

**Bonneville Power Administration  
Fish and Wildlife Program FY99 Proposal Form**

**Section 1. General administrative information**

**GRANDE RONDE MODEL WATERSHED  
HABITAT PROJECTS**

**Bonneville project number, if an ongoing project** 9402700

**Business name of agency, institution or organization requesting funding**  
Grande Ronde Model Watershed Program (Blue Mtns.) : Union County, Wallowa County

**Business acronym (if appropriate)** GRMWP

**Proposal contact person or principal investigator:**

|                 |                                      |
|-----------------|--------------------------------------|
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**Subcontractors.** List one subcontractor per row; to add more rows, press Alt-Insert from within this table

| <b>Organization</b>                | <b>Mailing Address</b>                | <b>City, ST Zip</b>      | <b>Contact Name</b> |
|------------------------------------|---------------------------------------|--------------------------|---------------------|
| Union SWCD                         | 10507 N.<br>Mc Alister                | La Grande, OR<br>97850   | Sarah Hendrickson   |
| Wallowa SWCD                       | Federal Bldg - 109<br>201 W North St. | Enterprise, OR<br>97828  | Cynthia Warnock     |
| Wallowa County                     | 101 S. River                          | Enterprise, OR<br>97828  |                     |
| Union County                       | 1106 AK= Ave                          | La Grande, Or<br>97850   |                     |
| Umatilla National<br>Forest        | 2517 SW Hailey<br>Ave.                | Pendleton, OR<br>97801   | Caty Clifton        |
| Umatilla N. F.<br>Walla Walla R.D. | 1415 W Rose St.                       | Walla Walla, WA<br>99362 | Steve Anderson      |
| Wallowa-Whitman<br>N.F. La Grande  | 3502 Hwy 30                           | La Grande, OR<br>97850   | Paul Boehne         |

|   |                   |                         |               |
|---|-------------------|-------------------------|---------------|
| R.D.  |                   |                         |               |
| Wallowa-Whitman<br>N.F. Wallowa<br>Valley R. D. | 88401 Hwy 82      | Enterprise, OR<br>97828 | Kevin Martin  |
| Union County<br>Public Works                    | 10513 N McAlister | La Grande, OR<br>97850  | Rich Comstock |
| Wallowa County<br>Public Works                  | P.O. Box 219      | Enterprise, OR<br>97828 | Randy Strohm  |

**NPPC Program Measure Number(s) which this project addresses.**

**7.0 (7.6D, 7.7B.3, 7.8A.2, 7.8 A.5)**

**NMFS Biological Opinion Number(s) which this project addresses.**

NA

**Other planning document references.**

If the project type is AWatershed≡ (see Section 2), reference any demonstrable support from affected agencies, tribes, local watershed groups, and public and/or private landowners, and cite available documentation.

**National Marine Fisheries Service Snake River Salmon Recovery Plan (NMFS 1995, U.S. Dept. of Commerce, National Oceanic & Atmospheric Admin., Washington DC), Tasks 1.1.b, 1.4.b, 1.4.d, 1.5.b, and 1.6.b.**

**Columbia River Basin Fish and Wildlife Program , Sections 7.6D, 7.7**

**Stream and Riparian Conditions in the Grande Ronde Basin, Huntington 1993, Section 9.2.2**

**Grande Ronde Model Watershed Operations-Action Plan, Appendix A &B**

**Wallowa County - Nez Perce Tribe Salmon Recovery Plan 1993**

**Grande Ronde Ecosystem Diagnosis and Treatment Project (Mobrand, 1997)**

**Wallowa Whitman National Forest Plan & current Watershed Analyses**

**Subbasin.**

**Grande Ronde**

**Short description.**

**On-the-ground implementation of projects, including project management and monitoring, which will restore proper watershed functions in the Grande Ronde**

**Basin. Provide the required spawning, rearing and migration habitat for endangered salmonids.**

**Section 2. Key words**

|   |  |   |
|---|--|---|
| <input checked="" type="checkbox"/> Anadromous fish | <input checked="" type="checkbox"/> Construction | <input checked="" type="checkbox"/> Watershed   |
| <input type="checkbox"/> Resident fish              | <input type="checkbox"/> + O & M                 | <input type="checkbox"/> Biodiversity/genetics  |
| <input type="checkbox"/> Wildlife                   | <input type="checkbox"/> Production              | <input type="checkbox"/> Population dynamics    |
| <input type="checkbox"/> Oceans/estuaries           | <input type="checkbox"/> Research                | <input type="checkbox"/> + Ecosystems           |
| <input type="checkbox"/> Climate                    | <input type="checkbox"/> + Monitoring/eval.      | <input type="checkbox"/> + Flow/survival        |
| <input type="checkbox"/> Other                      | <input type="checkbox"/> + Resource mgmt         | <input type="checkbox"/> Fish disease           |
|   | <input type="checkbox"/> Planning/admin.         | <input type="checkbox"/> Supplementation        |
|   | <input type="checkbox"/> Enforcement             | <input type="checkbox"/> + Wildlife habitat en- |
|   | <input type="checkbox"/> Acquisitions            | <input type="checkbox"/> hancement/restoration  |

**Other keywords.**

**Section 3. Relationships to other Bonneville projects**

| <b>Project #</b> | <b>Project title/description</b>  | <b>Nature of relationship</b>  |
|------------------|-----------------------------------|--|
| <b>9202601</b>   | <b>GRMWP Admin/Impl/Research</b>  | <b>Project coordinates, plans, and implements habitat restoration in T&amp;E chinook and steelhead streams. Project builds community-wide participation in watershed restoration among the diverse interests of the Grande Ronde basin; developing innovative ideas in watershed planning. Project plans seminars for stakeholders and facilitates interagency cooperation in habitat restoration.</b> |
| <b>9403000</b>   | <b>RASP in Grande Ronde basin</b> | <b>Grande Ronde Ecosystem Diagnosis and Treatment Project provides a science-based planning process that incorporates local values and objectives. The project uses a patient-template analysis, with chinook as the diagnostic species, to analyze watershed</b>  |

