●	•	●		●	•	●				●	●	●	●	•	•
Lower Touche (mouth to Coppei)			•		•		•		•					•	●	•	•	●
Walla Walla, Touche to Dry (plus Mud Cr)		○	•				●	•	●				●	•	●	●		●
Pine Cr mainstem (plus Swartz)		○	•				●		•		•		•		•	•		●
Dry Cr [Pine] Drainage		○	•		•		●	•	•	•			•		•	●		●
Lower Dry Cr (mouth to Sapolil)		○	•		•		●		•		●		•		●	●	•	•
Upper Dry Cr (Sapolil to forks)		○	•		•		•		•		●				●	●		•
Dry Cr Tribs (Mud[Dixie], Mud[Dry], NF Dry & SF D		○	●		•		●		•	•	●				●	●		•
Walla Walla, Dry to Mill		○	•		•		●		•	•			•	●	•	●	●	
W Little Walla Walla Drainage (plus Walsh)		○	•				●		•				•		●	●		●
Mill Cr, mouth to start of Corps Project at Gose St		○	•		•		●		•	•			•		●	●	•	●
Lower Mill Cr Tribs (Doan & Cold)		○	●				●		•	•	●				●	●	•	●
Mill Cr, Gose Street to Bennington Dam		◯	•		•		●	•	•	•	●		•		●	●		●
Mill Cr, Bennington Dam to Blue Cr (plusTitus)		○	•		•		●		•		●		•		●	●	•	●
Blue Cr Drainage (including L. Blue)			●				●		•				•		●	●		●
Mill Cr, Blue Cr to Walla Walla water intake	○	○	•				•		•						●	•		●
Middle Mill Cr Tribs (Henry Canyon, Webb &Tiger)			●				•		•									•
Mill Cr, Walla Walla water intake to access limit	○																	•
Upper Mill Tribs (NF, Low, Broken, Paradise)															•			●
Walla Walla, Mill to E L. Walla Walla (plus MacAvo		○	●				●		•	•			•		●	●		•
Garrison Cr Drainage (plus Bryant)		○	•		•		●	•	•	•	●		•		●	●		●
Stone Cr Drainage		○	●		•		●	•	•	●	●		•		●	●		●
E Little Walla Walla Drainage (plus Unnamed Sprir		○	•		•		●	•	•	•	•				●	•		●
Walla Walla, E Little Walla Walla to Tumalum Bridg	○	○	●				●		•	•					●	●		
Yellowhawk mainstem (mouth to source)		○	•		•		•		•	•			•		●	●		
Yellowhawk Tribs (Lassater, Russell, Reser & Cald		○	●				●		•	•	●				●	●		●
Cottonwood Cr Drainage (including NF, SF & MF)		○	●				●		•				•		•	●		●
Birch Creek Drainage			•				●	•	●	•	•		•		●	●		●
Walla Walla, Tumalum Bridge to Nursery Bridge		○	●				●	•	•	●					•	•		●
Walla Walla, Nursery Br to Little Walla Walla Diver		○	●				●	•	•	•					•			●
Walla Walla, Little Walla Walla Diversion to forks	○	○	•				•		•	•					•			●
Couse Creek Drainage			●				●		•	•		●	•		●	●		●
NF Walla Walla, mouth to L. Meadows Canyon Cr		○	●				●		•						●	●		●
NF Walla Walla, L. Meadows to access limit (plus E	○	○	●				•		•						•			
SF Walla Walla, mouth to Elbow Creek	○	◯	•				●		•						●	●		●
Lower SF Walla Walla Tribs (Flume Canyon, Elbow	○		●												●			●
SF Walla Walla, Elbow to access limit	◯	○																
Upper SF Walla Walla tribs (excluding Skiphorton &	○																	
Skiphorton & Reser Creek Drainages	○																	

Key to strategic priority (corresponding Benefit Category letter also shown)

A	B	C	D & E
◯ High	○ Medium	○ Low	Indirect or General
●	●	•	

1/ "Channel stability" applies to freshwater areas only.

(Page 8-77, Oregon Mid-Columbia Steelhead Recovery Plan).

Table 8-40. Habitat limiting factors summary for the Walla Walla River steelhead population.

Population MaSA and MiSA	Major limiting Factors	Sites Affected*	VSP Characteristics Impacted	Threats	Life Stages Affected
WALLA WALLA RIVER POPULATION					
Walla Walla River Population	Degraded floodplain and channel structure (complexity, pools); altered sediment routing; altered hydrology; water quality (temp); blocked or impaired fish passage; degraded riparian communities	MaSAs and MiSAs	Abundance, productivity	Agricultural practices, water diversions for irrigation, wetland draining and conversion, urban development, stream channelization and diking	All life stages
Mill Creek MaSA	Impaired fish passage; altered sediment routing; water quality (temp); degraded floodplain and channel structure (pools, diversity, food, stability); degraded riparian communities	Mill Cr. [F,CS (LWD, pools – lower reach); T and H (lower reach)]	Abundance, productivity	Agriculture, urban development, flood control, water diversions	All life stages
Pine Creek MaSA	Altered sediment routing; degraded floodplain and channel structure (diversity, stability, food); altered hydrology; water quality (temp); impaired fish passage	Pine Cr. [many passage barriers; S (RM 1-5)]	Abundance, productivity		All life stages
Dry Creek MaSA	Altered hydrology; water quality (temp)		Abundance, productivity		Juvenile rearing, spawning
Cottonwood Creek MaSA	No data				
Walla Walla MaSA	Degraded floodplain and channel structure (diversity, quantity); altered hydrology; altered sediment routing; degraded riparian communities; water quality (temp); impaired fish passage	Walla Walla [T (lower)]; North Fork [F,CS, H,T, S and H (lower reach)]; South Fork [T, F,CS, H, S (lower reach)]	Abundance, productivity	Agricultural practices, livestock grazing, stream channelization,	All life stages

* Abbreviations for limiting factors: degraded floodplain connectivity and function (F); degraded channel structure and complexity (CS); degraded riparian communities (R); altered hydrology (H); degraded water quality (WQ), temperature (T); altered sediment routing (S); man-made block to migration (BP); impaired fish passage (IP).

(Page 8-78 Oregon Mid-Columbia Steelhead Recovery Plan).

Walla Walla Priority Areas

Results of EDT analysis were used to determine areas for priority acquisition, easement, or restoration that contributes to management objectives for focal species. Geographic areas determined to have the highest protection value in the Walla Walla Subbasin according to EDT analysis, existing data, and other evaluations include priority restoration geographic areas; the South Fork Walla Walla River, Elbow; the Skiphorton and Reser Creek drainages; the lower South Fork Walla Walla tributaries including Flume Canyon and Elbow; the upper South Fork Walla Walla River tributaries with exception for Skiphorton and Reser; the North Fork Walla Walla River, Lower and Big Meadows; Patit Drainage; Walla Walla River from Dry to Mill Creek; the Yellowhawk mainstem from the mouth to headwaters; and the Couse Creek Drainage.