

Palouse Subbasin Management Plan

3. Management Plan

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3. Management Plan

3.1 Background

The Palouse subbasin management plan component was developed locally and in collaboration with government entities and interested groups within the subbasin. The management plan includes:

- A vision for the future of the Palouse subbasin
- Objectives to help achieve the vision
- Strategies for reaching management objectives
- Research, monitoring and evaluation needs

Initial planning began with the designation of Palouse-Rock Lake Conservation District (PRLCD) as the lead entity. The lead entity's responsibility, serving as a contractor to the NWPCC, was to initiate the planning process. The manager of PRLCD, Trevor Cook, served as the subbasin coordinator. The subbasin coordinator provided leadership throughout the process, served as a contact point, and coordinated communication between various stakeholders and interested parties. PRLCD subcontracted with Resource Planning Unlimited, Inc. (RPU) in June 2003 to facilitate the planning process, write and edit management plan components.

To enable a coordinated ecosystem-based approach to fish and wildlife habitat protection and restoration efforts, the PRLCD convened the Palouse subbasin Technical Team (Technical Team). The Technical Team is comprised of fish and wildlife agency representatives with jurisdictional authority within the Palouse subbasin. These team members assisted in developing all sections of the plan, including the assessment; inventory; and management. A Palouse subbasin Working Group (Working Group) was developed by PRLCD. The Working Group was comprised of representatives from fish and wildlife habitat interests throughout the Palouse subbasin. (Technical Team and Working Group members listed in Appendix E.)

Two methods of plan development were used to craft the Palouse subbasin management plan and accompanying components; group meetings and individual meetings. Beginning in October 2003, draft documents were sent via electronic mail to Technical Team and Working Group members on three occasions, providing an opportunity to assist and comment in developing an inventory of past and ongoing projects, defining critical issues, recommending guiding principles, and identified alternative solutions. Along with the draft document distributions were accompanying meetings which were held to review and contribute to plan development. Meetings were held on four occasions throughout the planning process with all meetings open to the public (July 17, 2003; November 17, 2003; February 10, 2004; and May 13, 2004). Agency and public participation in group meetings and document review was limited; however, in addition to Technical Committee meetings, individual meetings were held between Technical Team members, subbasin coordinator and the contractor to review and revise the plan. The individual contacts, in addition to the group sessions, were effective for revising draft documents for submittal, review and comments.

3.2 Vision for Palouse Subbasin

To begin to design a Palouse subbasin management plan, the Technical Team and the Working Group reviewed the information compiled in the assessment and inventory, and then created a vision statement. The qualitative vision statement provides guidance for implementing actions in the future, frames the objectives and strategies for the subbasin, and is believed to be practical and attainable within the span of the next couple decades.

The vision for the Palouse subbasin states:

Promote reasonable and sustainable populations of fish and wildlife species and their associated habitats throughout the subbasin.

The objectives describe the environmental and biological changes needed within the Palouse subbasin to achieve the vision. The strategies represent sets of actions needed to accomplish the environmental and biological objectives. The strategies do not represent individual projects, but instead serve as guidance for development of protection or restoration projects.

Integration of this plan with existing programs (described in section 2. Inventory) will provide benefits beyond those associated with individual plans or programs. Coordinated federal, state, and local policies are essential to achieve the objectives of this management plan.

An list of objectives is displayed in Table 22. The strategies and additional information about each objective is defined in section 3.3 Management Plan.

The order in which the objectives are displayed is for presentation purposes only; the order of appearance does not serve to prioritize objectives. Strategies found within each objective discuss ranking assignments for respective objectives. Ranking follows the high, medium, and low priority system in which future projects can be identified, designed, and implemented.

Several strategies for protection of listed salmonids in the Palouse River below Palouse Falls (see Assessment 1.4.6.2 Listed Fish Species) address Reasonable and Prudent Alternatives (RPAs), with discussion found in section 3.4.

3.3 Palouse Subbasin Management Plan

Table 22. Palouse Subbasin Management Plan Summary

<i>Vision: Promote reasonable and sustainable populations of fish and wildlife species and their associated habitats throughout the subbasin.</i>	
Objective 1.	Protect native riparian habitat within the Palouse subbasin.
Objective 2.	Identify location of degraded riparian habitat within the Palouse subbasin with practical and feasible opportunities for restoration.
Objective 3.	Restore degraded riparian habitat within the Palouse subbasin.
Objective 4.	Protect native wetland habitat within the Palouse subbasin.
Objective 5.	Identify location degraded wetland habitat with practical and feasible opportunities for restoration.
Objective 6.	Restore degraded wetland habitat within the Palouse subbasin.
Objective 7.	Protect native grassland habitats within the Palouse subbasin.
Objective 8.	Restore lost or degraded grassland habitat within the Palouse subbasin.
Objective 9.	Protect native shrub-steppe habitat within the Palouse subbasin.
Objective 10.	Restore degraded shrub-steppe habitat within the Palouse subbasin.
Objective 11.	Protect old growth ponderosa pine habitats within the Palouse subbasin.
Objective 12.	Restore altered ponderosa pine habitat within the Palouse subbasin.
Objective 13.	Protect native mixed conifer habitats within the Palouse subbasin.
Objective 14.	Restore altered mixed conifer habitat within the Palouse subbasin.
Objective 15.	Increase wildlife habitat value on agricultural land for focal species support.
Objective 16.	Conduct baseline investigations to evaluate instream habitat quality and quantity for resident fish in the Palouse subbasin.
Objective 17.	Conduct baseline investigations to determine native resident and resident fish stock composition, distribution, and relative abundance in the Palouse subbasin.
Objective 18.	Protect cold water aquatic life designated uses in §303(d) listed streams in Washington.
Objective 19.	Protect designated uses of surface water quality criteria for cold water aquatic life and salmonid spawning (Idaho), which include the §303(d) listed streams in the Idaho portion of the subbasin.
Objective 20.	Protect cold water aquatic life in streams not listed on the §303(d) list in Washington and Idaho portions of the subbasin.
Objective 21.	Coordinate instream flow implementation plan actions proposed by WRIA 34 Planning Unit.
Objective 22.	Provide recreational fisheries of rainbow trout, brown trout, Kokanee salmon and other species consistent with the NPCC Resident Fish Substitution Policy by using artificial production.
Objective 23.	Supplement non-self sustaining fish species to provide a recreational and subsistence fishery in managed lakes.

3.3.1 Palouse Subbasin Management Plan Objective 1

Objective 1. Protect native riparian habitat within the Palouse subbasin.

- Strategy A. Identify location and quantity of existing native riparian habitat.
- Strategy B. Evaluate riparian habitat condition and rank protection needs.¹
- Strategy C. Design a protection plan for all identified native riparian habitat.
- Strategy D. Implement the protection plan for identified riparian habitat.²

Objective 1. Research, Monitoring and Evaluation Needs²

1. Upgrade available geographic information system data sets with information obtained in Strategy A and make data public.
2. Design and implement a monitoring plan to accompany Strategies C and D that includes focal species evaluation (see Assessment 1.4.5 Focal Species, Table 11. Focal Species Selection for Riparian and Wetland Habitat Type within Palouse Subbasin).
3. Collect fish presence and abundance information on all streams within native riparian habitat areas by cataloguing existing data available from state and federal fish management agencies (Inventory 2.1.2 At the State Level, and 2.1.3 At the Federal Level).
4. Design and implement fish presence and abundance surveys in streams within native riparian habitat areas that do not have current (within the last 5 years) or baseline data.

¹ Ranking for riparian habitat protection:

High=Riparian habitat in private ownership; and/or riparian habitat with ESA (state or federal) listings (see Assessment 1.4.3.1 Threatened and Endangered Species, 1.4.3.2 Listed Plant Species, 1.4.3.3 Other Species, 1.4.3.4 Washington Priority Habitats and Species, and 1.4.3.5 Idaho Endangered Species); and/or riparian habitats adjacent to listed 303(d) streams (see Assessment 1.2.5 Water Quality, and Inventory 2.1.2.4 Washington Department of Ecology and 2.1.2.5 Idaho Department of Environmental Quality).

Medium=Riparian habitat in public ownership (see Assessment 1.2.2 Land Use and Land Ownership and 1.4.2.3 Habitat Types within the Palouse Subbasin).

² Protection efforts, research, monitoring, and evaluation address RPAs 150 and 152 for listed salmonids in the Palouse River below Palouse Falls (see section 3.4).

3.3.2 Palouse Subbasin Management Plan Objective 2

Objective 2. Identify location of degraded riparian habitat³ within the Palouse subbasin with practical and feasible opportunities for restoration.

Strategy A. Determine level of participation in restoration efforts.

Strategy B. Identify socially accepted restoration practices.