|                |  |  |
|----------------|--|--|
|                |  | conditions, identify restoration alternatives, analyze and prioritize restoration alternatives, and implement selected actions.  |
| <b>8402500</b> | <b>Joseph Creek, Grande Ronde River, Oregon(ODFW)</b>                | <b>Involves partnership efforts with Oregon Dept. of Fish and Wildlife. ODFW representatives serve on the model watershed technical committee and the Board of Directors. Representatives are an integral part of project planning and development. The GRMWP uses ODFW expertise in the Grande Ronde Ecosystem Diagnosis and Treatment Project. Working together in restoration efforts has enhanced opportunities for both groups.</b> |
| <b>9403900</b> | <b>Wallowa Basin Project</b>   | <b>Provides technical support from the Nez Perce Tribe in subbasin plans, project development, and coordination with tribal priorities for restoration activities.</b>   |
| <b>5520900</b> | <b>Wallowa/Nez Perce Salmon Habitat Recovery Plan Implementation</b> | <b>To aid with implementation of the Wallowa County-Nez Perce Tribe Salmon Recovery Plan.</b>  |
| <b>9702500</b> | <b>Spring Chinook Early Life History</b>                             | <b>Provides critical information to the GRMWP in understanding how the system is being used by spring chinook, allowing better focus with our restoration efforts in the Grande Ronde Basin.</b>   |
| <b>9703100</b> | <b>Meadow Creek Instream Structure and Riparian Evaluation</b>       | <b>Monitoring of past efforts and adaptive management in action.</b>   |

## Section 4. Objectives, tasks and schedules

### *Objectives and tasks*

Tasks are identified for the following Subbasins:

**UGR** Upper Grande Ronde River (Grande Ronde River upstream of La Grande, including tribs).

**MGR** Middle Grande Ronde River (La Grande to Elgin, Grande Ronde Valley, including tribs).

**LGR** Lower Grande Ronde River (Elgin to mouth, including tributaries).

**CC** Catherine Creek (including tributaries).

**JC** Joseph Creek (including tributaries).

**WR** Wallowa River (including tributaries).

**LR** Lostine River (including tributaries).

**BC** Bear Creek (including tributaries).

**IR** Imnaha River (including tributaries).

| <b>Obj<br/>1,2,3</b> | <b>Objective</b>  | <b>Task<br/>a,b,c</b> | <b>Task</b>  |
|----------------------|---|-----------------------|--|
| 1                    | Improve passage at road crossings for adult and juvenile salmonids to and from spawning areas | a                     | UGR -Replace/modify 5 inadequate culverts  |
|                      |   | b                     | MGR -Reconstruct 2 bridges   |
|                      |   | c                     | LGR -Replace 1 inadequate crossing   |
|                      |   | d                     | CC -Modify 1 culvert road crossing   |
|                      |   | e                     | JC -Replace 5 inadequate road crossings  |
|                      |   | f                     | WR -Replace 1 inadequate crossing  |
|                      |   | g                     | BC -Replace 5 inadequate crossings   |
| <b>Obj<br/>1,2,3</b> | <b>Objective</b>  | <b>Task<br/>a,b,c</b> | <b>Task</b>  |
| 2                    | Improve passage at irrigation diversions for adult and juvenile salmonids to and from         | a                     | UGR -Modify 2 irrigation diversion structures on the Grande Ronde River<br>-Modify irrigation diversion structures on 5 tribs. |

|                  |   |                   |   |
|------------------|---|-------------------|---|
|                  | spawning areas  |                   | -Install fish screens on 3 irrigation ditches   |
|                  |   | b                 | C -Replace 2 push-up gravel irrigation diversions<br>-Install fish screens on 4 irrigation ditches  |
|                  |   | c                 | 7R -Reconstruct 3 inadequate irrigation diversion structures to improve fish passage  |
| 3                | Improve instream habitat diversity to restore and enhance salmonid spawning and rearing   | a                 | GR -Large woody additions to the GR River and tribs. 4 mi.<br>-Rock and log structure placements to same streams, 4 mi.<br>-Install 5 grade control structures<br>- Construct off-channel rearing habitat 1 mi.                                       |
|                  |   | c                 | C -Large wood additions to 3 mi. of tribs.<br>-Construct off-channel rearing habitat 1 mi.  |
|                  |   | d                 | C -Rock and log placements 2 mi.  |
|                  |   | f                 | 7R -Install 2 grade control structures<br>-Construct off-channel rearing habitat 1.5 mi.  |
|                  |   | g                 | LR - Construct 4 vortex rock weirs  |
| 4                | Enhance riparian condition(vegetation, function, etc) to restore and improve natural hydraulic and sediment regimes, floodplain and stream channel function | a                 | GR -Construct 3.5 mi. of riparian fencing<br>-Develop 5 off-stream water sources<br>-Close/obliterate 4 mi. of sediment producing roads<br>-Construct 3 mi. of pasture fencing<br>-Plant 2000 feet of streambank<br>-Noxious weed control on 50 acres |
|                  |   | b                 | GR -Construct 3 mi. of riparian fencing<br>-Develop 2 off-stream water sources<br>-Construct 2 mi. of pasture fencing   |
|                  |   | c                 | GR -Construct 4 mi. of riparian fencing<br>-Develop 4 off-stream water sources<br>-Construct 2 mi. of pasture fencing   |
| <b>Obj 1,2,3</b> | <b>Objective</b>  | <b>Task a,b,c</b> | <b>Task</b>   |
| 4                | Enhance riparian condition(vegetation, function, etc) -cont-  | d                 | C -Construct 3 mi. of riparian fencing<br>-Develop 4 off-stream water sources<br>-Construct 3 mi. of pasture fencing  |

|                  |   |                   |  |
|------------------|---|-------------------|--|
|                  |   |                   | -Noxious weed control on 25 acres  |
|                  |   | e                 | C<br>-Construct 3.5 mi. of riparian fencing<br>-Develop 6 off-stream water sources   |
|                  |   | f                 | R<br>-Construct 4.5 mi. of riparian fencing<br>-Plant 1000 feet of streambank<br>-Construct 3 mi. of pasture fencing   |
| 5                | Improve streambank stability to reduce stream channel sedimentation             | a                 | GR<br>-Construct 7 barb/log revetment stabilization structures in the Grande Ronde River<br>-Construct 3 grade control vortex weirs in the Grande Ronde River<br>-Revegetate 4000 feet of streambank on the Grande Ronde River and tribs.<br>-Construct 3000 feet of riparian fencing<br>-Develop 4 off-stream water sources |
|                  |   | b                 | IGR<br>-Revegetate 2000 feet of streambank on the Grande Ronde River and tribs.<br>-Construct 6000 feet of riparian fencing<br>-Develop 2 off-stream water sources   |
|                  |   | c                 | C<br>-Revegetate 1500 feet of streambank on mainstem Catherine Creek and tribs.<br>-Construct 2500 feet of riparian fencing  |
|                  |   | d                 | R<br>-Construct 8 barb/log revetment stabilization structures on Wallowa River and tribs.  |
| 6                | Protect spawning adult salmon from harassment                                   | a                 | GR<br>-Construct 1 mi. of riparian fencing<br>-Relocate recreational facilities away from traditional spawning areas on the Grande Ronde River<br>-Rehabilitate riparian areas heavily impacted by concentrated recreational use   |
|                  |   | b                 | C<br>-Construct 2 mi. of riparian fencing  |
| <b>Obj 1,2,3</b> | <b>Objective</b>  | <b>Task a,b,c</b> | <b>Task</b>  |
| 6                | Protect spawning adult salmon from harassment                                   | c                 | R<br>-Rehabilitate riparian areas heavily impacted by concentrated recreational use  |
| 7                | Improve upland watershed conditions to reduce sediment inputs to stream courses | a                 | GR<br>-Noxious weed treatment on 150 acres<br>-Prescribed burning on 400 acres<br>-Seeding on 150 acres  |

