Grande Ronde Model Watershed
Prospectus of Proposed Project

Title: Big Sheep/Buhler Diversion Replacement
Sponsor: GRMW
Technical Contact:
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Landowner: Buhler Ranch Partnership. PO Box 46 Joseph, Or. 97846.

Site Description:
The project area is located on Big Sheep Creek at river mile 6 approximately 3 miles above the confluence with Little Sheep Creek, is on private land owned by the Buehler Ranch, and is near Imnaha, Oregon. Project footprint is approximately 1 acre and adjacent land is utilized as hay and pasture ground. Several off-site watering facilities and riparian fencing has been installed in the adjacent area.

Photo 1: Standing below diversion looking upstream. August 5, 2009.

Photo 2: Standing in same spot looking downstream. August 5, 2009.

Objectives:

1. Replace existing diversion structure with permanent rock cross-vane style diversion that allows year round aquatic organism passage, allows normal bedload transport through the Big Sheep system, and reduces the need for potential diversion structure maintenance.
2. Replace the existing unstable and un-engineered structure with one that is less likely to wash out leading to the landowner building a gravel push-up dam or similar structure that precludes passage, disturbs channel substrate and causes turbidity in Big Sheep Creek.

Photo 3: Jump height from pool below structure to top of structure ~ 3.5 feet.

Photo 4: ODFW removing rock to provide passage under check log.

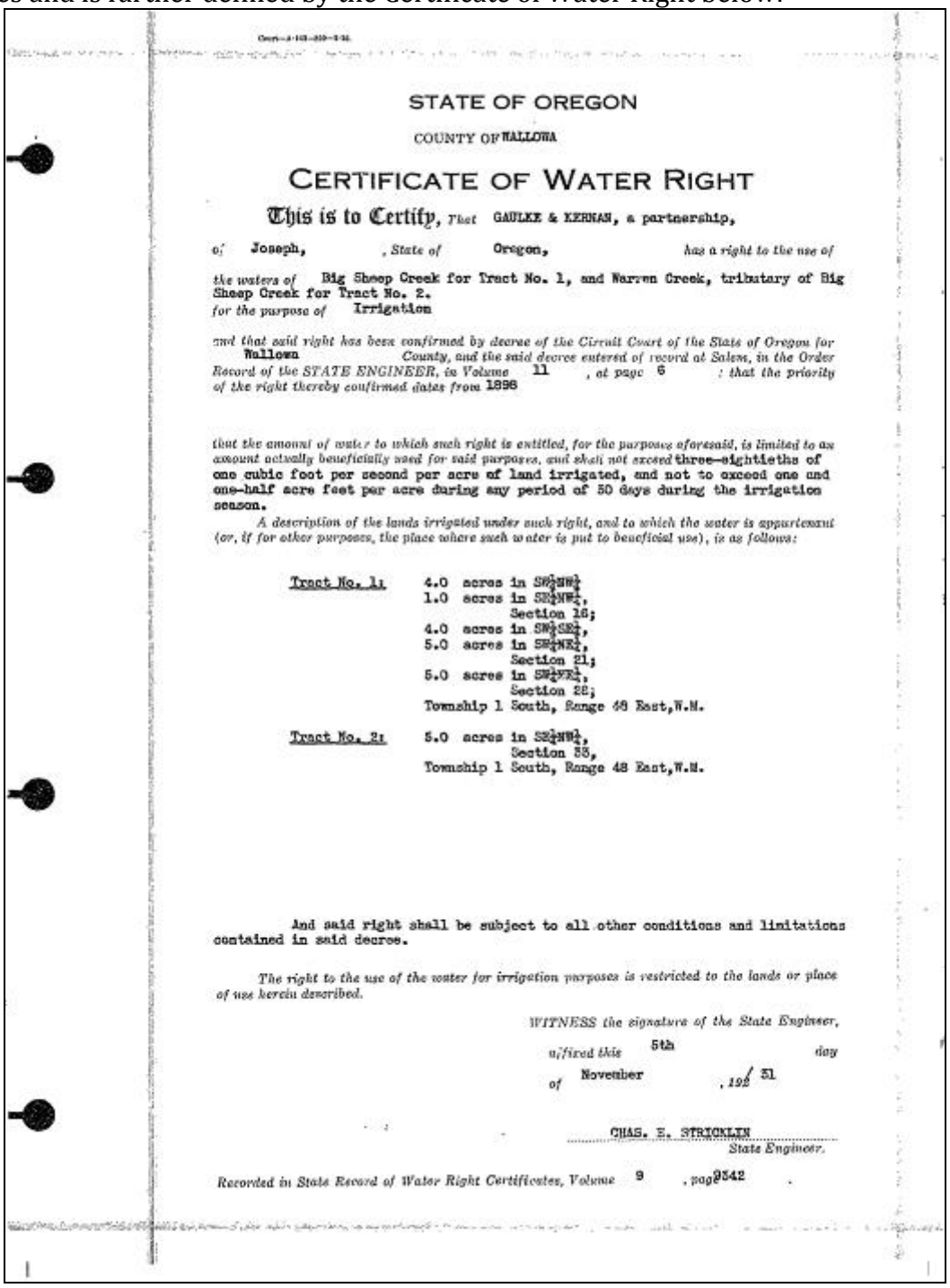
Photo 5: Temporary passage provided under check log (near side of log). This is a temporary solution and not expected to last longer than the summer season. While adult salmonids may be able to negotiate this barrier at higher flow juveniles will have trouble passing above this structure at all flows and times of year.

