Glendale-Cow Creek Ditch
Environmental Assessment

EA#OR118-03-009

August 2003

Proposed agency actions:	Provide funding to Douglas Soil and Water Conservation District to stabilize a portion of stream bank in Cow Creek and continue a supply of water into the Glendale-Cow Creek irrigation ditch.
Type of statement:	Environmental Assessment
Lead agency:	U.S. Department of Interior Bureau of Land Management Medford District, Glendale Resource Area
Participating agencies:	Douglas Soil & Water Conservation District Oregon Water Resources Department Oregon Department of Fish and Wildlife Cow Creek Irrigation Company
For further information:	Lynda L. Boody Glendale Field Manager BLM District Office

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Chapter 1 - Purpose and Need for Action

1.0 Purpose and Need for Action

The Glendale Resource Area proposes to provide Secure Rural Schools Act (Title II) funding to the Douglas Soil & Water Conservation District (DSWCD) to improve irrigation structures and stream bank stability within a portion of Cow Creek to benefit fish and water quality. The project is needed to prevent further stream bank erosion while continuing the current supply of irrigation water to its users. A lack of extensive root mass due to the absence of woody vegetation, on the outside of some meander bends in this system could be contributing to an increased rate of stream bank erosion. One residence just upstream of the push up dam has lost approximately 30 feet of pasture land due to the shift in the creek channel over the past 3 years. Oregon Coast coho salmon, a federally threatened species, inhabit the project area.

It is important to slow or stop lateral movement of the channel at this location at the present time since human values are involved, not that the process itself is negative. Specifically, the landowner is losing real estate and possibly property value.

1.1 Background and Existing Environment

The Cow Creek Irrigation Company acquired water rights to Cow Creek in 1901. The company built an irrigation ditch to supply water for livestock, grazing land, hay fields, and fire protection to adjacent landowners. The push-up dam has to be rebuilt annually to supply a sufficient amount of water to its users. Land along this portion of the creek has been used for livestock grazing for at least the past 150 years.

1.2 Project Objectives

1. Continue the current supply of water into the Glendale-Cow Creek irrigation ditch.
2. Stabilize the rapidly eroding portion of Cow Creek stream bank located immediately upstream of the annual push-up dam.

1.3 Plan Conformance

This environmental assessment tiers to the analysis leading to the *Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines* (S&M ROD)(USDI, USDA 2001) and the *Medford District Record of Decision and Resource Management Plan* (RMP) (USDI 1995), as amended. These documents are available at the Medford BLM office and the Medford BLM web site at <http://www.or.blm.gov/Medford/>.

1.4 Decisions to be made on this Analysis

The Glendale Resource Area Field Manager will decide:

1) Whether or not the impacts of the proposed action are significant to the human environment beyond those impacts addressed in previous NEPA documents. If the impacts are determined to be insignificant, then a Finding of No Significant Impact (FONSI) can be issued and a decision can be implemented. If any impacts are determined to be significant to the human environment, then an Environmental Impact Statement must be prepared before the Manager makes a decision.

2) Whether to implement the proposed action, or defer to the no action alternative.

3) Whether the selected alternative is consistent with the Resource Management Plan.

1.5 Issues of Concern

Issues for the project area were identified by the interdisciplinary team with the benefit of input from the public and other agencies. This Environmental Assessment (EA) focuses on these issues, both in terms of project design features (PDFs) and under Critical Elements where these issues are described.

For the Glendale-Cow Creek Ditch project area, the issues identified for this environmental assessment were:

Fisheries
Annual reconstruction of the push-up dam in the stream channel may create obstructions to fish passage under summer flow conditions.

Sedimentation
Stream sedimentation caused by stream bank erosion could be adversely affecting Essential Fish habitat of coho salmon (Magnuson-Stevens Act) and other aquatic species.

Erosion
Private land owners are concerned about losing additional pasture land to high winter stream flow and potential replacement of fences and other facilities if erosion continues.

1.6 Permits

This section lists any federal permits, licenses, and/or entitlements necessary to implement the project and identifies responsible agencies for obtaining permits.

If additional structures are added to Cow Creek, the Douglas Soil and Water Conservation District and private landowners would be responsible for obtaining a removal/fill permit under the Clean Water Act from the Division of State Lands (DSL) and U.S. Army Corps of Engineers.

Under the No Action Alternative, no additional permits would be required.

Chapter 2 – Alternatives

2.0 Comparison of the Alternatives

This chapter describes the alternatives under consideration. Descriptions focus on potential actions, outputs, and any related mitigation.