|                  |   |                   |  |
|------------------|---|-------------------|--|
|                  |   | b                 | GR -Noxious weed treatment on 100 acres<br>-Seeding on 100 acres<br>-1 mi. pasture fencing   |
|                  |   | c                 | C -Noxious weed treatment on 50 acres<br>-Seeding on 50 acres  |
|                  |   | d                 | C -Noxious weed treatment on 250 acres<br>-Seeding on 250 acres  |
|                  |   | e                 | GR -Noxious weed treatment on 50 acres<br>-1 mi. pasture fencing   |
|                  |   | f                 | R -Noxious weed treatment on 75 acres<br>-Seeding on 75 acres<br>-1 mi. pasture fencing  |
| 8                | Increase late-season stream flows to maintain lower stream temperatures and improved aquatic function | a                 | IGR -Improve water conveyance efficiency on 3 ditches on the Grande Ronde River and tribs.<br>-Improve water application efficiency on 200 acres                                 |
|                  |   | b                 | C -Improve water conveyance efficiency on 3 ditches on mainstem Catherine Creek<br>-Improve water application efficiency on 600 acres irrigated from Catherine and Little Creeks |
|                  |   | c                 | GR -Improve water conveyance efficiency on 2 ditches on mainstem Wallowa River and tribs.<br>-Improve water application efficiency on 400 acres irrigated from the same streams  |
|                  |   | d                 | R -Improve water application efficiency on 200 acres   |
|                  |   | e                 | C -Improve water application efficiency on 100 acres   |
| <b>Obj 1,2,3</b> | <b>Objective</b>  | <b>Task a,b,c</b> | <b>Task</b>  |
| 9                | Improve water quality (nutrients, pH, temp) for salmonid production and survival                      | a                 | All Watersheds - tasks listed under Objective #4 will also meet this objective.  |

These objectives and tasks address habitat deficiencies identified in the technical document AApplication of the Ecosystem Diagnosis & Treatment Method to the Grande Ronde Model Watershed Project, January 1997; L. Mobernd, L. Lestelle, Mobernd Biometrics, Vashon Island, WA; BPA #94AM33243

Deficiencies are listed by stream system in this document under section 7.a. Technical and/or scientific background.

**Objective schedules and costs**

| <b>Objective #</b> | <b>Start Date<br/>mm/yyyy</b> | <b>End Date<br/>mm/yyyy</b> | <b>Cost %</b> |
|--------------------|-------------------------------|-----------------------------|---------------|
| 1                  | 05/1999                       | 12/1999                     | 5%            |
| 2                  | 05/1999                       | 12/1999                     | 15%           |
| 3                  | 05/1999                       | 12/1999                     | 25%           |
| 4                  | 05/1999                       | 12/1999                     | 10%           |
| 5                  | 05/1999                       | 12/1999                     | 5%            |
| 6                  | 05/1999                       | 12/1999                     | 5%            |
| 7                  | 05/1999                       | 12/1999                     | 5%            |
| 8                  | 05/1999                       | 12/1999                     | 15%           |
| 9                  | 05/1999                       | 12/1999                     | 15%           |

**Schedule constraints.**

Landowner willingness to participate; inability to fund activities; unavailability of technical support.

**Completion date.**

Individual restoration projects developed under this proposal, for 1999, are planned to be completed during the 1999 field season, normally May through December. The completion date for the overall project (proposal # 9402700) is undetermined but will continue as long as there are habitat restoration needs in the Grande Ronde Basin, there are willing cooperators, and there is available funding.

**Section 5. Budget**

**FY99 budget by line item**

| <b>Item</b>                                  | <b>Note</b> | <b>FY99</b> |
|--|-------------|-------------|
| Personnel                                    |             | 0           |
| Fringe benefits                              |             | 0           |
| Supplies, materials, non-expendable property |             | 0           |
| Operations & maintenance                     |             | 0           |

|   |            |             |
|---|------------|-------------|
| Capital acquisitions or improvements (e.g. land, buildings, major equip.) |            | 0           |
| PIT tags  | # of tags: | 0           |
| Travel  |            | 0           |
| Indirect costs  |            | 0           |
| Subcontracts  |            | * \$950,000 |
| Other   |            |             |
| <b>TOTAL</b>  |            | * \$950,000 |

- \* This proposal request is for 35-40 individual habitat restoration projects. A project proposal will be prepared for each habitat restoration project which will identify work and budget items. Work and budget items will become a statement of work which is included in a contract between BPA and a subcontractor. Subcontractors will include Soil and Water Conservation Districts or other government agencies. Within the subcontract, funds provide for materials or labor to cost share the on-the-ground habitat restoration work.

**Outyear costs**

| <b>Outyear costs</b> | <b>FY2000</b> | <b>FY01</b> | <b>FY02</b> | <b>FY03</b> |
|----------------------|---------------|-------------|-------------|-------------|
| Total budget         | \$800,000     | \$800,000   | \$700,000   | \$700,000   |
| O&M as % of total    | *             | *           | *           | *           |

- \* O & M is the responsibility of landowners as part of their cost share for the project.

**Section 6. Abstract**

The Grande Ronde Basin was selected in 1992 by the Northwest Power Planning Council as the model watershed project in Oregon. The mission of the Grande Ronde Model Watershed Program (GRMWP) is to develop and oversee the implementation, maintenance, and monitoring of coordinated resource management that will enhance the natural resources of the Grande Ronde River Basin.≡

This proposal will implement 35-40 individual habitat restoration projects under the Grande Ronde Model Watershed Program. Restoration projects will target specific habitat problems on critical stream reaches or habitats within the Grande Ronde basin.