Project Description:

The conceptual approach is to install a series of rock cross-vanes to replace the diversion and gain sufficient elevation to accommodate diversion and passage. With a current 3.5-foot elevation loss through the structure 5 to 7 cross-vanes are anticipated in the final design. The vanes are largely subsurface features that

maintain channel grade, concentrate flow, provide passage according to ODFW passage guidelines, and significantly reduce or eliminate annual instream maintenance. At this point it is not anticipated that the headgate will be modified or replaced.

The irrigation ditch served by this diversion has a priority date of 1898, irrigates 24 acres and is further defined by the Certificate of Water Right below:



STATE OF OREGON

COUNTY OF WALLOWA

CERTIFICATE OF WATER RIGHT

This is to Certify, That GAULKE & KERNAN, a partnership,

of Joseph, , State of Oregon, has a right to the use of

the waters of Big Sheep Creek for Tract No. 1, and Warren Creek, tributary of Big Sheep Creek for Tract No. 2.
for the purpose of Irrigation

and that said right has been confirmed by decree of the Circuit Court of the State of Oregon for Wallowa County, and the said decree entered of record at Salem, in the Order Record of the STATE ENGINEER, in Volume 11 , at page 6 ; that the priority of the right thereby confirmed dates from 1898

that the amount of water to which such right is entitled, for the purposes aforesaid, is limited to an amount actually beneficially used for said purposes, and shall not exceed three-eightieths of one cubic foot per second per acre of land irrigated, and not to exceed one and one-half acre feet per acre during any period of 30 days during the irrigation season.

A description of the lands irrigated under such right, and to which the water is appurtenant (or, if for other purposes, the place where such water is put to beneficial use), is as follows:

Tract No. 1: 4.0 acres in SW¼NW¼
1.0 acres in SE¼NW¼,
Section 16;
4.0 acres in SW¼SE¼,
5.0 acres in SE¼NE¼,
Section 21;
5.0 acres in SW¼NE¼,
Section 28;
Township 1 South, Range 48 East, W.M.

Tract No. 2: 5.0 acres in SE¼NW¼,
Section 33,
Township 1 South, Range 48 East, W.M.

And said right shall be subject to all other conditions and limitations contained in said decree.

The right to the use of the water for irrigation purposes is restricted to the lands or place of use herein described.

WITNESS the signature of the State Engineer, affixed this 5th day of November, 1921

CHAS. E. STRICKLIN
State Engineer.

Recorded in State Record of Water Right Certificates, Volume 9 , page 3542 .