³ See limiting factors in Assessment 1.5.1 Agricultural Conversion, 1.5.2 Exotic Vegetation Encroachment, 1.5.3 Timber Harvest, 1.5.5 Urban Development, 1.5.7 Other Limiting Factors.

3.3.3 Palouse Subbasin Management Plan Objective 3

Objective 3. Restore degraded⁴ riparian habitat within the Palouse subbasin.⁵

Strategy A. Rank riparian habitat restoration potential.⁶

Strategy B. Design a riparian habitat restoration plan.

Strategy C. Implement the riparian habitat restoration plan.

Objective 3. Research, Monitoring and Evaluation Needs⁷

1. Design and implement a monitoring plan to accompany Strategy C that includes evaluating focal species response (see Assessment 1.4.5 Focal Species, Table 11. Focal Species Selection for Riparian and Wetland Habitat Type within Palouse Subbasin).
2. Design and implement a monitoring plan to determine how much restoration is needed to support a self-sustaining population of focal species.
3. Design and implement a monitoring plan to accompany Strategy C utilizing Process for Assessing Proper Functioning Conditions (Prichard et al. 1994 and Prichard et al. 1998), considering limiting factors outlined in Assessment 1.5.1 Agricultural Conversion and 1.5.5 Urban Development.

(continued)

⁴ Degraded riparian habitat includes riparian areas that are not properly functioning (using Process for Assessing Proper Functioning Conditions, Prichard et al. 1994 and Prichard et al. 1998).

⁵ Riparian restoration should include vegetation targeted at appropriate stream reach conditions (using Riparian Vegetation Classification of the Columbia Basin, Washington, Crawford 2003, and/or Riparian and Wetland Vegetation of Central and Eastern Oregon, Crowe et al. 2004).

⁶ Ranking for riparian habitat restoration:

High=Degraded riparian habitat in private ownership identified in Objective 2; and/or degraded riparian habitats adjacent to listed 303(d) streams (see Assessment 1.2.5 Water Quality, and Inventory 2.1.2.4 Washington Department of Ecology and 2.1.2.5 Idaho Department of Environmental Quality).

Medium=Degraded riparian habitats in public ownership (see Assessment 1.2.2 Land Use and Land Ownership and 1.4.2.3 Habitat Types within the Palouse Subbasin); and/or areas (public or private ownership) contiguous to recent (within the last 10 years) riparian habitat restoration projects implemented by local, state or federal entities (Inventory 2.1.1 At the Local Level, 2.1.2 At the State Level, and 2.1.3 At the Federal Level).

⁷ Research, monitoring and evaluation address RPA 152 for listed salmonids in the Palouse River below Palouse Falls (see section 3.4).

Objective 3. Research, Monitoring and Evaluation Needs (continued)

4. Collect fish presence and abundance information on all streams identified with degraded riparian habitat by cataloguing existing data available from state and federal fish management agencies (Inventory 2.1.2 At the State Level, and 2.1.3 At the Federal Level, and Assessment 1.4.6.3 Current Fish Species Present in the Palouse Subbasin).
5. Design and implement fish presence and abundance surveys in streams within riparian habitat restoration project areas (see Objective 17).

3.3.4 Palouse Subbasin Management Plan Objective 4

Objective 4. Protect native wetland habitat within the Palouse subbasin.

Strategy A. Identify location and quantity of existing native wetland habitat.

Strategy B. Evaluate wetland habitat condition⁸ and rank protection needs.⁹

Strategy C. Design a protection plan for all identified native wetland habitat.

Strategy D. Implement the protection plan for identified wetland habitat.

Objective 4. Research, Monitoring and Evaluation Needs¹⁰

1. Upgrade available geographic information system data sets with information obtained in Strategy A and make data public.
2. Design and implement a monitoring plan to accompany Strategies C and D that includes focal species evaluation (see Assessment 1.4.5 Focal Species, Table 11. Focal Species Selection for Riparian and Wetland Habitat Type within Palouse Subbasin).

⁸ Wetland functional value evaluation may be performed by using Washington State Wetlands Rating System for Eastern Washington, Washington State Department of Ecology Publication #02-06-019, October 1991.

⁹ Ranking for wetland habitat protection:

High=Wetland habitat in private ownership; and/or wetland habitat with ESA (state or federal) listings (see Assessment 1.4.3.1 Threatened and Endangered Species, 1.4.3.2 Listed Plant Species, 1.4.3.3 Other Species, 1.4.3.4 Washington Priority Habitats and Species, and 1.4.3.5 Idaho Endangered Species); and/or wetland habitats adjacent to listed 303(d) streams (see Assessment 1.2.5 Water Quality, and Inventory 2.1.2.4 Washington Department of Ecology and 2.1.2.5 Idaho Department of Environmental Quality).

Medium=Wetland habitat in public ownership (see Assessment 1.2.2 Land Use and Land Ownership and 1.4.2.3 Habitat Types within the Palouse Subbasin).

¹⁰ Research, monitoring and evaluation address RPA 152 for listed salmonids in the Palouse River below Palouse Falls (see section 3.4).

3.3.5 Palouse Subbasin Management Plan Objective 5

Objective 5. Identify location of degraded wetland habitat¹¹ with practical and feasible opportunities for restoration.¹²

Strategy A. Determine level of participation in restoration efforts.

Strategy B. Identify socially accepted restoration practices.

¹¹ Lost or degraded wetland habitats are those wetlands whose functional value has been impaired (Ecology 1991); see Assessment 1.5.1 Agricultural Conversion, 1.5.2 Exotic Vegetation Encroachment, 1.5.5 Urban Development.

¹² See limiting factors in Assessment 1.5.1 Agricultural Conversion, 1.5.2 Exotic Vegetation Encroachment, 1.5.3 Timber Harvest, 1.5.5 Urban Development, 1.5.7 Other Limiting Factors.

3.3.6 Palouse Subbasin Management Plan Objective 6

Objective 6. Restore degraded wetland habitat within the Palouse subbasin.

Strategy A. Rank wetland habitat restoration potential.¹³

Strategy B. Design a wetland habitat restoration plan.¹⁴

Strategy C. Implement the wetland habitat restoration plan.

Objective 6. Research, Monitoring and Evaluation Needs¹⁵

1. Design and implement a monitoring plan to accompany Strategy C that includes evaluating focal species response (see Assessment 1.4.5 Focal Species, Table 11. Focal Species Selection for Riparian and Wetland Habitat Type within Palouse Subbasin).
2. Design and implement a monitoring plan to determine how much restoration is needed to support a self-sustaining population of focal species.

¹³ Ranking for wetland habitat restoration:

High=Degraded wetland habitat adjacent to listed 303(d) streams (see Assessment 1.2.5 Water Quality, and Inventory 2.1.2.4 Washington Department of Ecology and 2.1.2.5 Idaho Department of Environmental Quality).

Medium=Degraded wetland habitat in public ownership (see Assessment 1.2.2 Land Use and Land Ownership and 1.4.2.3 Habitat Types within the Palouse Subbasin); and/or areas (public or private ownership) contiguous to recent (within the last 10 years) wetland habitat restoration projects implemented by local, state or federal entities (Inventory 2.1.1 At the Local Level, 2.1.2 At the State Level, and 2.1.3 At the Federal Level).

Low=Degraded wetlands throughout the Palouse subbasin with potential to restore native wetland functional value.

¹⁴ Wetland functional value rating may be used as a monitoring tool to track wetland restoration effectiveness. Functional value may be rated using Washington State Wetlands Rating System for Eastern Washington, Washington State Department of Ecology Publication #02-06-019, October 1991.

¹⁵ Research, monitoring and evaluation address RPA 152 for listed salmonids in the Palouse River below Palouse Falls (see section 3.4).

3.3.7 Palouse Subbasin Management Plan Objective 7

Objective 7. Protect native grassland habitat within the Palouse subbasin.

- Strategy A. Identify location and quantity of existing native grassland habitat.
- Strategy B. Evaluate grassland habitat condition and rank protection needs.¹⁶
- Strategy C. Design a protection plan for all identified native grassland habitat.
- Strategy D. Implement the protection plan for identified native grassland habitat.

Objective 7. Research, Monitoring and Evaluation Needs

1. Upgrade available geographic information system data sets with information obtained in Strategy A and make data public.
2. Design and implement a monitoring plan to accompany Strategies C and D that includes focal species evaluation (see Assessment 1.4.5 Focal Species, Table 9. Focal Species Selection for Grassland Habitat Type within Palouse Subbasin).

¹⁶ Ranking for grassland habitat protection:

High=Grassland habitat in private ownership; and/or grassland habitat with ESA (state or federal) listings (see Assessment 1.4.3.1 Threatened and Endangered Species, 1.4.3.2 Listed Plant Species, 1.4.3.3 Other Species, 1.4.3.4 Washington Priority Habitats and Species, and 1.4.3.5 Idaho Endangered Species).