Projects will make incremental habitat improvements toward desired conditions within the basin. Habitat protection and restoration is one of the critical links to restoring anadromous fish populations in the Columbia River Basin.

Projects developed for this proposal will address habitat parameters and management activities identified in the 1994 Fish and Wildlife Program (FWP), Section 7.6D.

Projects include a variety of work methods addressing the tasks listed in Section 4 of this document. The approach and methods for any given restoration project are individually developed using available technical expertise and landowner objectives.

Restoration project development follows a structured process which focuses limited resources to streams and locations where habitat benefits can be optimized. Projects undergo a thorough internal review process by the GRMWP Technical Committee and Board of Directors to assure implementation of priority restoration projects.

Monitoring is an essential component of the GRMWP process. Implementation and effectiveness monitoring is incorporated into the development of all restoration projects. The GRMWP has also implemented a basin-wide monitoring strategy in cooperation with the Union and Wallowa SWCDs. This program coordinates, collects, summarizes and prepares monitoring data from the entire basin and produces an annual report.

## **Section 7. Project description**

### **a. Technical and/or scientific background.**

The Grande Ronde Basin has been targeted for habitat restoration work for several years by various agencies and programs. This project is specific to the Grande Ronde River basin. Spring chinook salmon were listed as "threatened" under the Endangered Species Act in the Grande Ronde basin in May of 1992. Steelhead were listed as "threatened" under ESA in the Grande Ronde basin in October of 1997. The GRMWP is the integration of local habitat restoration efforts with regional actions as outlined by the Northwest Power Planning Council in their 1994 Columbia Basin Fish & Wildlife Program (Sections 7.0B.1, 7.6, 7.6C, 7.6D, 7.7b.2-3, 7.8A.4-5), and Endangered Species Act Requirements as described in the National Marine Fisheries Service Snake River Salmon Recovery Plan (NMFS 1995, tasks 1.1.b, 1.4.d, 1.4.b, 1.5.b, and 1.6.b).

Habitat degradation within the Grande Ronde Basin has been well documented in reports commissioned by the GRMWP, graduate theses, as well as a multitude of other reports and publications. Technical reports commissioned by the GRMWP include the AGRMWP Action Plan, A Stream and Riparian Conditions in the Grande Ronde Basin (Huntington, 1993), and A Application of the Ecosystem Diagnosis and Treatment Method to the Grande Ronde Model Watershed Project (GREDT) (Mobernd 1997). Three Watershed Action Plans and several Coordinated Resource Management Plans (CRMPs) have been completed or are in progress to address individual watersheds.

GRMWP habitat projects are predicated upon the assumption that habitat degradation in the Grande Ronde basin has been a contributing factor to the decline of anadromous fish populations in the Grande Ronde basin. This project addresses habitat deficiencies within the basin by taking a comprehensive ridgetop-to-ridgetop restoration approach.

Individual projects included in this proposal will address habitat parameters and management activities identified in the 1994 Fish and Wildlife Program (FWP), Section 7.6D. These include:

|             |                     |                        |                       |
|-------------|---------------------|------------------------|-----------------------|
| sediment    | bank stability      | water quality          | large woody debris    |
| large pools | riparian vegetation | stream morphology      | land management       |
| roads       | grazing             | agricultural practices | recreation management |

The project will include 35-40 individual projects each targeting specific habitat problems on critical stream reaches or habitats within the Basin. Projects will make incremental habitat improvements toward desired conditions within the Grande Ronde Basin. Habitat protection and restoration is just one of the critical links to improving anadromous fish populations in the Columbia River Basin.

Habitat problems identified in GRMWP planning documents by subbasin:

#### Grande Ronde System

##### Upper Grande Ronde River (upstream of La Grande)

The quantity of key habitat for spring chinook in the upper Grande Ronde River is greatly reduced for certain life stages compared to historic levels. Migration, holding, and spawning habitat for adult fish is restricted as a result of low summer flows, high summer water temperatures and limited availability of good holding pools. Summer rearing habitat is restricted primarily as a result of high summer water temperatures. Winter rearing habitat for juvenile salmon is thought to be very limited as a result of reduce habitat complexity, streambed sedimentation and severe icing problems. Survival conditions have changed due primarily to increased water temperature, increased sediment load, loss in habitat diversity, changes in flow patterns, channel and bank destabilization and alteration of the riparian zone. (Application of the Ecosystem Diagnosis and Treatment Method to the Grande Ronde Model Watershed Project, Moberg 1997, Appendix C; GRMWP - Operations/Action Plan, pg. 20; Stream and Riparian Conditions in the Grande Ronde Basin, Huntington 1994, Sec. 7.3.3&4, pg. 37-38.)

##### Catherine Creek

The quantity of key habitat for spring chinook salmon in Catherine Creek is greatly reduced compared to historic levels. These losses are due to land development, channel straightening and realignment, removal of large organic structure from the channel, and dewatering of the channel. Spring chinook productivity has declined

sharply due primarily to increased water temperature, increased sediment load, loss in habitat diversity, poor adult fish passage at irrigation diversions, loss in flow, channel and bank destabilization and alteration of the riparian corridor. (Application of the Ecosystem Diagnosis and Treatment Method to the Grande Ronde Model Watershed Project, Mobrand & Lestelle, 1997, - Appendix C; Stream and Riparian Conditions in the Grande Ronde Basin, Huntington, 1994, Sect. 7.5.4, pg. 44; GRMWP - Operations /Action Plan, pg 26-28).

#### Middle Grande Ronde River (La Grande to Elgin, Grande Ronde valley)

The loss of key habitat for spring chinook in the middle Grande Ronde River has been particularly severe throughout the Grande Ronde valley for the pre-spawning, summer rearing and overwintering stages. Migration and holding of adult salmon is not possible after early July of most years due to low flows and high water temperatures. Salmon spawning and egg incubation are precluded by high water temperatures. Winter rearing habitat for juvenile salmon is limited as a result of streambed sedimentation and severely reduced habitat complexity. Additional factors limiting salmon production in the middle Grande Ronde subbasin include alteration of the riparian zone and poor water quality ( high pH and nutrient levels). (Application of the Ecosystem Diagnosis and Treatment Method to the Grande Ronde Model Watershed Project, Mobrand 1997, Appendix C; GRMWP - Operations/Action Plan, pg. 25; Stream and Riparian Conditions in the Grande Ronde Basin, Huntington 1994, Sec. 7.4.3&4, pg. 40-41.)