2.1 Alternative 1 : Infiltration gallery with gravity fed pipeline & stabilize stream bank (DSWCD Title II Proposed Action)

Under Alternative 1, a gravity feed system would be installed upstream from the annual push-up dam in Cow Creek (see enclosed aerial photograph) to feed water into a multi-users irrigation ditch. The structure would provide water without the need of a push-up dam. This gravity feed system would be composed of an inlet pipe, pipeline, a perforated pipe and gravel drain collection system placed under the bottom of a stream channel to collect and divert irrigation water (USDA 2000). The water supply is provided without the use of an electric pump by utilizing gravity. Placement of the pipeline may be varied within this alternative. For example, approximately 2,200 ft of buried pipeline, 40-50 feet from Cow Creek could follow the arch of the channel to the original irrigation ditch. The enclosed aerial photo depicts one of several possible locations for pipelines and associated components. Other locations for the pipeline are being considered to eliminate the need of digging a ditch line and enter any adjacent land owners property with an excavator. The irrigation ditch would be closed off from the rest of Cow Creek by contouring the adjoining bank and replanting it with willows for structural stability.

Protecting approximately 300 ft of stream bank would involve installing six rock barbs facing upstream (ranging from 25 ft-35 ft) along the rapidly eroding portion of the stream. Using rock barbs would involve an excavator 'keying'(trenching) into the stream bank so the rock barbs are securely anchored. Pole size conifers (approximately 5-6 inch diameter at breast height) would also be placed parallel to the stream bank for the length of the vertical, eroding stream bank, and be securely anchored. Willow cuttings would be planted to accelerate stream bank stabilization. Installing rock barbs and tree revetments are actions that would require a removal/fill permit from the Division of State Lands (DSL) and U.S. Army Corps of Engineers.

2.2 Alternative 2 : Pump well with electric pump & stabilize stream bank

Under Alternative 2, a well with an electric pump would be installed adjacent to Cow Creek within 160 ft of the Barton Road bridge to supply water to the irrigation ditch. An excavator would be used to install the electric pump and associated pipeline. The pipeline would be less than 100 ft in length running north and south from the pump location directly into the existing irrigation ditch. Within 160 ft of the bridge, the stream banks would be stabilized through use of

riprap or rock barbs to prevent the pump from being washed out of the stream bank during high flow events. Actions for stabilizing the approximately 300 ft of eroding stream bank further upstream of the annual push-up dam and actions to prevent Cow Creek water from entering the opening of the irrigation ditch at the push-up dam would be similar to those described under alternative 1.

2.3 Alternative 3: Hydraulic rams & stabilize stream bank

Under Alternative 3, a series of seasonal hydraulic rams would be installed within the channel (see enclosed aerial photo) along Cow Creek to provide a constant supply of water without electricity. Water would be transported by a series of submersed pipelines that would rest at the bottom of the stream channel. The hydraulic ram is composed of two chambers. Water enters the first chamber with a substantial force as it collects inertia as it moves down the pipeline. The chamber fills and an escape valve shuts. The deliver valve to the air dome opens. The momentum of the rushing water pushes some water into the air dome and compresses the air that partially fills that chamber. When enough pressure has been collected to oppose the force of the incoming water the second valve drops shut. After the delivery valve shuts, air pressure pushes water up the outlet pipe. In the first chamber, all valves are closed and no water can move, so the escape valve drops open and the cycle begins to repeat, about once a second (Animated Software Company 2003). The velocity of water provided per cycle is depended on the gradient of the pipeline. In order to fulfill the water right of 2.6 cubic feet per second (cfs) to the ditch users and in consideration of the low gradient within the project area, up to fourteen hydraulic rams (8 inch in diameter each) would be needed.

Seasonal hydraulic rams would be used in order to prevent the system from being washed down stream during high flow events in the fall and winter months. Installation of the rams would require the use of a backhoe or excavator and would occur annually at the beginning of the irrigation season (April 1st) and removed at the end of the irrigation season (October 1st). The backhoe or excavator would carry the hydraulic rams by traveling up the stream channel approximately less than 100 yards from the nearest access point into the creek.

Actions for stabilizing approximately 300 ft of the eroding stream bank further upstream and actions to prevent Cow Creek water from entering the opening of the irrigation ditch at the existing push-up dam location would be similar to alternative 1.

2.4 Alternative 4 : Stabilize stream bank

Under Alternative 4, rock barbs would be installed along the rapidly eroding portion of the stream bank as described in Alternative 1. The Cow Creek Irrigation Company would continue their practice of rebuilding the push-up dam each year at the point of diversion granted in the water right.

2.5 Project Design Features for the Action Alternatives

Project Design Features (PDFs) are specific measures included in the design of the proposed action to minimize negative impacts on the human environment. Many project design features for projects in the Medford District are specified in the RMP under Best Management Practices (BMP) as described in Appendix D of the RMP (RMP pp 152-165). These project design features would be implemented when applicable for all of the action alternatives.

Water Quality

Construction activities and the use of heavy equipment within Cow Creek would be restricted between July 1 through September 15 in accordance with Oregon Department of Fish and Wildlife (ODFW) in-stream work period guidelines. This period may be extended at ODFW's discretion.