Relation to Imnaha Subbasin Plan:

Imnaha Subbasin Plan Supplement: 5.3.2.1 Natural Production Objectives and Strategies, page #7, bullet 13. **Increase passage efficiency of in-stream obstructions including culverts, bridges, diversion structures, and unscreened diversions.** Fish passage barriers should be corrected wherever they exist. However, if this is not feasible, a prioritization of the known barriers should be developed to account for life history stage impacted, miles of habitat reopened, and quality of reopened habitat. Problem 10 (p 35) lists the known passage problems; however, this is not a comprehensive list for all obstructions to migration in the Imnaha subbasin. It is recommended that the fish passage inventory, analysis and prioritization currently being conducted by the Nez Perce Tribe be utilized to further clarify/define the areas needing mitigation.

5.3.2.1 Natural Production Objectives and Strategies, page #7, bullet 14. Structural fixes installed to provide fish passage over irrigation dams, etc. require maintenance to operate within design criteria. All fish passage facilities should be maintained to provide optimal passage conditions.

Proposed Project Relation to other Projects:

NAME	Acres Treated	Stream Miles Treated	Project Type
Big Sheep Creek Riparian Fence	18	1.5	Riparian/Fence
Big Sheep Riparian Fence and Revegetation - Suarez	3	0.75	Riparian/Fence
Marr Flat/ Big Sheep Riparian Pasture Fencing	4320	11	Riparian/Fence
Big Sheep Riparian Pasture Fencing & Trough Replacement	60	2.75	Riparian/Fence
Whiskey Riparian Corridor Fencing and Trough Replacement	32	3.5	Riparian/Fence
Divide Riparian Pasture Fencing	4800	13	Riparian/Fence
Big Sheep Creek Riparian Enhancement - Huber	15	0.25	Riparian/Fence
Big Sheep Riparian Fence - Buhler	21	1.75	Riparian/Fence
Big Sheep Creek Riparian Enhancement - USFS	18	2	Riparian
USFS Marr Flat Allotment and Big Sheep/Imnaha Fisheries Enhancement Project	20	20.75	Instream/Riparian/ Fence/Road
Big Sheep/Carrol Creek Instream and Riparian Habitat Improvements - USFS	7	0.75	Instream/Riparian
Carrol Creek & Marr Flat Allotment (Phase II) Watershed & Riparian Enhancement Project	3	11.62	Instream/Riparian/ Fence/Road
Big Sheep Creek Riparian Fence	81	5.79	Riparian/Fence
Wallowa County CREP 2001 - Big Sheep Creek	16.8	1.25	Riparian/Fence
Wallowa County CREP 2002 - Big Sheep Creek	20.1	2.25	Riparian/Fence

Project Duration:
Start – August 2009. Coordination activities.
Design – September 2009 to January 2010.
Permitting & consultation – January 2010 to June 2010.
Construction – July 2010 to October 2010.
Monitoring – October 2010 to 2013.
Limiting Factors and Existing Conditions:

When complete this project will have addressed a multitude of instream parameters of concern in the Imnaha River at the project site. The primary limiting factors are aquatic organism passage due to the jump height at the diversion and sedimentation due to structure maintenance activities.

Species Affected: Chinook salmon, Steelhead trout, bulltrout, resident aquatic organisms.

Benefits:

1. Improved aquatic organism passage.
2. Reduced sedimentation and in-channel disturbance.

Specific Actions:

1. Coordination - GRMW.
2. Site survey – ODFW screen shop.
3. Design & Engineering – Anderson Perry.
4. Environmental compliance – Anderson Perry and/or GRMW.
    - ESA consultation.
    - Removal/Fill permits.
    - Cultural Resources.
5. Contracting – GRMW.
    - Funding & construction contracts.
6. Construction – Late summer and/or fall of 2010.

Monitoring Plan:

1. Project completion report 60 days following project completion. Report will follow GRMW/BPA report guidelines.
2. Monitoring report at years 1 & 3 following project completion and pertain to project objectives:
    - Structure stability
    - Erosion & sedimentation
    - Aquatic passage.
3. Photo points.

Preliminary Cost Estimate: At this time the projected total project cost ~ $75,000.