#### Lower Grande Ronde River (Grande Ronde River-mouth to Elgin)

Changes in quantity of key habitat downstream of the Grande Ronde valley have been comparatively minor. High water temperatures greatly restrict summer use of the Grande Ronde River by salmon. Lack of riparian vegetation and shade, as well as low flow levels contribute to rises in water temperature. Excess fine sediment, eroding streambanks and lack of woody debris are also factors in degrading salmon habitat within the lower Grande Ronde River subbasin. (Application of the Ecosystem Diagnosis and Treatment Method to the Grande Ronde Model Watershed Project, Mobrand 1997, Appendix C; GRMWP - Operations/Action Plan, pg. 44; Stream and Riparian Conditions in the Grande Ronde Basin, Huntington 1994, Sec. 7.8.3&4, pg. 53; Wallowa County-Nez Perce Tribe Salmon Recovery Plan, pg. 50-54).

#### Joseph Creek

Historically and continuing on to the present, the Joseph Creek subbasin has contained relatively little key habitat for spring chinook salmon. In particular, survival conditions for pre-spawning adults, spawners, and eggs have always been poor within Chesnimnus Creek, Joseph Creek, and downstream in the Grande Ronde River. These stream sections have apparently always had water temperature too high for good survival during these life stages. Conditions have worsened because of

changes that have occurred to channel stability, flow patterns, sediment load, habitat diversity, and predation levels.

Joseph Creek contains key habitat for steelhead. There are approximately 225 miles of anadromous fish habitat in the Joseph Creek subbasin. This habitat has been estimated to account for about 8% of current steelhead capacity in the Grande Ronde basin, and supports a steelhead population managed for wild production. (Application of the Ecosystem Diagnosis and Treatment Method to the Grande Ronde Model Watershed Project, Mobrand & Lestelle, 1997, Appendix C; Stream and Riparian Conditions in the Grande Ronde Basin, Huntington, 1994, Sect. 7.10.4 pg. 57; GRMWP Operations/Action Plan, pg. 48; Wallowa County-Nez Perce Tribe Salmon Recovery Plan, pg. 82-85)

### Wallowa River System

#### Wallowa River

The quantity of key habitat for most life stages of spring chinook throughout most of the mainstem Wallowa River has been substantially reduced compared to historic levels. Habitat quantities in the lower ten miles (downstream of Minam River) are relatively unchanged for all life stages, however. Currently conditions for survival during egg incubation, fry colonization, and early summer rearing are poorest high in the system, with conditions tending to improve downstream. Survival conditions have worsened mainly due to elevated water temperatures and sediment load, runoff from agricultural land, flow reductions, and reduced habitat diversity. (Application of the Ecosystem Diagnosis and Treatment Method to the Grande Ronde Model Watershed Project, Mobrand & Lestelle, 1997, Appendix C; Stream and Riparian Conditions in the Grande Ronde Basin, Huntington, 1994, Sect. 7.7.3&4, pg. 48-50; GRMWP Operations/Action Plan, pg. 33-35; Wallowa County-Nez Perce Tribe Salmon Recovery Plan, pg. 72-80)

#### Lostine River

The extent of changes from historic levels in the quantity of key habitat for spring chinook in the Lostine River differ by life stage and stream reach. The largest quantities of key habitat occurred in the lower 15 miles of river, downstream of a canyon. Quantity of key habitat is virtually unchanged in the upper 10 miles of stream; however, this section contains much less habitat compared to quantities located downstream. The capability of the lower 15 miles of the mainstem Lostine River to support spring chinook production is substantially reduced compared to historic conditions for most life stages. Survival conditions in this section are poorer due primarily to higher summer temperatures, alterations in flow regimes, and loss of habitat diversity. (Application of the Ecosystem Diagnosis and Treatment Method to the Grande Ronde Model Watershed Project, Mobrand & Lestelle, 1997, Appendix C; Stream and Riparian Conditions in the Grande Ronde Basin, Huntington, 1994, Sect.

7.7.3&4, pg. 48&51; GRMWP Operations/Action Plan, pg. 38; Wallowa County-Nez Perce Tribe Salmon Recovery Plan, pg. 34-40)

### Bear Creek

The extent of changes from historic levels in the quantity of key habitat for spring chinook salmon in Bear Creek differ by life stage and stream reach. Historically, the largest quantities of key habitat occurred in the lower six miles of stream (excluding smolt stage). The capability of the lower six miles of Bear Creek to support spring chinook production (survival) is greatly reduced compared to historic conditions for most life stages. Survival conditions in this section are poorer due primarily to low flows, loss of habitat diversity, increased water temperature, increased sediment load, feedlot runoff, and bank destabilization. Changes in the upper portion of the stream are comparatively minor. (Application of the Ecosystem Diagnosis and Treatment Method to the Grande Ronde Model Watershed Project, Mobrand 1997, Appendix C; GRMWP - Operations/Action Plan, pg. 36; Stream and Riparian Conditions in the Grande Ronde Basin, Huntington 1994, Sec. 7.7.3&4, pg. 49-50; Wallowa County-Nez Perce Tribe Salmon Recovery Plan, pg. 40-45).

### Innaha River System

The extent of changes from historic levels in the quantity of key habitat for spring chinook salmon in the Innaha River differs by life stage and stream reach. The greatest reduction in key habitat has occurred through much of the mid portions and upper reaches of river in the spawning and egg incubation stage. Whereas the capability for supporting spring chinook productivity is reduced mainly in the mid to lower reaches of the river in the prespawning, spawning, fry colonization, and summer rearing life stages. Survival conditions have worsened mainly due to elevated water temperatures and sediment load, and reduced habitat diversity. (Application of the Ecosystem Diagnosis and Treatment Method to the Grande Ronde Model Watershed Project, Mobrand 1997, Appendix C; GRMWP - Operations/Action Plan, pg. 52-53); Stream and Riparian Conditions in the Grande Ronde Basin, Huntington 1994, Sec. 7.11.3&4, pg. 58-59).

#### **b. Proposal objectives.**

This proposal will include 35-40 individual habitat restoration projects. Each project will have proposal prepared which will identify specific objectives, benefits, tasks, costs, etc. Objectives cover a wide range of habitat parameters and will be specific to individual projects. Objectives may include the following:

1. Improve fish passage at road crossings and other instream blockages
2. Improve fish passage at irrigation diversions
3. Improve instream habitat diversity
4. Enhance riparian condition (vegetation, function, etc.)
5. Stabilize streambanks
6. Protect spawning adult salmon
7. Improve upland watershed conditions

8. Increase late-season stream flows
9. Improve water quality

Proposed 1999 projects address freshwater habitat deficiencies identified in technical material and assessments that have been prepared for the Grande Ronde basin. Listing of the Snake River spring chinook as threatened in 1992, and subsequent listing as endangered, is a testimonial to the serious nature of the habitat problems in the Grande Ronde basin. Summer steelhead have been listed in 1997.