All activities would be consistent with the Aquatic Conservation Strategy of the Northwest Forest Plan.

Bare soil areas would be mulched with hydro-seeding, weed-free straw, or bark chips, etc. and native grass seeded or other approved seed mix used, during the fall to discourage invasion of noxious plant species and to retard soil erosion.

Hydraulic fluid and fuel lines on heavy mechanized equipment would be in proper working condition in order to minimize leakage into streams.

Waste diesel, oil, hydraulic fluid and other hazardous materials and contaminated soil near the stream would be removed from the site and disposed of in accordance with Department of Environmental Quality regulations.

Equipment refueling would be conducted within a confined, secured area outside the stream channel such that there is minimal chance that toxic materials could enter the stream.

Equipment containing petroleum products would not be stored in a stream channel at anytime.

Cultural Resources

If at anytime during project operation cultural material is unearthed the project would be suspended immediately and a BLM Archaeologist will be contacted to evaluate the unearthed materials.

Invasive Species

Heavy equipment would be cleaned before moving onto the project site in order to remove oil and grease, excessive soil and prevent the spread of noxious weeds and disease.

2.6 Alternative 5: No-Action

Under this alternative, the management actions described under the action alternatives would not take place at this time. Title II funding would not be granted at this time to the Douglas Soil and Water Conservation District for the purpose described herein. The Cow Creek Irrigation Company would continue to use a push-up dam to route water from Cow Creek into the irrigation ditch within the point of diversion granted in the water right.

Chapter 3 - Affected Environment

3.0 Affected Environment

This section describes relevant resource components of the existing (baseline) environment.

The location of the proposed action is:

Analytical watersheds (fifth field):	Middle Cow Creek
Project area (sixth field watershed):	Fortune Branch
County:	Douglas County
Legal description:	T32S, R5W, Sec.19, SE ¼ & 20 SW¼

See enclosed general location map of the project area.

3.1 Cultural

The proposed project area is approximately ½ mile west of a place commonly known as Fortune Branch. Prior cultural resource surveys completed in adjacent areas around Fortune Branch include a Title II project survey for a culvert replacement project on Fortune Branch creek in 2002 (T32-R5W-20). Another cultural resource survey occurred in 1993 in section 24. Both surveys found nothing of cultural significance. However, since the proposed project is taking place on a stream bank and involves ground disturbing activity, a cultural resource survey was completed for Glendale-Cow Creek Ditch project on July 18, 2003. No cultural resources were found on the survey. Also, no cultural resources were anticipated to be found on the survey due to the previous ground disturbance that occurred on this site. In addition, the Medford District cultural resource files were checked for previously recorded sites. No sites were found.

The area where the proposed project would occur is on a small highly disturbed terrace area that lies directly adjacent to Cow Creek. The area is on private ranch and farmland and is located in a floodplain. Past and present farming and ranching practices on this land have contributed to soil compaction and soil displacement. In addition, Cow Creek itself has experienced flood problems which contributed to amounts of soil displacement caused by alluvial deposition. This activity diminished the potential of finding cultural material.

3.2 Prime/Unique Farmland

All of the pasture area north of Cow Creek and adjacent to the lateral cut portion of the stream is prime farmland. The soil types are Evans loam, and Banning loam. There are no unique farmland soils identified in Douglas County.

3.3 Floodplain and Riparian Area

Discharge from Galesville Reservoir, which is regulated by Douglas County, ranges from 20 to 100 cfs (averaging about 50 cfs) during the irrigation season; stream temperature immediately downstream of the dam is relatively constant 53 degrees F (Douglas County Water Master, June 2003). Cow Creek below Quines Creek is presently listed on DEQ's 303d list for water temperature in excess of 64 degrees F. Vegetation along Cow Creek, in the greater project area, consists of Douglas fir, ponderosa pine, cottonwood, big leaf maple, Oregon ash, red alder, willow, ninebark, Himalayan blackberry and a variety of other understory plants. Approximately 300 feet of Cow Creek stream bank immediately upstream of the push-up dam is being laterally cut in the meander bend by winter stream flow. This section of the river runs through a perched alluvial floodplain that, due to the highly erodable nature of the soils, makes the stream channel inherently prone to lateral migration. For this type of stream, bank erosion on the outside of meander bends is part of the dynamic equilibrium of the system. Growth of vegetation on point bars on the inside of meander bends, along with the overall sinuosity and meander curvature of the channel, indicate that this portion of Cow Creek is currently functioning within its range of natural variability. Analysis of historical aerial photos between the years of 1953 and 2001 suggests that the lateral cutting and subsequent migration of this channel has been occurring both upstream and downstream of the push-up dam. Evidence of old oxbows along the length of the floodplain show that the channel has shifted approximately 250 ft. since 1953. The cause for this is storm/flood events which occurred in 1964, 1974, 1981, and 1996.