Medium=Grassland habitat in public ownership (see Assessment 1.2.2 Land Use and Land Ownership and 1.4.2.3 Habitat Types within the Palouse Subbasin); and/or large expanses of native grassland habitat.

3.3.8 Palouse Subbasin Management Plan Objective 8

Objective 8. Restore lost or degraded grassland habitat¹⁷ within the Palouse subbasin.

Strategy A. Identify potential for restoration of lost or degraded grassland habitat with practical and feasible opportunities for restoration (see limiting factors in Assessment 1.5.1 Agricultural Conversion, 1.5.2 Exotic Vegetation Encroachment, 1.5.4 Fire Suppression, 1.5.5 Urban Development).

Strategy B. Rank grassland habitat restoration potential.¹⁸

Strategy C. Design a grassland habitat restoration plan.

Strategy D. Implement the grassland habitat restoration plan.

Objective 8. Research, Monitoring and Evaluation Needs

1. Design and implement a monitoring plan to accompany Strategies C and D that includes evaluating focal species response (see Assessment 1.4.5 Focal Species, Table 9. Focal Species Selection for Grassland Habitat Type within Palouse Subbasin).
2. Design and implement a monitoring plan to determine how much restoration is needed to support a self-sustaining population of focal species.

¹⁷ Lost or degraded grassland habitats are those areas where land use conversion has changed the vegetative community.

¹⁸ Ranking for grassland habitat restoration:

High=Degraded grassland habitat with large contiguous expanses and highest potential to be lost.

Medium=Degraded grassland habitat (public or private ownership) contiguous to recent (within the last 10 years) grassland habitat restoration projects implemented by local, state or federal entities (Inventory 2.1.1 At the Local Level, 2.1.2 At the State Level, and 2.1.3 At the Federal Level).

Low=Lost or degraded grassland habitat (see Assessment 1.2.2 Land Use and Land Ownership and 1.4.2.3 Habitat Types within the Palouse Subbasin).

3.3.9 Palouse Subbasin Management Plan Objective 9

Objective 9. Protect native shrub-steppe habitat within the Palouse subbasin.

- Strategy A. Identify location and quantity of existing native shrub-steppe habitat.
- Strategy B. Evaluate shrub-step habitat condition and rank protection needs.¹⁹
- Strategy C. Design a protection plan for all identified native shrub-steppe habitat.
- Strategy D. Implement the protection plan for identified native shrub-steppe habitat.

Objective 9. Research, Monitoring and Evaluation Needs

1. Upgrade available geographic information system data sets with information obtained in Strategy A and make data public.
2. Design and implement a monitoring plan to accompany Strategies C and D that includes focal species evaluation (see Assessment 1.4.5 Focal Species, Table 7. Focal Species Selection for Shrub-Steppe Habitat Type within Palouse Subbasin).

¹⁹ Ranking for shrub-steppe habitat protection:

High=Shrub-steppe habitat in private ownership; and/or shrub-steppe habitat with ESA (state or federal) listings (see Assessment 1.4.3.1 Threatened and Endangered Species, 1.4.3.2 Listed Plant Species, 1.4.3.3 Other Species, 1.4.3.4 Washington Priority Habitats and Species, and 1.4.3.5 Idaho Endangered Species).

Medium=Shrub-steppe habitat in public ownership (see Assessment 1.2.2 Land Use and Land Ownership and 1.4.2.3 Habitat Types within the Palouse Subbasin); and/or large expanses of native shrub-step habitat.

3.3.10 Palouse Subbasin Management Plan Objective 10

Objective 10. Restore degraded shrub-steppe habitat within the Palouse.

- Strategy A. Identify the potential of degraded shrub-steppe habitat with practical and feasible opportunities for restoration (see limiting factors in Assessment 1.5.1 Agricultural Conversion, 1.5.2 Exotic Vegetation Encroachment, 1.5.4 Fire Suppression, 1.5.5 Urban Development).
- Strategy B. Rank shrub-steppe habitat restoration potential.²⁰
- Strategy C. Design a shrub-steppe habitat restoration plan.
- Strategy D. Implement the shrub-steppe habitat restoration plan.

Objective 10. Research, Monitoring and Evaluation Needs

1. Design and implement a monitoring plan to accompany Strategies C and D that includes evaluating focal species response (see Assessment 1.4.5 Focal Species, Table 7. Focal Species Selection for Shrub-Steppe Habitat Type within Palouse Subbasin).
2. Design and implement a monitoring plan to determine how much restoration is needed to support a self-sustaining population of focal species.

²⁰ Ranking for shrub-steppe habitat restoration:

High=Degraded shrub-steppe habitat with large contiguous expanses and highest potential to be lost.

Medium=Degraded shrub-steppe habitat in public ownership (see Assessment 1.2.2 Land Use and Land Ownership and 1.4.2.3 Habitat Types within the Palouse Subbasin); and/or areas (public or private ownership) contiguous to recent (within the last 10 years) shrub-steppe habitat restoration projects implemented by local, state or federal entities (Inventory 2.1.1 At the Local Level, 2.1.2 At the State Level, and 2.1.3 At the Federal Level).

3.3.11 Palouse Subbasin Management Plan Objective 11

Objective 11. Protect old growth ponderosa pine habitat within the Palouse subbasin.

- Strategy A. Identify location and quantity of existing native ponderosa pine habitat best suited for restoration.
- Strategy B. Evaluate ponderosa pine habitat condition and rank protection needs.²¹
- Strategy C. Design a protection plan for all identified old growth ponderosa pine habitat.
- Strategy D. Implement the protection plan for identified old growth ponderosa pine habitat.

Objective 11. Research, Monitoring and Evaluation Needs

1. Upgrade available geographic information system data sets with information obtained in Strategy A and make data public.
2. Design and implement a monitoring plan to accompany Strategies C and D that includes focal species evaluation (see Assessment 1.4.5 Focal Species, Table 8. Focal Species Selection for Ponderosa Pine Habitat Type within Palouse Subbasin).

²¹ Ranking for ponderosa pine habitat protection:

High=Ponderosa pine habitat in private or public ownership; and/or ponderosa pine habitat with ESA (state or federal) listings (see Assessment 1.4.3.1 Threatened and Endangered Species, 1.4.3.2 Listed Plant Species, 1.4.3.3 Other Species, 1.4.3.4 Washington Priority Habitats and Species, and 1.4.3.5 Idaho Endangered Species).

3.3.12 Palouse Subbasin Management Plan Objective 12

Objective 12. Restore altered ponderosa pine habitat within the Palouse subbasin.

- Strategy A. Identify potential of altered ponderosa pine habitat best suited for restoration with practical and feasible opportunities for restoration (see limiting factors in Assessment 1.5.1 Agricultural Conversion, 1.5.3 Timber Harvest, 1.5.4 Fire Suppression, 1.5.5 Urban Development).
- Strategy B. Rank ponderosa pine habitat restoration potential.²²
- Strategy C. Design a ponderosa pine habitat restoration plan.
- Strategy D. Implement the ponderosa pine habitat restoration plan.

Objective 12. Research, Monitoring and Evaluation Needs

1. Design and implement a monitoring plan to accompany Strategies C and D that includes evaluating focal species response (see Assessment 1.4.5 Focal Species, Table 8. Focal Species Selection for Ponderosa Pine Habitat Type within Palouse Subbasin).
2. Design and implement a monitoring plan to determine how much restoration is needed to support a self-sustaining population of focal species.

²² Ranking for ponderosa pine habitat restoration:

High=Altered ponderosa pine habitat with large contiguous expanses and highest potential to be lost.

Medium=Altered ponderosa pine habitat (see Assessment 1.2.2 Land Use and Land Ownership and 1.4.2.3 Habitat Types within the Palouse Subbasin); and/or altered ponderosa pine areas (public or private ownership) contiguous to recent (within the last 10 years) ponderosa pine habitat restoration projects implemented by local, state or federal entities (Inventory 2.1.1 At the Local Level, 2.1.2 At the State Level, and 2.1.3 At the Federal Level).

3.3.13 Palouse Subbasin Management Plan Objective 13

Objective 13. Protect native mixed conifer habitats within the Palouse subbasin.

- Strategy A. Identify location and quantity of existing native mixed conifer habitat.
- Strategy B. Evaluate mixed conifer habitat condition and rank protection needs.²³
- Strategy C. Design a protection plan for all identified native mixed conifer habitat.
- Strategy D. Implement the protection plan for identified native mixed conifer habitat.