Products and improvements resulting from the individual projects are many and varied and are identified in specific project proposals. Individual project proposals will identify specific activities and tasks of the project. The project proposal is submitted to BPA as the statement of work for the contract between BPA and the entity implementing the project.

The GRMWP will maintain an individual project file for each of the projects in this proposal. The project file will contain final project completion reports, photo-point pictures, annual monitoring reports as well as any other information pertinent to assessing the success of the project.

The GRMWP also maintains a database, referenced to GIS map layers, which contains data on watershed restoration projects implemented in the basin since 1985. Many reports, and maps are regularly produced and distributed basin-wide. Some of these include:

- 1985-1996 Restoration project listing and summary of work (numerous requests)
- Accomplishment reports to BPA
- Project and work summaries categorized by county, agency, work type, fund source, etc.
- Project listing for NPPC.

**c. Rationale and significance to Regional Programs.**

The proposed project (35 individual projects) addresses the protection or restoration of freshwater habitat within the Grande Ronde basin. The habitat in the basin is but one element affecting anadromous fish populations in the Columbia Basin. Many other factors such as mainstem Snake and Columbia River habitat conditions, off-shore conditions, annual precipitation, harvest levels, and hydro-power generation operations all are elements of the FWP to improve Columbia Basin fish populations.

Habitat degradation in the Grande Ronde basin resulting from man's activities has been occurring for well over a hundred years. Reduced in-basin habitat productivity as well as the many other out-of-basin impacts has seriously reduced anadromous fish populations from historical levels. The impacts are cumulative, and when all taken together have had dramatic effects on the populations. A life history pathways

associated with spawning reaches in the upper Grande Ronde River show severe declines in potential salmon performance compared to historic levels. Restoration potential is significant for this subbasin.... groups of fish using these pathways appear to be at extremely high risk of extinction≡ (GREDT, 1997).

Protection and restoration of the headwater habitats is critical to the reestablishment of wild fish populations. Emphasis on headwater habitat improvement should be a very high priority because it is a factor which we can influence, and because the time frame for improvements to be reflected in actual changes in habitat parameters is so long term.

Other BPA funded projects relevant to this project (in addition to those listed in Section 3) include:

| <u>Project #</u> | <u>Title</u>   | <u>Sponsor</u> |
|------------------|--|----------------|
| 9703400          | Monitoring Fine Sediment Levels-- Grande Ronde & John Day    | CRITFC         |
| 9306600          | Oregon Fish Screens Project                                  | ODFW           |
| 9604400          | Grande Ronde Basin Spring Chinook Captive Broodstock Program | ODFW/NPT       |
| 9607700          | Meadow Creek Restoration                                     | USFS           |
| 9608300          | Grande Ronde Subbasin Watershed Restoration                  | CTUIR          |

Projects listed above have a direct relationship with this proposal in that they address habitat or fish stock issues *within* the Grande Ronde Basin. Additionally any project along the mainstem Columbia River which affects adult or juvenile fish migration, or survival, are dependent upon this project to maintain or improve fish production potential in the headwaters. Without habitat improvements in headwater areas to maintain wild fish production, there may be little need for mainstem Columbia passage and habitat projects.

The proposed project will leverage BPA funds to accomplish much more restoration work than could be accomplished with BPA funds alone. Since 1994 for every BPA dollar allocated to the Grande Ronde Basin, through the GRMWP, an additional \$1.65 has been cost-shared by private landowners, private Corporations, or other government agencies. See table in Section 7.d. Funds contributed by other entities, for projects developed under *this* proposal in 1999 can be expected to be similar.

**d. Project history**

BPA has been working with agencies in the Grande Ronde Basin for many years. The Grande Ronde Model Watershed Program began as the model watershed project in Oregon in April 1992. This project began in 1994. In 1995, 1996 and 1997, 94 individual habitat restoration projects were accomplished through this project. See attached project listing which shows individual project specifics, including project objectives, BPA costs and project cost-share from other entities.

The 94 projects, funded in part by BPA have addressed nearly every component of watershed health including: water quality, water quantity, in-stream habitat complexity, riparian condition, streambank stability, and fish passage. Many of the benefits of the projects are already evident, others will only accrue over longer time periods. Projects addressing passage problems, sediment inputs or flow deficiencies have demonstrated benefits immediately or in the short term. Others such as improvements in riparian vegetation, bank stability or stream temperatures will only become apparent with time.

Accomplishments and expenditures in previous years are:

| <u>Year</u> | <u># of Projects</u> | <u>BPA \$</u>      | <u>Cost Share \$</u> |
|-------------|----------------------|--------------------|----------------------|
| 1995        | 11                   | \$356,864          | \$1,619,269          |
| 1996        | 42                   | \$762,107          | \$1,001,184          |
| 1997        | 41                   | <u>\$1,146,875</u> | <u>\$1,085,106</u>   |
|             |                      | \$2,265,846        | \$3,705,559          |

See the attached restoration project listing for 1994-1997 (Attachment A)

The 94 projects implemented through the GRMWP with BPA funding were accomplished in cooperation with the following entities:

|                    |                    |                     |
|--------------------|--------------------|---------------------|
| Union SWCD*        | Wallowa SWCD*      | U.S. Forest Service |
| Oregon DOT         | Wallowa County PWD | Union County PWD    |
| Boise Cascade Corp | City of Union      | Union County        |
| OR Dept of F&W     | OR State Parks     |                     |

\*Projects done in cooperation with SWCD=s were implemented on over 40 individual land ownerships.

There are another 90+ habitat restoration projects, accomplished with Oregon Watershed Health Program funds in 1994 and 1995, that were implemented through the GRMWP.

Project implementation and effectiveness monitoring has been incorporated into all projects to assess results of the projects. Elements of individual project monitoring include a project completion final report, photo-point documentation, and annual monitoring reports for five years. This monitoring is a requirement for having a habitat restoration project approved by the GRMWP and submitted to BPA for funding.

The GRMWP has implemented a basin-wide monitoring strategy in cooperation with the Union and Wallowa SWCD=s to assess long-term results. The program collects, summarizes and prepares an annual report on all known monitoring being done in the basin. Data gaps have been identified and monitoring sites established to complete the data collection. This program will provide the data to assess long-term habitat changes as a result of habitat restoration projects.