3.4 Invasive Species

The project area is within the range of several invasive or noxious weed plants. Some weeds common to the area are Scotch Broom, *Cytisis scoparius,* Meadow Knapweed*, Centaurea protensis;* and Spotted knapweed *, Centaurea maculosa;* among many others. When disturbances that cause bare soil openings to occur, species such as these out-compete native vegetation and may occupy these sites, particularly when no follow up eradication is made.

3.5 Threatened and Endangered Species

3.5.1 Wildlife

There are no known terrestrial threatened, endangered, survey or manage species that would be affected within the project area.

3.5.2 Vegetation

There are no Survey and Manage, Threatened or Endangered, or Bureau Special Status plants known to exist in the project area.

The project area is not within the range and habitat of *Fritillaria gentneri*, *Limnanthes floccosa var. grandiflora*, or *Lomatium cookii*. *Fritillaria gentneri*, *Limnanthes floccosa var. grandiflora*, and *Lomatium cookii* are listed as federally endangered under the Endangered Species Act.

3.6 Hazardous/Solid Waste

A hazardous/solid waste site survey was completed July 22, 2003 to determine if waste materials are present within the project area. No evidence of hazardous substances or other environmental liability was evident. One of the adjacent landowners, who has lived in the area for many years, stated that he had never seen the parcels involved used as a storage or dump area.

3.7 Water Quality

The Roseburg District and Medford District Bureau of Land Management manage 44,577 acres (40%) of the 113,000 acre Middle Cow Creek 5th field Watershed. BLM manages 51 of the 154 miles of anadromous and resident fish habitat in the watershed. Oregon Coast coho salmon (ESA threatened) and Oregon Coast Steelhead trout (ESA candidate) inhabit the project area.

Chapter 4 - Environmental Consequences

4.0 Environmental Consequences

This chapter provides the scientific and analytic basis for the comparisons of the alternatives. This section also describes the probable consequences of each alternatives on selected environmental issues.

Table 4-1 Critical Elements by Alternative The following elements of the human environment are subject to requirements specified in statute, regulation, or executive order and must be considered in all EA's.

Resource or Issue Affected by Alternative	Alternative (Y or N)					Resource or Issue Affected by Alternative	Alternative (Y or N)				
	1	2	3	4	5		1	2	3	4	5
Air Quality	N	N	N	N	N	Threatened & Endangered Species	Y	Y	Y	Y	Y
Area of Critical Environmental Concern (ACEC)	N	N	N	N	N	Wastes, Hazardous/Solid	N	N	N	N	N
Cultural	N	N	N	N	N	Water Quality	Y	Y	Y	Y	Y
Farmlands, Prime/Unique	Y	Y	Y	Y	Y	Riparian Zones	Y	Y	Y	Y	Y
Floodplains	Y	Y	Y	Y	Y	Wild & Scenic Rivers	N	N	N	N	N
Native American Religious Concerns	N	N	N	N	N	Wilderness	N	N	N	N	N
Invasive Species	Y	Y	Y	Y	Y	Environmental Justice	N	N	N	N	N
Energy	N	N	N	N	N	* Survey and Manage	N	N	N	N	N

*Non-Critical Element

4.1 Prime/Unique Farmland

All the action alternatives would help slow the process of lateral cutting into the prime farmland due to the proposed stream bank stabilization activities. The no-action alternative would allow lateral cutting of the stream bank to continue with the potential of additional prime farmland being lost in the near future. There would be no effect on unique farmland for any of the alternatives since none is present in the project area.

4.2 Riparian Zone and Floodplain

All the action alternatives involve stabilization of the eroding stream bank through use of rock barb construction which would cause stream energy to be transferred to other portions of the channel. Localized downstream channel migration patterns may be accelerated during high flow events. This action could potentially cause short term localized changes to the system until a new equilibrium is reached.

Short term impacts on vegetation and floodplain soils would be associated with construction of pipeline or a pump for alternatives 1 and 2, respectively. Though some compaction of soils would occur, this would not be expected to have any noticeable long-term effects on the hydrologic patterns or soil production in this area due to the current land use practices that take place in this floodplain.

The only additional stream bank disturbance for pipeline construction (alt.1) would be upstream where the pipeline trench meets the infiltration gallery. Because this stream is flowing through an alluvial floodplain it is uncertain what long term impacts of the infiltration gallery would occur. During high flows, the area around, behind, or beneath the infiltration gallery could be prone to erosion. This could cause structural damage to the pipeline or channel water away from the pipeline inlet, causing the pipeline to become disconnected from the stream flow. Channel migration away from the infiltration gallery could cause a point bar to be created near the pipeline inlet which would re-direct stream flow away from the this inlet. Any of these channel changes could lead additional expense and/or in-stream disturbance in order to maintain system function.