Objective 13. Research, Monitoring and Evaluation Needs

1. Upgrade available geographic information system data sets with information obtained in Strategy A and make data public.
2. Design and implement a monitoring plan to accompany Strategies C and D that includes focal species evaluation (see Assessment 1.4.5 Focal Species, Table 10. Focal Species Selection for Mixed Conifer Habitat Type within Palouse Subbasin).

²³ Ranking for native mixed conifer habitat protection:

High=Mixed conifer habitat with ESA (state or federal) listings (see Assessment 1.4.3.1 Threatened and Endangered Species, 1.4.3.2 Listed Plant Species, 1.4.3.3 Other Species, 1.4.3.4 Washington Priority Habitats and Species, and 1.4.3.5 Idaho Endangered Species); and/or large expanses of native mixed conifer habitat; and/or mixed conifer habitat in public or private ownership (see Assessment 1.2.2 Land Use and Land Ownership and 1.4.2.3 Habitat Types within the Palouse Subbasin).

3.3.14 Palouse Subbasin Management Plan Objective 14

Objective 14. Restore altered mixed conifer habitat within the Palouse.

- Strategy A. Identify potential of altered mixed conifer habitat best suited for restoration with practical and feasible opportunities for restoration (see limiting factors in Assessment 1.5.1 Agricultural Conversion, 1.5.3 Timber Harvest, 1.5.4 Fire Suppression, 1.5.5 Urban Development).
- Strategy B. Rank mixed conifer habitat restoration potential.²⁴
- Strategy C. Design a mixed conifer habitat restoration plan.
- Strategy D. Implement the mixed conifer habitat restoration plan.

Objective 14. Research, Monitoring and Evaluation Needs

1. Design and implement a monitoring plan to accompany Strategies C and D that includes evaluating focal species response (see Assessment 1.4.5 Focal Species, Table 10. Focal Species Selection for Mixed Conifer Habitat Type within Palouse Subbasin).
2. Design and implement a monitoring plan to determine how much restoration is needed to support a self-sustaining population of focal species.

²⁴ Ranking for mixed conifer habitat restoration:

High=Altered mixed conifer habitat with large contiguous expanses and highest potential to be lost.

Medium=Altered mixed conifer habitat in public or private ownership (see Assessment 1.2.2 Land Use and Land Ownership and 1.4.2.3 Habitat Types within the Palouse Subbasin); and/or areas (public or private ownership) contiguous to recent (within the last 10 years), mixed conifer habitat restoration projects implemented by local, state or federal entities (Inventory 2.1.1 At the Local Level, 2.1.2 At the State Level, and 2.1.3 At the Federal Level).

3.3.15 Palouse Subbasin Management Plan Objective 15

Objective 15. Increase wildlife habitat value on agricultural land for focal species support.²⁵

- Strategy A. Identify potential for conversion of marginal cropland to native habitat.
- Strategy B. Convert marginal cropland areas to appropriate native grassland or shrub-steppe habitat.
- Strategy C. Support short-term conversion from an annual cropping sequence to perennial vegetation establishment (utilizing programs such as CRP and CCRP; see Assessment 1.5.1.1 Agricultural Practices, 2.1.1.1 Conservation Districts, and 2.1.3.1 United States Department of Agriculture Farm Services Agency and Natural Resources Conservation Service).
- Strategy D. Continue to promote research and development to assist producers in agronomically acceptable ways to maximize crop residue (stubble from previous crop) on annually cropped land for focal species support.

Objective 15. Research, Monitoring and Evaluation Needs²⁶

1. Design and implement a monitoring plan to accompany Strategies B, C and D that includes evaluating focal species response (see Assessment 1.4.5 Focal Species, Table 5. Focal Species Selection for Agricultural Habitat Type within Palouse Subbasin).
2. Design and implement a monitoring plan to determine how much restoration is needed to support a self-sustaining population of focal species.

²⁵ Ranking for increasing wildlife habitat value on agricultural land for focal species support:

High=Marginal cropland, proven to be agronomically unsuccessful, that can be restored to native grassland or shrub-steppe habitat (Inventory 2.1.1 At the Local Level, 2.1.2 At the State Level, and 2.1.3 At the Federal Level).

Medium=Annual cropland entered into short-term conversion to perennial vegetation.

Low=Annual cropland areas implementing wildlife habitat management practices (e.g. unharvested grain strips used for food plots; standing stubble left in place through the winter and spring for cover, etc.).

²⁶ Research, monitoring and evaluation address RPA 152 for listed salmonids in the Palouse River below Palouse Falls (see section 3.4).

3.3.16 Palouse Subbasin Management Plan Objective 16

Objective 16. Conduct baseline investigations to evaluate instream habitat quality and quantity for resident fish in the Palouse subbasin.²⁷

Strategy A. Initiate surveys to evaluate instream habitat quality and quantity.

Strategy B. Prepare evaluation report, upgrade available geographic information system data sets with information obtained in Strategy A, and make data public.

3.3.17 Palouse Subbasin Management Plan Objective 17

Objective 17. Conduct baseline investigations to determine native resident and resident fish stock composition, distribution, and relative abundance in the Palouse subbasin.

Strategy A. Initiate and/or continue surveys to determine fish species distribution and relative abundance.²⁷

Strategy B. Continue populating existing databases and develop new databases as appropriate, upgrade available geographic information system data sets with information obtained in Strategy A, and make data public.

²⁷ High priority objectives as subsequent objectives will rely on information obtained in Objectives 16 and 17.

3.3.18 Palouse Subbasin Management Plan Objective 18

Objective 18. Protect cold water aquatic life designated uses in §303(d) listed streams in the Washington portion of the subbasin.

- Strategy A. Implement actions identified by TMDL implementation plan for Palouse River (from mouth to South Fork Palouse River) needed to protect cold water fisheries rearing aquatic life use.²⁸
- Strategy B. Implement actions identified by TMDL implementation plan for Palouse River (from South Fork Palouse River to Idaho border) needed to protect non-core salmon/trout aquatic life use.²⁹

Objective 18. Research, Monitoring and Evaluation Needs

1. Design and implement a monitoring plan to accompany Strategies A and B to determine how much restoration is needed to support a self-sustaining population of selected or identified, fish species.

²⁸ TMDL for Palouse River from mouth to South Fork Palouse River to begin development in 2004 by Ecology.

²⁹ TMDL for Palouse River from South Fork Palouse River to Idaho border to begin development in 2004 by Ecology.

3.3.19 Palouse Subbasin Management Plan Objective 19

Objective 19. Protect designated uses of surface water quality criteria for cold water aquatic life and salmonid spawning (Idaho) on §303(d) listed streams in the Idaho portion of the subbasin.

Strategy A. Implement actions identifies by TMDL implementation plan for Palouse River tributaries needed to protect cold water aquatic life and salmonid spawning designated uses.

Objective 19. Research, Monitoring and Evaluation Needs

1. Design and implement a monitoring plan to accompany Strategy A to determine how much restoration is needed to support a self-sustaining population of selected or identified, fish species.

3.3.20 Palouse Subbasin Management Plan Objective 20

Objective 20. Protect cold water aquatic life in streams not listed on the §303(d) list in Washington and Idaho portions of the subbasin.³⁰

Strategy A. Protect existing instream habitat quality and quantity where cold water aquatic life is supported.

Strategy B. Improve existing instream habitat quality and quantity.

Objective 20. Research, Monitoring and Evaluation Needs³⁰

1. Design and implement a monitoring plan to accompany Strategies A and B to track trends in populations of selected, or identified, fish species.

³⁰ Protection efforts, research, monitoring and evaluation in the Palouse River below Palouse Falls address RPAs 150 and 152 (see section 3.4).

3.3.21 Palouse Subbasin Management Plan Objective 21

Objective 21. Coordinate instream flow implementation plan actions proposed by WRIA 34 Planning Unit.³¹

Strategy A. Implement actions identifies in the WRIA 34 instream flow implementation plan.

Objective 21. Research, Monitoring and Evaluation Needs

1. Devise and implement a monitoring plan to accompany Strategy A.

3.3.22 Palouse Subbasin Management Plan Objective 22

Objective 22. Provide recreational fisheries of rainbow trout, brown trout, Kokanee salmon and other species consistent with the NPCC Resident Fish Substitution Policy by using artificial production.

Strategy A. Increase hatchery production capabilities to produce sufficient quantities and better quality fish to drive recreational and subsistence fisheries by 2015.

Objective 22. Research, Monitoring and Evaluation Needs

1. Devise and implement a monitoring plan to accompany Strategy A.

³¹ WRIA 34 instream flow implementation plan to be developed in 2005 by the WRIA 34 Planning Unit, coordinated by the Palouse Conservation District.

3.3.23 Palouse Subbasin Management Plan Objective 23

Objective 23. Supplement non-self sustaining fish species to provide a recreational and subsistence fishery in managed lakes.