Knowledge will be gained over the next several years through project effectiveness monitoring and through the watershed and basin-wide habitat monitoring. Past project development has combined state-of-the-art techniques with landowner management objectives. Current and future project development will build off of the implementation and effectiveness monitoring to incorporate those practices which provide the most cost effective and beneficial habitat restoration.

Habitat restoration projects of the GRMWP have produced other intangible results which although not on-the-ground are nevertheless crucial to future restoration efforts in the Grande Ronde basin. The visible on-the-ground successes of the 94 past projects have demonstrated to landowners, residents and others that habitat restoration is working and can be done along with other resource uses. Many cooperative relationships with landowners have been developed which has created the potential for many more future projects. Successful projects and satisfied landowners are the best testimonial to good watershed stewardship and the greatest incentive for other landowners to get involved.

**e. Methods.**

This project is part of a comprehensive watershed restoration program now in its fourth year with the GRMWP. 35-40 individual restoration projects will be developed under this proposal. These projects, when implemented, will continue to restore riparian habitats and watershed function essential to the continued survival of wild spring chinook salmon and steelhead in the Grande Ronde basin. Projects will address the full array of habitat deficiencies identified in planning documents listed Section 7.a.

The GRMWP staff, technical committee and Board of Directors annually solicit for projects through a variety of outreach programs with the SWCD=s, landowner groups, government agencies and individuals. Project proposals for individual restoration

projects are prepared by project proponents with assistance from GRMWP staff. Proposals identify objectives, habitat problems, tasks, benefits and budget needs specific to the project. Work and budget items will become a statement of work which is included in a contract between BPA and a subcontractor. See Attachment B Project Proposal for the format.

Projects undergo a thorough internal review process by the GRMWP Technical Committee and Board of Directors to assure implementation of priority restoration projects. Project review includes a screening and prioritization process which addresses biological, technical, economic and social merits of each project. See Attachment C, Evaluation Criteria.

Projects include a variety of work methods addressing the tasks listed in Section 4. The approach and methods for any given restoration project are individually developed using available technical expertise and landowner objectives. In general, preferred methods of accomplishing given restoration objectives are to allow, or to encourage natural processes to do most of the restoration work over time.

Each of the individual projects, under the scope of this proposal, will have a monitoring plan. The plan will describe monitoring activities necessary to define habitat changes. A final report will be prepared for individual projects. Annual monitoring reports will be completed for a minimum of five years.

Operation and maintenance of GRMWP habitat restoration projects is the responsibility of project cooperators, usually landowners or resource management agencies. O & M will involve maintenance of improvements, annual reporting, monitoring, and operation as specified in individual project proposals (statement of work). Operation and maintenance will continue for the time period specified in the project proposal.

There are many uncertainties with habitat restoration work in the Grande Ronde basin which could affect success of habitat restoration efforts. Biological systems are exceedingly complex and often will not respond in predictable ways due to the multitudes of variables in natural systems. Climatological events are not at all predictable and could nullify or negate some actions. Rain-on-snow events, ice flows and drought are examples of such events. These are risks that we attempt to minimize through comprehensive project planning and design based on state-of-the-art restoration techniques.

#### **f. Facilities and equipment.**

GRMWP restoration projects do not normally include the use of large facilities or the purchase of high cost equipment. However, equipment owned by project cooperators

such as computers, vehicles, survey equipment and construction equipment is often used in project implementation. Some of the equipment is included in the cooperator cost share for the project. When equipment not available to cooperators (heavy construction equipment) is needed, it may be subcontracted and costs for this may be requested in project proposals.

**g. References.**

Stream & Riparian Conditions in the Grande Ronde Basin, Clearwater BioStudies, Inc., 1993, Charles W. Huntington, 23252 S. Central Point Rd., Canby, OR 97013

GRMWP Operations/Action Plan, May 1994; Dr. David Duncan & Dr. George Cawthon, PNW Region, Bureau of Reclamation, Boise, ID

Wallowa County-Nez Perce Tribe Salmon Recovery Plan, August 1993; Citizens of Wallowa; Wallowa County Court, Enterprise, OR

Application of the Ecosystem Diagnosis & Treatment Method to the Grande Ronde Model Watershed Project, January 1997; L. Mobrand, L. Lestelle, Mobrand Biometrics, Vashon Island, WA; BPA #94AM33243

Grande Ronde Basin Water Quality Monitoring, 1997; Dr. K. Diebel, Union Soil & Water Conservation District; Grande Ronde Model Watershed Program; Wallowa Soil & Water Conservation District

## **Section 8. Relationships to other projects**

Sections 3 and 7.c of this document covered the relationships with other projects funded under the FWP. This discussion will address relationships not listed in those sections.

The GRMWP works very closely with most natural resource management and regulatory agencies in the Basin. The GRMWP also has direct ties to county and municipal governments. The most direct relationship is through the development of habitat restoration projects. These entities provide technical expertise to the GRMWP to help develop projects or to provide review of proposed projects. Individuals from the agencies serve on both the GRMWP Technical Committee and Board of Directors. Several of the agencies may also submit projects through the GRMWP to BPA for funding.

A strong symbiotic relationship developed in 1994 & 1995 between the Oregon Watershed Health Program (OWHP) and the GRMWP. The two entities cooperatively developed over 100 habitat restoration projects. OWHP committed over three million dollars to projects which was cost shared with nearly as much from local landowners and agencies. BPA cost shared in several of these projects.

The relationship between the GRMWP and landowners, through the SWCDs and other organizations, is established through MOUs and is absolutely vital to the development of on-the-ground habitat restoration projects on private lands. Since 1994 over half of the 94 BPA projects, implemented through the GRMWP, have involved private landowners. This demonstrates an essential link between the entities promoting habitat restoration and the private lands where much of the work is needed.

## Section 9. Key personnel

Patricia N. Perry, Executive Director, full-time (40 plus hours per week)  
Lyle Kuchenbecker, Program Planner, full-time (40 plus hours per week)

### **PATRICIA N. PERRY**

#### **Experience:**

U.S. Forest Service - Grande Ronde Model Watershed Program September 1992 - present

PNW Lab - Supervisor: Dr. Larry Hartmann (541) 962-6537. The Grande Ronde Model Watershed Program is an initiative of the Blue Mountains Natural Resources Institute located at the PNW Lab in La Grande, OR. Currently, I am on leave without pay from the Forest Service and employed by Eastern Oregon State College. Served as the Executive Director since November 1994; prior to being the Executive Director I was the Program Coordinator (Forest Service Position Description - Public Affairs Specialist GS-09). This has given me the opportunity to demonstrate skills in leadership ability, organization, coordination, and cooperation.