For alternative 2, stabilization of the stream channel for 160 ft upstream of Barton Road would cause stream energy that is normally displaced through stream migration during high flow events to be transferred elsewhere. With the use of riprap, which would cause total bank restriction on both sides of the channel, the rate of lateral migration downstream could increase causing a magnified impact to downstream land owners. Excess substrate from increased stream bank erosion may also result in braiding of the channel affecting downstream landowners. Compared to riprap, channel stabilization through the use of rock barbs would reduce the amount of energy transferred downstream, but could still cause increased lateral migration to occur downstream during high flow events. Impacts associated with burying permanent piping for water delivery and electrical wiring would be the same as those described in alternative 1.

Use of seasonal hydraulic rams (alt. 3) would cause minimal if any impacts to the riparian zone and adjacent floodplain because the only in-stream structure necessary is the screened intake pipes that lie parallel to the stream flow upstream of the ramming unit and above the level of the hydraulic ram. With seasonally removable hydraulic rams no channel stabilization would be required at its installation site. Seasonal installation of hydraulic rams would have a negligible effect on the stream channel and floodplain at the time of installation and there would be no long term effects. Portable pipelines that could be installed seasonally along with hydraulic rams would cause only minimal short-term site disturbance upon placement and removal.

4.3 Invasive Species

The amount of land disturbance created in the project from alternatives 1 - 4 is not out of the ordinary for riparian areas. The majority of disturbed land will be created through pastures that are under an ongoing disturbance pattern from livestock. These special relationships indicate than invasion of undesirable species would not be likely to occur and the presence of cattle and grazing in the disturbed areas would prevent them from becoming established.

No impacts would occur with Alternative 5.

4.4 Threatened and Endangered Species

4.4.1 Wildlife

The action alternatives would not affect wildlife individuals or alter the habitat of any Threatened, Endangered, Proposed or Bureau Sensitive terrestrial animal species. See section 4.6 on Water Quality for discussion on threatened fish species.

4.4.2 Vegetation

Alternatives 1-4

Although the project area is located on non-BLM lands, the use of federal dollars necessitates compliance with BLM Manual 6840 requirements, which state that actions on BLM lands do not contribute to the need to list Special Status species under the Endangered Species Act. Some sites of the newly listed Special Status species might be affected from the action alternatives, but any possible losses should be minimal and would not contribute to listing under the ESA. For the Special Status species that are Bureau Tracking, surveys and mitigation measures are discretionary (BLM Manual 6840).

As this project targets a floodplain area as opposed to a forested environment, direct effects to botanical species vary. The initial disturbance of the proposed action has the potential to negatively affect species growing along the existing ditch. However, long term effects are negligible, and will probably prove beneficial to the species involved.

Generally, species composition varies from year to year in floodplain environments. As floodplain geomorphology undergoes a degree of metamorphasis each year, growing sites and soil depths constantly fluctuate. These dynamic environments experience a high degree of 'natural' disturbance annually, thus the disturbance proposed within this project would have a negligible effect.

The threatened species *Fritillaria gentneri, Limnanthes floccosa var. grandiflora*, and *Lomatium cookii* have not been found in the planning area, which is out of the range and habitat of all three species.

Alternative 5

No impacts are anticipated from this alternative.

4.5 Water Quality

Installing an infiltration gallery with gravity fed pipeline (alt.1), an electric pump (alt.2), or a series of hydraulic rams and portable pipelines (alt. 3) would reduce maintenance compared to the current push-up dam. Alternatives 1 and 2 would prevent the need for the ditch company to enter the stream corridor on an annual basis and disturb the streambed. Infiltration galleries, pumps, or hydraulic rams provide a reliable source of water with less impact to fisheries, than push-up dams.

Constructing an infiltration gallery and pipeline for a gravity-fed water supply system (alt. 1) or installing an electric pump (alt. 2) would involve a one time, short-term soil disturbance of the stream channel and floodplain. Continued additional costs would be associated with the use of electric pumps to replenish the ditch with water. Periodic maintenance would most likely be required for both alternatives 1 & 2. Annual installation of the hydraulic rams would create a negligible, short-term disturbance to the streambed. The variance in possible placement of pipeline locations for alternative 1 would create no difference in disturbance. The unstable stream bank would continue to erode in alternative 5; however, the push up dam is not contributing to this situation because it is only present during low summer flows which do not contribute to channel migration. Continued short term sedimentation of water column from construction/removal of push up dam would have similar impacts as those described for construction of rock barbs along stream channel (see next paragraph). The push up dam causes a partial barrier to up and downstream movement of resident fish species and juvenile salmonids.