Strategy A. Maintain and/or increase the number of put and take ponds, lowland lakes, and reservoirs to provide anglers with the following catch rates and species:

Put and take: 5 fish per angler per trip, utilizing rainbow trout

Harvest oriented: 3 fish per angler per trip, utilizing rainbow, cutthroat, tiger, brown, and brook trout

Catch and release: 8 fish per angler per trip utilizing rainbow, cutthroat, tiger, brown, and brook trout

Quality trout (trout greater than 40 cm in length): 1 fish per angler per trip utilizing rainbow, cutthroat, tiger, brown, and brook trout

Trophy trout (trout greater than 50 cm in length): 0.5 fish per angler per trip utilizing rainbow, cutthroat, tiger, brown, and brook trout

Strategy B. Increase hatchery production capabilities to produce sufficient quantities and better quality game fish to drive harvest oriented fisheries by year 2015.

Strategy C. Increase put and take warmwater fisheries (i.e. walleye, crappie, sunfish) with angler catch rates of 7 fish per angler per trip by year 2020.

Objective 23. Research, Monitoring and Evaluation Needs

1. Devise and implement a monitoring plan to accompany Strategies A, B and C.

3.4 Reasonable and Prudent Alternatives

As discussed in Inventory Section 2.1.3.7 National Oceanic and Atmospheric Administration, NOAA Fisheries suggests that subbasin plans include implementation of the BiOp’s offsite mitigation actions in the RPAs to address listed salmonids in the Columbia River basin. Several strategies listed in the Palouse subbasin management plan (section 3.3 Management Plan) address protection of listed salmonids in the Palouse River below Palouse Falls (see Assessment 1.4.6.2 Listed Fish Species). The following table displays how each strategy addresses pertinent RPAs. Table 23 displays a condensed definition of each RPA addressed. A complete description of each RPA is found in Appendix F.

Table 23. Palouse Subbasin Management Plan Strategies and the Reasonable and Prudent Alternatives Addressed

Palouse Subbasin Management Plan Component	RPA Addressed
<p>3.3.1 Objective 1. Protect native riparian habitat within the Palouse subbasin.</p> <p>Strategy D. Implement the protection plan for identified riparian habitat.</p>	<p>RPA 150. Protection of listed salmon in currently productive non-federal habitat.</p> <p>Protecting native riparian habitat below Palouse River Falls will address protection for listed salmonids on non-federal habitat by protecting water quality through water temperature protection.</p> <p>RPA 152. Coordinate efforts and support offsite habitat enhancement measures.</p> <p>Information obtained in Objective 1 Research, Monitoring and Evaluation Needs 1,2,3, and 4 will be shared among participating agencies and entities through reports, publications, workshops and technical meetings.</p>
<p>3.3.3 Objective 3. Restore degraded riparian habitat within the Palouse subbasin.</p> <p>Strategy C. Implement the riparian habitat restoration plan.</p>	<p>RPA 152. Coordinate efforts and support offsite habitat enhancement measures.</p> <p>Information obtained in Objective 2 Research, Monitoring and Evaluation Needs 1 and 2 will be shared among participating agencies and entities through reports, publications, workshops and technical meetings.</p>
<p>3.3.4 Objective 4. Protect native wetland habitat within the Palouse subbasin.</p> <p>Strategy D. Implement the protection plan for identified wetland habitat.</p>	<p>RPA 152. Coordinate efforts and support offsite habitat enhancement measures.</p> <p>Information obtained in Objective 3 Research, Monitoring and Evaluation Needs 1 and 2 will be shared among participating agencies and entities through reports, publications, workshops and technical meetings.</p>

- table continued on next page

Table 23. Palouse Subbasin Management Plan Strategies and the Reasonable and Prudent Alternatives Addressed (continued)

Palouse Subbasin Management Plan Component	RPA Addressed
<p>3.3.6 Objective 6. Restore lost wetland habitat within the Palouse subbasin.</p> <p>Strategy C. Implement the wetland habitat restoration plan.</p>	<p>RPA 152. Coordinate efforts and support offsite habitat enhancement measures.</p> <p>Information obtained in Objective 4 Research, Monitoring and Evaluation Needs 1 will be shared among participating agencies and entities through reports, publications, workshops and technical meetings.</p>
<p>3.3.15 Objective 15. Increase wildlife habitat value on agricultural land for focal species support.</p> <p>Strategy B. Convert marginal cropland areas to appropriate native grassland or shrub-steppe habitat.</p> <p>Strategy C. Support short-term conversion from an annual cropping sequence to perennial vegetation establishment.</p> <p>Strategy D. Continue to promote research and development to assist producers in agronomically acceptable ways to maximize crop residue on annually cropped land for focal species support.</p>	<p>RPA 152. Coordinate efforts and support offsite habitat enhancement measures.</p> <p>Information obtained in Objective 13 Research, Monitoring and Evaluation Needs 1 and 2 will be shared among participating agencies and entities through reports, publications, workshops and technical meetings.</p>
<p>3.3.20 Objective 20. Protect cold water aquatic life in streams not listed on the §303(d) list in Washington and Idaho portions of the subbasin.</p> <p>Strategy A. Protect existing instream habitat quality and quantity where cold water aquatic life is supported.</p> <p>Strategy B. Improve existing instream habitat quality and quantity.</p>	<p>RPA 150. Protection of listed salmon in currently productive non-federal habitat.</p> <p>Implementation efforts designed for cold water aquatic life protection below Palouse River Falls includes the protection of listed salmonids on non-federal habitat.</p> <p>RPA 152. Coordinate efforts and support offsite habitat enhancement measures.</p> <p>Information obtained in Objective 13 Research, Monitoring and Evaluation Needs 1 and 2 will be shared among participating agencies and entities through reports, publications, workshops and technical meetings.</p>

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Appendices A through F

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Appendix A. Priority Habitat Species List

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Table A-1. Washington Priority Habitats (Washington Department of Fish and Wildlife)

Common Name <i>Scientific Name</i>	Species ¹ Criteria		Washington Status Priority Area	Geographic Area ²					
Frogs (Anura)									
Columbia spotted frog <i>Rana pretiosa</i> (spp. B)	1		State Listed or Candidate Species Any occurrence	1	2	3	4		
Northern leopard frog <i>Rana pipiens</i>	1		State Listed or Candidate Species Any occurrence	1	2	3		5	
Rocky Mountain tailed-frog <i>Ascaphus montanus</i>	1		State Listed or Candidate Species Any occurrence	1					
Oregon spotted frog <i>Rana pretiosa</i> (spp. A)	1		State Listed or Candidate Species Any occurrence					5	6
Western toad <i>Bufo boreas</i> (spp. A)	1		State Listed or Candidate Species Any occurrence	1	2	3	4	5	6
Salamanders (Caudata)									
Cascades torrent salamander <i>Rhyacotriton cascadae</i>	1		State Listed or Candidate Species Any occurrence					5	6
Columbia torrent salamander <i>Rhyacotriton kezeri</i>	1		State Listed or Candidate Species Any occurrence					5	6
Dunn's salamander <i>Plethodon dunni</i>	1		State Listed or Candidate Species Any occurrence					5	6
Larch Mountain salamander <i>Plethodon larselli</i>	1		State Listed or Candidate Species Any occurrence			3	4	5	
Van Dyke's salamander <i>Plethodon vandykei</i>	1		State Listed or Candidate Species Any occurrence					5	6
Lizards (Squamata)									
Sagebrush lizard <i>Sceloporus graciosus</i>	1		State Listed or Candidate Species Any occurrence	1	2	3			
Snakes(Squamata)									
California mountain kingsnake <i>Lampropeltis zonata</i>	1		State Listed or Candidate Species Any occurrence						
Sharptail snake <i>Contia tenuis</i>	1		State Listed or Candidate Species Any occurrence		2	3			
Striped whipsnake <i>Masticophis taeniatus</i>	1		State Listed or Candidate Species Any occurrence	1	2	3			
Turtles (Testudines)									
Western pond turtle <i>Clemmys marmorata</i>	1		State Listed or Candidate Species Any occurrence						
Marine Birds									
American white pelican <i>Pelecanus erythrorhynchos</i>	1	2	State Listed or Candidate Species Breeding areas, regular and regular large concentrations	1	2	3		5	
Brandt's cormorant <i>Phalacrocorax penicillatus</i>	1	2	State Listed or Candidate Species Breeding areas, regular and regular large concentrations				4	5	6

Table A-1. Washington Priority Habitats (continued)