Responsibilities/tasks successfully completed include:

- \* Preparation of program work plans and budget in order to secure Bonneville Power Administration funding (\$300,000 admin. annually; \$1,100,000 project funds annually); briefing material and staff reports for Board of Directors; coordination of projects and activities with program subbasin groups
- \* Provided program briefings, tours, presentations, and panel discussions for Governor Kitzhaber, key legislators and legislative committees, various state agencies & their commissions, tribes, local organizations, private landowners and publics

- \* Development of effective communications and working relationships with key contacts/individuals involved in furthering program efforts; Organized public involvement activities, including technical training seminars (grazing) for landowners

In addition, program administration and other activities aside from those listed above have been continued. My fundamental understanding of natural resource issues and ability to work cooperatively with people of very diverse backgrounds has aided me in working with private landowners, program staff and committees, and other programs in discussing goals, objectives, and management strategies.

U.S. Forest Service April 1989 - August 1992

Kootenai National Forest, Fortine Ranger District - Kris Nixon, Supervisor (current telephone number 307-739-5500 Bridger-Teton N. F.) Business Management Assistant - supervised office staff (receptionist and time and attendance clerks) and was responsible for efficient functioning of the office; Purchasing Agent for the Ranger District - utilized third party drafts, credit cards, and managed imprest funds (purchasing authority could possibly be reinstated by Wallowa-Whitman N. F.); Accounting Clerk - tracked program manager costs utilizing NFC reports (i.e. monthly transaction registers, program manager statements, etc.), did accounting adjustments; Business Management Clerk - time and attendance reports and reception duties.

Port of Pend Oreille/Pend Oreille Valley Railroad - Asst. Manager for Traffic & Finance February 1985 - October 1985; Usk, Washington (509) 445-1090 -

Supervisor - Jim Young & Board of Commissioners. Job required the ability to represent the Port District at public meetings; was responsible for all accounting activities, including complying with state audits and regulations for Port Districts; the ability to work well with a Board of Commissioners, customers, and the general public; a working knowledge of the railroad system; and the ability to use good judgement in making decisions quickly. Also supervised the train and track crews (approx. 12 people).

**Education:**

Spokane Falls Community College - May 1977, AAS - Business/Secretarial  
Spokane, WA GPA 3.75; Related Training Courses & Conferences:

People Problems & How to Manage Them - Forest Service

Administrative Management - Forest Service

Small Purchasing, Advanced Small Purchasing, Imprest Fund training seminars (80 hours) - Forest Service

Budget & Finance Workshop - Forest Service

Fundamentals of Internet - GRMWP

**Recent Awards:**

1995, 1994, 1993 (4) - Certificates of Merit, Blue Mountains Natural Resources Institute, GRMWP

1992 - Certificate of Merit, USFS Fortine Ranger District

1991, 1990 - Certificate of Merit, USFS Eureka Ranger District

**LYLE A. KUCHENBECKER**  
**GRMWP PLANNER**

Duties

Habitat Restoration Planning/Project Development

- Design, process and collect information to conduct habitat restoration planning
- Identify projects, prepare proposals, facilitate review and approval
- Coordinate basin-wide monitoring activities
- Prepare project Biological Assessments and other documentation

Technical Committee

- Provides support to Technical Committee
- Prepares program reports and documents, materials and meeting notes
- Implements directives of the Technical Committee
- Develops & acquires information for long-term project funding

Public Information

- Participates in public information meetings
- Prepares materials for presentation and presents materials
- Prepares program support materials

Program Participation

- Plans and organizes information for program activities
- Attends Board meetings and interacts appropriately
- Provides assistance to the Board as requested

Experience

U.S. Forest Service - Grande Ronde Model Watershed Program - February 1994 to present

Detail to the GRMWP - See above duties.

U.S. Forest Service - La Grande Ranger District, Wallowa-Whitman National Forest, NEPA Planner - September 1992 - February 1994

Ranger District Planning Staff

Responsible for all NEPA planning on the Ranger District

U.S. Forest Service - La Grande Ranger District, Wallowa-Whitman National Forest, INFORMS Project Leader - October 1990 - September 1992.

Special Demo project to test the feasibility of incorporating state-of-the-art GIS techniques into NEPA planning and analysis.

U.S. Forest Service - La Grande Ranger District, Wallowa-Whitman National Forest, District Silviculturist - October 1985 - October 1990

Administration of the District Silviculture Department which was responsible for all District silvicultural prescriptions, planting thinning and tree improvement programs.

U.S. Forest Service - Union Ranger District, Wallowa-Whitman National Forest, District Silviculturist - July 1980 - October 1985

Duties same as above.

U.S. Forest Service - Dale Ranger District, Umatilla National Forest.

U.S. Forest Service - Southern Forest & Range Experiment Station, New Orleans, La.

Special Qualifications

U.S. Forest Service - Region 6 Certified Silviculturist, 1981, 1985

Education

B.S. Forest Management University of Wisconsin, Stevens Point 1972

U.S. Forest Service - Silvicultural Institute, 1980

## **Section 10. Information/technology transfer**

Well over 180 habitat restoration projects have been implemented throughout the GRMWP since 1994. Techniques have included almost every conceivable practice used in habitat restoration work. Most of the methods are tried and proven, some are not. Due to the intensity of activities in recent years the Grande Ronde basin has functioned like a very large outdoor laboratory. A comprehensive monitoring program is has been implemented to determine project success and measure habitat and water quality improvements. The GRMWP has made provisions to incorporate the results of past and on-going projects into future projects.

A project file is maintained for each restoration project which includes an accomplishment report and all implementation and effectiveness monitoring done for the project. The GRMWP is building a sizable catalog of photo documentation (pre, during and post activity) and project data. GRMWP staff give many presentations annually within and outside of the basin to a variety of audiences at conferences, workshops and symposiums.

The GRMWP provides a forum for discussion of watershed issues, a place for constituencies to listen and understand each other's interests and perspectives. GRMWP staff make preparations for and facilitate landowner meetings, tours, presentations, displays at county fairs, etc.; organize and coordinate educational seminars and activities for stakeholders; and publish newsletters and articles in local newspapers.

Technical information is often distributed informally through group, or one-on-one discussions with others doing similar work. This may occur through inquires or organized field trips.