For alternative 1, a one time, short term ground disturbance would occur from excavating a trench to lay a pipeline between Cow Creek and the ditch. The stream bank stabilization activities of alternatives 1-4 would create a one time, short term ground disturbance by constructing rock barbs in the stream channel and 'keying' them into the stream bank. Disturbance of the stream bank during rock barb construction and creation of infiltration gallery would generate a plume of suspended sediment that would probably travel several hundred yards downstream before dispersing or dropping out of suspension. Turbidity increases would likely have no effect on feeding ability of more mobile species such as fish and crayfish because they would avoid the immediate area. Less mobile biota like aquatic insects, an important item in the diet of salmonids and other fish, may drift downstream to find cleaner, more suitable substrate. Although there could be extreme siltation of streambed substrate in the immediate area of soil disturbance that would eliminate most of the aquatic macroinvertebtate production, no

appreciable change in overall aquatic insect production is expected in the short or long term in the project area.

For Alternative 3, a series of hydraulic rams and portable pipelines upstream of the Barton Road Bridge would be used to pump water into the irrigation ditch. Since the pipelines are portable, trenching into the stream bank is not needed and therefore would not contribute sediment to Cow Creek except during seasonal installation and removal. There would be minimal effect on aquatic species. All alternatives are not likely to adversely effect stream temperature on Cow Creek. An excavator or backhoe may be used to install the infiltration gallery and intake pipeline in alternative 1. Hydraulic fluid, fuel or other toxic material could enter Cow Creek anytime that equipment is operating in the stream channel. Aquatic life would be unaffected by minor leakage due to a high dilution rate in Cow Creek. However, potential for harm to aquatic life would substantially increase if there is a fuel spill. This situation also applies to all other action alternatives. The proposed project is not likely to adversely affect Oregon Coast coho salmon or Oregon Coast steelhead trout because any negative effects on food supply, feeding ability or egg survival would be negligible and would be confined to a highly localized area.

4.6 Cumulative Effects

Long-term stream flow in Cow Creek would be unaffected by this project, regardless of the final choice for a water diversion facility, because the amount of water that would be diverted would conform to the water right that is associated with the existing point of diversion and push-up dam. Any of the action alternatives would result in a short-term increase in localized sedimentation and a temporary increase in downstream erosion. These impacts would be within the range of natural variability of the system, and would not be expected to have any long term effects on the watershed. This project lies within a floodplain area where due to the erosive nature of bank materials, bank migration and stream turbidity are part of the natural behavior of the system. Any sedimentation or channel disturbance associated with this project may cause an increase in localized turbidity, but because Galesville Dam now releases flows above historical summer levels which will act to dilute additional sediment (MCWA) 63, and because the system naturally has periodic events associated with high flows that cause channel change and sedimentation, it is the professional opinion of the hydrologists that impacts will be short term, and within the range of natural variability of the system. It would also maintain water quality levels in the long-term near present levels.

It is evident from inspection of historic aerial photos that significant stream bank erosion occurs at irregular intervals, coinciding primarily with high peak flows during winter. The process of channel movement and stream bank erosion is a natural process.

No long-term or cumulative negative effects are expected to occur to Special Status, Threatened or Endangered, or Survey and Manage vascular plants, lichens, or bryophytes. Floodplains are dynamic environments which experience an annual shift in species composition due to flooding events and consequent channel readjustment.

4.7 Monitoring

Effectiveness monitoring photo points would be established by the Douglas Soil and Water Conservation District (DSWCD) field technician prior to construction. After the project is completed the infiltration gallery function would be monitored by the DSWCD field technician with assistance from ODFW and OWRD as needed. Stream bank stabilization and tree planting would be monitored by the DSWCD field technician with assistance from the USFWS geomorphologist. Monitoring would occur annually for a minimum of 5 years and could continue for a total of 10 years provide funding is available. A report of findings would be made each year and entered in the DSWCD project database for future use.

Chapter 5 - Persons and Agencies Consulted

5.0 Persons and Agencies Consulted

The Glendale Resource Area circulated a scoping letter to the following adjacent landowners and all other interested parties. A legal notice will also be placed in local newspapers to announce to the public that the Glendale Resource Area is requesting public comments on the proposed management action. The legal notice will be made following completion of this environmental assessment and before a decision is made. The Field Manager will consider all input before a decision is made concerning this proposal.

5.1 Distribution List

Federal Agencies

National Marine Fisheries Services
Northwest Regional Office
7600 Sand Point Way NE
Seattle, WA 98115-0070

State and Local Government Agencies

Mr. Brad Prior
Department of Environmental Quality
201 West Main St., Suite 2D
Medford, OR 97501

Douglas County Board of Commissioners
1036 SE Douglas Rm. 217
Roseburg, OR 97470

Douglas Soil and Water Conservation District
Attn: Glen Brady and Walt Barton
1443 NE Vine St.
Roseburg, OR 97470

State and Local Government Agencies (cont.)