Common Name <i>Scientific Name</i>	Species ¹ Criteria		Washington Status Priority Area	Geographic Area ²						
Marine Birds										
Brown pelican <i>Pelecanus occidentalis</i>	1	2	State Listed or Candidate Species Regular concentrations in foraging and resting areas							6
Cassin's auklet <i>Ptychoramphus aleuticus</i>	1	2	State Listed or Candidate Species Breeding areas							6
Common loon <i>Gavia immer</i>	1	2	State Listed or Candidate Species Breeding sites, regular and regular large concentrations	1	2	3	4	5	6	
Common murre <i>Uria aalge</i>	1	2	State Listed or Candidate Species Breeding areas, regular and regular large concentrations				4			6
Marbled murrelet <i>Brachyramphus marmoratus</i>	1	2	State Listed or Candidate Species Any occurrence in suitable habitat during breeding season, regular and regular large concentrations				4	5	6	
Short-tailed albatross <i>Phoebastria albatrus</i>	1		State Listed or Candidate Species Any occurrence							6
Tufted puffin <i>Fratercula cirrhata</i>	1	2	3	State Listed or Candidate Species Regular concentrations, breeding areas				4		6
Western Grebe <i>Aechmophorus occidentalis</i>	1	2	State Listed or Candidate Species Breeding areas	1	2	3				
Western Washington nonbreeding concentrations of: Loons (Gaviidae) Grebes (Podicipedidae) Cormorants (Phalacrocoracidae) Fulmar, Shearwaters (Procellariidae) Storm-petrels (Hydrobatidae) Alcids (Alcidae)		2	Regular large concentrations				4			6
Western Washington breeding concentrations of: Cormorants (Phalacrocoracidae) Storm-petrels (Hydrobatidae) Terns (Laridae) Alcids (Alcidae)		2	Breeding areas				4			6

Table A-1. Washington Priority Habitats (continued)

Common Name <i>Scientific Name</i>	Species ¹ Criteria		Washington Status Priority Area	Geographic Area ²						
Marine Birds										
Eastern Washington breeding concentrations of: Grebes (Podicipedidae) Cormorants (Phalacrocoracidae)		2	Breeding areas	1	2	3				
Eastern Washington breeding: Terns (Laridae)		2	Breeding areas	1	2	3		5		
Hérons (Ciconiiformes)										
Black-crowned night heron <i>Nycticorax nycticorax</i>		2	Breeding areas	1	2	3	4	5	6	
Great blue heron <i>Ardea herodias</i>		2	Breeding areas	1	2	3	4	5	6	
Waterfowl (Anseriformes)										
Aleutian Canada goose <i>Branta canadensis leucopareia</i>		2	3 Game Regular large concentrations in foraging and resting areas, migratory stopovers					5	6	
Brant <i>Branta bernicla</i>	1		Regular concentrations			4		6		
Cavity-nesting ducks Wood duck <i>Aix sponsa</i> Barrow's goldeneye <i>Bucephala islandica</i> Common goldeneye <i>Bucephala clangula</i> Bufflehead <i>Bucephala albeola</i> Hooded merganser <i>Lophodytes cucullatus</i>			3 Game Breeding areas	1	2	3	4	5	6	
Western Washington nonbreeding concentrations of: Barrow's goldeneye (<i>Bucephala islandica</i>) Common goldeneye (<i>Bucephala clangula</i>) Bufflehead (<i>Bucephala albeola</i>)		2	3 Game Regular large concentrations					4	5	6
Harlequin duck <i>Histrionicus histrionicus</i>		2	3 Game Breeding areas, regular and regular large concentrations in saltwater	1	2	3	4	5	6	
Snow goose <i>Chen caerulescens</i>		2	3 Game Regular large concentrations				4			

Table A-1. Washington Priority Habitats (continued)

Common Name <i>Scientific Name</i>	Species ¹ Criteria		Washington Status Priority Area	Geographic Area ²						
Waterfowl (Anseriformes)										
Swans Trumpeter swan <i>Cygnus buccinator</i> Tundra swan <i>Cygnus columbianus</i>		2	3	Game Regular and regular large concentrations	1	2	3	4	5	6
Waterfowl concentrations (Anatidae excluding Canada geese in urban areas)		2	3	Game Significant breeding areas and regular large concentrations in winter	1	2	3	4	5	6
Hawks, Falcons, Eagles (Falconiformes)										
Bald eagle <i>Haliaeetus leucocephalus</i>	1			State Listed or Candidate Species Breeding areas, communal roosts, regular and regular large concentrations, regularly-used perch trees in breeding areas	1	2	3	4	5	6
Ferruginous hawk <i>Buteo regalis</i>	1			State Listed or Candidate Species Breeding areas, including alternate nest sites. If breeding area is not known, approximate with a 7.0 km ² (4.35 mi ²) area around known nest sites, foraging areas	1	2	3			
Golden eagle <i>Aquila chrysaetos</i>	1			State Listed or Candidate Species Breeding and foraging areas	1	2	3	4	5	6
Merlin <i>Falco columbarius</i>	1			State Listed or Candidate Species Breeding sites	1	2	3	4	5	6
Northern goshawk <i>Accipiter gentilis</i>	1			State Listed or Candidate Species Breeding areas, including alternate nest sites, post-fledging foraging areas	1	2	3	4	5	6
Peregrine falcon <i>Falco peregrinus</i>	1			State Listed or Candidate Species Breeding areas, regular occurrences, hack sites	1	2	3	4	5	6
Prairie falcon <i>Falco mexicanus</i>			3	Breeding areas	1	2	3		5	
Upland Game Birds (Galliformes)										
Blue grouse <i>Dendragapus obscurus</i>			3	Game Breeding areas, regular concentrations	1	2	3	4	5	6

Table A-1. Washington Priority Habitats (continued)

Common Name <i>Scientific Name</i>	Species ¹ Criteria		Washington Status Priority Area	Geographic Area ²					
Upland Game Birds									
Chukar <i>Alectoris chukar</i>		3	Game Regular and regular large concentrations in WDFW's Primary Management Zones for chukar	1	2	3		5	
Mountain quail <i>Oreortyx pictus</i>		3	Game Any occurrence	1		3	4	5	6
Ring-necked pheasant <i>Phasianus colchicus</i>		3	Game Self-sustaining birds observed in regular or regular large concentrations in WDFW's eastern Washington Primary Management Zone for pheasant	1	2	3			
Sage grouse <i>Centrocercus urophasianus</i>	1	3	State Listed or Candidate Species Game Breeding areas, leks, regular and regular large concentrations	1	2	3			
Sharp-tailed grouse <i>Tympanuchus phasianellus</i>	1	3	State Listed or Candidate Species Game Breeding areas, leks, regular and regular large concentrations, critical wintering habitat (riparian zones)	1	2				
Wild turkey <i>Meleagris gallopavo</i>		3	Game Regular and regular large concentrations and roosts in WDFW's Primary Management Zones for wild turkeys	1	2	3		5	6
Cranes (Gruiformes)									
Sandhill crane <i>Grus canadensis</i>	1		State Listed or Candidate Species Breeding areas, regular large concentrations, migration staging areas	1	2	3	4	5	6
Shorebirds (Charadriiformes)									
Snowy plover <i>Charadrius alexandrinus</i>	1		State Listed or Candidate Species Breeding areas						6
Upland sandpiper <i>Bartramia longicauda</i>	1		State Listed or Candidate Species Any occurrence	1					
Eastern Washington breeding occurrences of: Phalaropes (Phalaropodidae) Stilts and avocets (Recurvirostridae)		2	Breeding areas	1	2	3			

Table A-1. Washington Priority Habitats (continued)

Common Name <i>Scientific Name</i>	Species ¹ Criteria			Washington Status Priority Area	Geographic Area ²					
Shorebirds										
Western Washington nonbreeding concentrations of: Charadriidae (plovers, etc.) Scolopacidae (sandpipers, etc.) Phalaropodidae (phalaropes)		2		Regular large concentrations				4	5	6
Pigeons (Columbiformes)										
Band-tailed pigeon <i>Columba fasciata</i>			3	Game Breeding areas, regular concentrations, occupied mineral springs				4	5	6
Cuckoos (Cuculiformes)										
Yellow-billed cuckoo <i>Coccyzus americanus</i>	1			State Listed or Candidate Species Any occurrence	1	2		4		
Owls (Strigiformes)										
Burrowing owl <i>Athene cunicularia</i>	1			State Listed or Candidate Species Breeding areas, foraging areas, regular concentrations	1	2	3		5	
Flammulated owl <i>Otus flammeolus</i>	1			State Listed or Candidate Species Breeding sites, regular occurrences	1	2	3			
Spotted owl <i>Strix occidentalis</i>	1			State Listed or Candidate Species Any occurrence		2	3	4	5	6
Swifts (Apodiformes)										
Vaux's swift <i>Chaetura vauxi</i>	1			State Listed or Candidate Species Breeding areas, communal roosts	1	2	3	4	5	
Woodpeckers (Piciformes)										
Black-backed woodpecker <i>Picoides arcticus</i>	1			State Listed or Candidate Species Breeding areas and regular occurrences	1	2	3		5	
Lewis' woodpecker <i>Melanerpes lewis</i>	1			State Listed or Candidate Species Breeding areas	1	2	3		5	
Pileated woodpecker <i>Dryocopus pileatus</i>	1			State Listed or Candidate Species Breeding areas	1	2	3	4	5	
White-headed woodpecker <i>Picoides albolarvatus</i>	1			State Listed or Candidate Species Breeding sites, regular occurrences	1	2	3		5	
Perching Birds (Passeriformes)										
Loggerhead shrike <i>Lanius ludovicianus</i>	1			State Listed or Candidate Species Regular occurrences in breeding areas, regular and regular large concentrations	1	2	3		5	
Oregon vesper sparrow <i>Poocetes gramineus affinis</i>	1			State Listed or Candidate Species Any occurrence				4	5	6
Purple martin <i>Progne subis</i>	1			State Listed or Candidate Species Breeding areas, including used artificial nest features, feeding areas				4	5	6
Sage sparrow <i>Amphispiza belli</i>	1			State Listed or Candidate Species Breeding areas, regular occurrences in suitable habitat during breeding season	1	2	3			