Sam Dunnavant
Oregon Department of Fish and Wildlife
Umpqua Watershed District Office (Regional Office)
4192 N. Umpqua Hwy
Roseburg, OR 97470

David Williams
Oregon Water Resources Department
Field & Technical Services Division
Douglas County Courthouse
Room 306
Roseburg, Oregon 97470

Organizations

Cow Creek Irrigation Company
Friends of Living Oregon Waters
Headwaters
Klamath Siskiyou Wildlands Center
Northwest Environmental Defense Center
Indian Hill, LLC
Oregon Natural Resources Council
Siskiyou Project
Umpqua Watersheds, Inc.
Up The Creek Resources

Individuals

Lorraine Baldwinson
Daryl & Melanie Beeler
Robert & Marie Belanger
Boyd & Mary Bishop
James & Phyllis Booth
Marjorie Boyd
Vernon Boyd
Charlie Boyer
Shirley Campbell

Christopher & Deseray Cline
Darren Cline
Dan & Diana Cline
Willis & Jeannette Cline
Dan Cline
Patricia & Derrell Cline

Rodney & Gail Dupre
Robert & Betty Fisher
Denman & Carol Gibson
Robert & Roberta Grandy
Dale & Maxine Green

Harold & Mary Hanson
Douglas & Janette Kirkland
Lauren Moyer

Individuals (con.)

William Newby
Annette Olson
Robert Oran
Andrew & Katherine Owens
Marian Owens
Curtis & Lou Helen Page
Nancy Peters
Robert & Gail Pritchard
Doug & Sandra Reeves
Wray Sether
Jesse & Sandra Smith
Marguerite Synder
Rodger & Shelly Winkleman
Mr. Ronald Yockim

5.2 List of Preparers

Name	Title	Primary Responsibility
Bob Bessey	Fisheries Biologist	Riparian/Fisheries
Loren Wittenberg	Hydrologist	Soils/Water
Colleen Dulin	Hydrology SCEP	Hydrology
David Eichamer	Forester	Invasive Plant Species
Marylou Schnoes	Wildlife Biologist	Wildlife
Michelle Kohns	Ecosystem Planner	NEPA
Sherwood Tubman	Ecosystem Planner	NEPA
Rachel Showalter	Botanist	Plants and Fungi
Dustin Wharton	Engineer	Roads
Amy Sobiech	Archaeologist	Cultural Resources
Glen Brady	Project Manager/Field Technician	Project Management
Walt Barton	Engineering Technician	Project Design

The Proposed Action has been screened for compliance with the Endangered Species Act, The American Indian Religious Freedom Act, Historic Preservation Act, Bureau of Land Management policies related to the ecosystem objectives and concepts in the Medford District Resource Management Plan (RMP) and with the Aquatic Conservation Strategy of the Northwest Forest Plan. Furthermore, this action has been screened from a landscape perspective and there are no effects anticipated from this action that would foreclose future management options in relation to the watershed management objectives identified through the Ecosystem Analysis.

Sherwood J Tubman
Ecosystem Planner
Reviewed for format and consistency

8-1-03
Date

References

Animated Software Company 2003.
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Aquatic Conservation Strategy Consistency Review
for the
Glendale-Cow Creek Ditch Cooperative Project
Glendale Resource Area, Medford District, BLM

July 21, 2003

The Medford BLM, Glendale Resource Area proposes to provide funding to Douglas Soil and Water Conservation District and partners to stabilize a portion of streambank on Cow Creek and to fund a water delivery system for the Glendale-Cow Creek Ditch that would eliminate the need to construct a push-up dam in the creek at the beginning of irrigation season each year.

This document analyses consistency with the Northwest Forest Plan's Aquatic Conservation Strategy (ACS). Although ACS is intended to be applied at the watershed (5th field) and larger scales (FSEIS ROD, Standards and Guidelines, page B-9), it is valuable to also test consistency at a more sensitive level, the site scale. The review consists of three parts: to document compliance with Standards and Guides in the Plan, to document consistency with each of the nine ACS objectives described in the Record of Decision (ROD) for the Northwest Forest Plan (ROD B-11) and consistency with the watershed analysis for the Middle Cow Creek 5th field HUC.

I. Standards and Guides

The following Standards and Guides from the ROD concern the ACS and were applicable to this proposal. Other Standards and Guides were not considered because they were inapplicable.

WR-1: Design and implement watershed restoration projects in a manner that promotes long term ecological integrity of ecosystems, conserves the genetic integrity of native species and attains Aquatic Conservation Strategy objectives.

The project was designed by an interdisciplinary team of natural resource specialists. An environmental assessment has analyzed the effects of the proposed action; the analysis indicates that WR-1 objectives would be met.

WR-2: Cooperate with federal, state, local and tribal agencies and private landowners to develop watershed –based Coordinated Resource Plans or other cooperative agreements to meet Aquatic Conservation Strategy objectives.