Table A-1. Washington Priority Habitats (continued)

Common Name <i>Scientific Name</i>	Species ¹ Criteria			Washington Status Priority Area	Geographic Area ²					
Perching Birds										
Sage thrasher <i>Oreoscoptes montanus</i>	1			State Listed or Candidate Species Breeding areas, regular occurrences in suitable habitat during breeding season	1	2	3		5	
Slender-billed, white-breasted nuthatch <i>Sitta carolinensis aculeata</i>				State Listed or Candidate Species Any occurrence					5	6
Streaked, horned lark <i>Eremophila alpestris strigata</i>				State Listed or Candidate Species Any occurrence				4	5	6
Shrews (Insectivora)										
Merriam's shrew <i>Sorex merriami</i>	1			State Listed or Candidate Species Any occurrence	1	2	3			
Bats (Chiroptera)										
Roosting concentrations of: Big brown bat <i>Eptesicus fuscus</i> Myotis bats (<i>Myotis</i> spp.) Pallid bat <i>Antrozous pallidus</i>		2		Regular large concentrations in naturally occurring breeding areas and other communal roosts	1	2	3			
Keen's myotis <i>Myotis keeni</i>	1	2		State Listed or Candidate Species Any occurrence						6
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	1	2		State Listed or Candidate Species Any occurrence	1	2	3			
Rabbits (Lagomorpha)										
Black-tailed jackrabbit ** <i>Lepus californicus</i>	1		3	Game Any occurrence	1	2	3			
Pygmy rabbit <i>Brachylagus idahoensis</i>	1			State Listed or Candidate Species Any occurrence	1	2	3			
White-tailed jack rabbit ** <i>Lepus townsendii</i>	1		3	Game Any occurrence	1	2	3			
Rodents (Rodentia)										
Gray-tailed vole <i>Microtus canicaudus</i>	1	2		State Listed or Candidate Species Any occurrence						
Brush Prairie pocket gopher <i>Thomomys talpoides douglasi</i>	1			State Listed or Candidate Species Any occurrence						
Townsend's ground squirrel <i>Spermophilus townsendii townsendii</i>	1			State Listed or Candidate Species Any occurrence			3			
Washington ground squirrel <i>Spermophilus washingtoni</i>	1			State Listed or Candidate Species Regular and regular large concentrations	1	2				
Western gray squirrel <i>Sciurus griseus</i>	1			State Listed or Candidate Species Any occurrence		2	3			
Western pocket gopher <i>Thomomys mazama</i>	1			State Listed or Candidate Species Any occurrence						

Table A-1. Washington Priority Habitats (continued)

Common Name <i>Scientific Name</i>	Species ¹ Criteria			Washington Status Priority Area	Geographic Area ²					
Terrestrial Carnivores (Carnivora)										
Fisher <i>Martes pennanti</i>	1			State Listed or Candidate Species Any occurrence	1	2	3			
Gray wolf <i>Canis lupus</i>	1			State Listed or Candidate Species Any occurrence	1	2	3			
Grizzly bear <i>Ursus arctos</i>	1			State Listed or Candidate Species Any occurrence	1	2	3			
Lynx <i>Lynx canadensis</i>	1			State Listed or Candidate Species Any occurrence	1	2	3			
Marten <i>Martes americana</i>			3	Game Regular occurrences	1	2	3			
Mink <i>Mustela vison</i>			3	Game Regular occurrences	1	2	3			
Wolverine <i>Gulo gulo</i>	1			State Listed or Candidate Species Any occurrence	1	2	3			
Marine Mammals (Cetacea and Carnivora)										
Dall's porpoise <i>Phocoenoides dalli</i>		2		Regular concentrations in foraging areas and migration routes						
Gray whale <i>Eschrichtius robustus</i>	1	2		State Listed or Candidate Species Any occurrence, migration routes						
Harbor seal <i>Phoca vitulina</i>		2		Haulout areas						
Killer whale ** <i>Orcinus orca</i>	1	2		Regular concentrations in feeding areas or migration routes				4		6
Pacific harbor porpoise <i>Phocoena phocoena</i>	1	2		State Listed or Candidate Species Regular concentrations in foraging areas and migration routes						
Sea lion, California <i>Zalophus californianus</i>		2		Haulout areas						
Sea lion, Steller (Northern) <i>Eumetopias jubatus</i>	1	2		State Listed or Candidate Species Haulout areas						
Sea otter <i>Enhydra lutris</i>	1	2		State Listed or Candidate Species Regular concentrations						
Big Game Ungulates (Artiodactyla)										
Bighorn sheep <i>Ovis canadensis</i>			3	Game Breeding areas, regular and regular large concentrations	1	2	3			
Columbian black-tailed deer <i>Odocoileus hemionus columbianus</i>			3	Game Regular and regular large concentrations, migration corridors			3			
Columbian white-tailed deer <i>Odocoileus virginianus leucurus</i>	1			State Listed or Candidate Species Regular and regular large concentrations						

Table A-1. Washington Priority Habitats (continued)

Common Name <i>Scientific Name</i>	Species ¹ Criteria		Washington Status Priority Area	Geographic Area ²					
Big Game Ungulates									
Moose <i>Alces alces</i>		3	Game Regular concentrations	1	2				
Mountain goat <i>Oreamnos americanus</i>		3	Game Breeding areas, regular concentrations	1	2	3			
Northwest white-tailed deer <i>Odocoileus virginianus ochrourus</i>		3	Game Breeding areas, migration corridors, regular and regular large concentrations in winter	1	2				
Rocky Mountain elk <i>Cervus elaphus nelsoni</i>		3	Game Calving areas, migration corridors, regular and regular large concentrations in winter	1		3			
Rocky Mountain mule deer <i>Odocoileus hemionus hemionus</i>		3	Game Breeding areas, migration corridors, regular and regular large concentrations in winter	1	2	3			
Roosevelt elk <i>Cervus elaphus roosevelti</i>		3	Game Calving areas, migration corridors, regular and regular large concentrations in winter, regular large concentrations in foraging areas along coastal waters						
Woodland caribou <i>Rangifer tarandus</i>	1		State Listed or Candidate Species Any occurrence	1					

¹ Species Criteria

Criterion 1. State Listed and Candidate Species

State listed species are those native fish and wildlife species legally designated as Endangered (WAC 232-12-014), Threatened (WAC 232-12-011), or Sensitive (WAC 232-12-011). State Candidate species are those fish and wildlife species that will be reviewed by the department (POL-M-6001) for possible listing as Endangered, Threatened, or Sensitive according to the process and criteria defined in WAC-232-12-297.

Criterion 2. Vulnerable Aggregations

Vulnerable aggregations include those species or groups of animals susceptible to significant population declines, within a specific area or statewide, by virtue of their inclination to aggregate. Examples include heron rookeries, seabird concentrations, marine mammal haulouts, shellfish beds, and fish spawning and rearing areas.

Criterion 3. Species of Recreational, Commercial, and/or Tribal Importance that are Vulnerable

Native and non-native fish and wildlife species of recreational or commercial importance, and recognized species used for tribal ceremonial and subsistence purposes, that are vulnerable to habitat loss or degradation.

² Geographic Regions

- Region 1-Eastern Washington
- Region 2-North Central Washington
- Region 3-South Central Washington
- Region 4-North Puget Sound Washington
- Region 5-Southwest Washington
- Region 6-Coastal Washington

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Appendix B. Federal and State Listed Species

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Table B-1. Threatened and Endangered Wildlife Species of the Palouse Subbasin (Ashley and Stovall 2003b)

	Common Name	Idaho	Washington
Federal	Oregon Spotted Frog		FC*
	Columbia Spotted Frog	FC*	
	Bald Eagle	FT	FT
	Sage Grouse		FC*
	Yellow-billed Cuckoo	FC*	FC*
	Horned Lark		FC
	Washington Ground Squirrel		FC*
	Gray Wolf	FE	FE
	Lynx	FT	FT
	Common Name	Idaho	Washington
	Western Toad	SC	SC
	Oregon Spotted Frog		SE
	Columbia Spotted Frog	SC	SC
Northern Leopard Frog	SC	SE	
Ringneck Snake	SC		
Striped Whipsnake		SC	
Common Loon	SC	SS	
Western Grebe		SC	
American White Pelican	SC	SE	
Great Egret	SC		
Trumpeter Swan	SC		
Harlequin Duck	SC		
Bald Eagle	SE	ST	
Northern Goshawk	SC	SC	
Ferruginous Hawk		ST	
Golden Eagle		SC	
Merlin		SC	
Peregrine Falcon	SE	SS	
Sage Grouse		ST	
Sharp-tailed Grouse	SC	ST	
Mountain Quail	SC		
Upland Sandpiper	SC	SE	
Black Tern	SC		
Yellow-billed Cuckoo	SC	SC	
Flammulated Owl	SC	SC	
Northern Pygmy-owl	SC		
Burrowing Owl		SC	
Great Gray Owl	SC		
Common Name	Idaho	Washington	
Boreal Owl	SC		
Vaux's Swift		SC	
Lewis's Woodpecker		SC	
White-headed Woodpecker	SC	SC	
Three-toed Woodpecker	SC		
Black-backed Woodpecker	SC	SC	
Pileated Woodpecker		SC	
Loggerhead Shrike	SC	SC	
Horned Lark		SC	
White-breasted Nuthatch		SC	
Pygmy Nuthatch	SC		
Sage Thrasher		SC	
Vesper Sparrow		SC	
Sage Sparrow		SC	
Merriam's Shrew		SC	
Coast Mole	SC		
Fringed Myotis	SC		
Western Pipistrelle	SC		
Spotted Bat	SC		
Townsend's Big-eared Bat	SC	SC	
White-tailed Jackrabbit		SC	
Black-tailed Jackrabbit		SC	
Washington Ground Squirrel		SC	
Northern Pocket Gopher		SC	
Gray Wolf	SE	SE	
Fisher	SC	SE	
Wolverine	SC	SC	
Lynx	SC	ST	

Status: FC = Federal Candidate; FT = Federally Threatened; FE = Federally Endangered; SE = Species of Concern; ST = State Threatened; SC = State Endangered.

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Appendix C. Washington and Idaho Partners In Flight

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Appendix D. Noxious Weed Lists

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Whitman County references the Washington Noxious Weed List, which can be accessed at: http://www.nwcb.wa.gov/weed_laws/wac.html#WAC 16-750-011

Table D-1. County Noxious Weed Lists (listed by common name)

Adams County, Washington		Latah County, Idaho
Common Name	Class [^]	Common Name
Buffalobur	A	Blueweed
Camelthorn	B	Canada thistle
Canada thistle	C	Corn buttercup
Common tansy	C	Dalmatian toadflax
Common reed	C	Diffuse knapweed
Dalmatian toadflax	B	Field bindweed
Diffuse knapweed	B	Hoary Cress
Eurasian watermilfoil	B	Jointed goatgrass
Hoary cress	C	Leafy spurge
Jointed goatgrass	C	Loosestife
Kocia	B	Matgrass
Kudzu	A	Orange hawkweed
Indigobush	B	Poison hemlock
Italian thistle	A	Plumeless thistle
Leafy spurge	B	Puncturevine
Longspine sandbar	B	Rush skeletonweed
Musk thistle	B	Russian knapweed
Perennial pepperweed	B	Scotch broom
Perennial sowthistle	B	Scotch thistle
Plumeless thistle	B	Small bugloss
Puncturevine	B	Spotted knapweed
Purple loosestrife	B	White bryony
Purple starthistle	A	Wild indigo
Rush skeleton weed	B	Wild chervil
Russian knapweed	B	Yellow hawkweed
Saltcedar	B	Yellow starthistle
Scotch broom	B	Yellow toadflax
Scotch thistle	B	
Slenderflower thistle	A	
Spanish broom	A	
Spiny cocklebur	C	
Spotted knapweed	B	
Swainsonpea	B	
Syrian beancaper	A	
Yellow nutsedge	B	
Yellow starthistle	B	
Yellow toadflax	C	

[^]Washington state noxious weed list classifies weeds in the following categories:

- Class A: non-native species with a limited distribution in Washington. Eradication is required by law.
- Class B: non-native species presently limited to portion of Washington.
- Class C: non-native weeds found in Washington.

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Appendix E. Technical Team and Working Group

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Technical Team

The Technical Team was comprised of the following:

Technical Team Members	Agency Represented
Howard Ferguson	Washington Department of Fish and Wildlife
Chris Donley	Washington Department of Fish and Wildlife
Ray Hennekey	Idaho Department of Fish and Game
Jerome Hansen	Idaho Department of Fish and Game

Working Group

The Working Group was comprised of the following:

Working Group	Group or Agency Represented
Robert Buchert	Conservation District, Palouse
Ken Stinson	Conservation District, Latah Soil and Water
Gary DeVore	Conservation District, Adams
Joyce McNeil	Conservation District, Adams
Kimberly Morse	Conservation District, Whitman
Gary Luft	Conservation District, Whitman
Raymond Brown	Conservation District, Pine Creek
David Lundgren	Conservation District, Lincoln County
Walt Edelen	Conservation District, Spokane County
John Phillips	Inland Northwest Wildlife Council
Thomas Aulick	Inland Northwest Wildlife Council
Kajsa Stromberg	Palouse-Clearwater Environmental Institute
Tom Lamar	Palouse-Clearwater Environmental Institute
Staff	Palouse Prairie Foundation
Allan Scholz	Eastern Washington University
Jerome Hansen	Idaho Department of Fish & Game
James Teare	Idaho Department of Fish & Game
Ed Shriever	Idaho Department of Fish & Game
Paul Ashley	Washington Department of Fish and Wildlife
Joe McCanna	Washington Department of Fish and Wildlife
John Whalen	Washington Department of Fish and Wildlife
Stacy Stovall	Washington Department of Fish and Wildlife
Kevin Robinette	Washington Department of Fish and Wildlife
Dinah Demers	Washington Department of Fish and Wildlife
Rob Henderson	Idaho Department of Environmental Quality
Elaine Snouwaert	Washington Department of Ecology
Mimi Wainwright	Washington Department of Ecology
Diane Leone	USDA Natural Resources Conservation Service
Rich Riehle	USDA Natural Resources Conservation Service
Paul Dorning	USDA Natural Resources Conservation Service
Michael Rule	Turnbull National Wildlife Refuge
Nancy Curry	Turnbull National Wildlife Refuge
Kathleen Fulmer	US Fish and Wildlife Service
Emmit Taylor	Nez Perce Tribe
Alfred Nomee	Coeur d'Alene Tribe
Robert Matt	Coeur d'Alene Tribe
Tom Dayley	Northwest Power Planning Council
Tony Grover	Northwest Power Planning Council

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Appendix F. Reasonable and Prudent Alternatives

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Table F-1. Reasonable and Prudent Alternatives (RPAs) Pertinent to the Palouse Subbasin

RPA	Description
Action 150	In subbasins with listed salmon and steelhead, BPA shall fund protection of currently productive non-federal habitat, especially if at risk of being degraded, in accordance with criteria and priorities BPA and NMFS will develop by June 1, 2001.
Action 152	<p>The Action Agencies shall coordinate their efforts and support offsite habitat enhancement measures undertaken by other Federal agencies, states, Tribes, and local governments by the following:</p> <ul style="list-style-type: none"> -Supporting development of state or Tribal 303(d) lists and TMDLs by sharing water quality and biological monitoring information, project reports and data from existing programs, and subbasin or watershed assessment products. -Participating, as appropriate, in TMDL coordination or consultation meetings or work groups. -Using or building on existing data management structures, so all agencies will share water quality and habitat, data, databases, data management, and quality assurance. -Participating in the Council’s Provincial Review meetings and Subbasin Assessment and Planning efforts, including work groups. -Sharing technical expertise and training with Federal, state, Tribal, regional, and local entities (such as watershed councils or private landowners). -Leveraging funding resources through cooperative projects, agreements and policy development (e.g., cooperation on a whole-river temperature or water quality monitoring or modeling project).