The Glendale Resource Area has completed many watershed restoration projects in the Middle Cow Creek watershed, primarily culvert replacement to restore aquatic connectivity for fish and other species. All have been consistent with the Aquatic Conservation Strategy. This project is the first in cooperation with Douglas Soil and Water Conservation District and the Oregon Department of Fish and Wildlife. An IDT is working closely with DSWCD to ensure that the project is implemented in accordance with ACS objectives.

FW-1: Design and implement fish and wildlife habitat restoration and enhancement activities in a manner that contributes to attainment of ACS objectives.

Design features incorporated into the project (EA page 6) would help ensure that any negative effects of the project would be short term (days/weeks) and that the proposed action would benefit water quality, aquatic species and streambank stability in the long term.

II. Aquatic Conservation Strategy Objectives (ROD B-11)

1. Maintain and restore the distribution, diversity, and complexity of watershed and landscape-scale features to ensure protection of the aquatic systems to which species, populations and communities are uniquely adapted.

This item does not apply at the site scale and would maintain conditions at the watershed scale because of the project's small magnitude.

2. Maintain and restore spatial and temporal connectivity within and between watersheds. lateral, longitudinal, and drainage network connections include flood plains, wetlands, upslope areas, headwater tributaries and intact refugia. These network connections must provide chemically and physically unobstructed routes to areas critical for fulfilling life history requirements of aquatic and riparian-dependent species.

The proposed action would restore aquatic connectivity in Cow Creek during summer months by removing the pushup dam and withdrawing water by alternate means. The project would also maintain connectivity between Cow Creek and its floodplain.

3. Maintain and restore the physical integrity of the aquatic system, including shorelines, banks, and bottom configurations.

A vertical, eroding streambank would be pulled back and planted with native vegetation. Sedimentation of stream substrate immediately downstream of the vertical, eroding streambank would be substantially reduced, improving habitat for aquatic macroinvertebrtaes and fish, including Oregon Coast coho salmon, an ESA-listed species.

4. Maintain and restore water quality necessary to support healthy riparian, aquatic, and wetland ecosystems. Water quality must remain within the range that maintains the biological, physical, and chemical integrity of the system and benefits survival, growth, reproduction, and migration of individuals composing aquatic and riparian communities.

Refer to #3. The project would not affect water temperature; Cow Creek is a state 303(d) listed stream for water temperature. PDFs related to use of heavy equipment in the stream channel (EA page 6) would help ensure there is no degradation of water quality and subsequent toxicity to aquatic life.

5. Maintain and restore the sediment regime under which aquatic ecosystems evolved. Elements of the sediment regime include the timing, volume, rate, and character of sediment input, storage and transport.

Refer to #3.

6. Maintain and restore in-stream flows sufficient to create and sustain riparian, aquatic, and wetland habitats and to retain patterns of sediment, nutrient, and wood routing. The timing magnitude, duration, and spatial distribution of peak high, and low flows must be protected.

The Oregon Department of Fish and Wildlife played an integral role in establishing monthly and seasonal discharge rates from Galesville Dam in order to enhance and protect aquatic habitat in Cow Creek. Restoring the natural flow regime to the stream is outside the scope of this project.

7. Maintain and restore the timing, variability, and duration of floodplain inundation and water table elevation in meadows and wetlands.

This project would maintain these natural processes.

8. Maintain and restore the species composition and structural diversity of plant communities in riparian areas and wetlands to provide adequate summer and winter thermal regulation, nutrient filtering, appropriate rates of surface erosion, bank erosion, and channel migration to supply amounts and distributions of coarse woody debris sufficient to sustain physical complexity and stability.

Planting the recontoured streambank with native vegetation would contribute toward meeting this objective at the site scale. However, the amount of vegetative planting under the proposed action would have a minimal effect on the objective at any level other than at the site scale.

9. Maintain and restore habitat to support well-distributed populations of native plant, invertebrate, and vertebrate riparian-dependent species.

The EA recognizes that this proposal would have some adverse, short term, localized sedimentation effects on aquatic life. However, project benefits would be longterm through reducing streambank erosion, substrate sedimentation and eliminating annual construction of the pushup dam in the channel. Planting the eroding streambank with native vegetation would help to establish native riparian vegetation that does not currently occupy the site.

III. Watershed Analysis

Reducing stream sedimentation is one of the major objectives under proposals for stream and riparian restoration.

Summary

Based on this review, I find the proposed project is consistent with Watershed Analysis recommendations and findings, applicable Northwest Forest Plan Standards and Guidelines, NEPA Documentation, and applicable aspects of NMFS' March 18, 1997 Biological Opinion. Additionally, I find the proposed project does not hinder or prevent attainment of Aquatic Conservation Strategy objectives at the 5th field watershed scale over the long term.

/s/ Lynda L. Boody
Lynda L. Boody
Glendale Resource Field Manager
Medford District, BLM

8/4/03
Date

Glendale-Cow Creek Ditch Project

R5 W

T 32 S

19

20

30

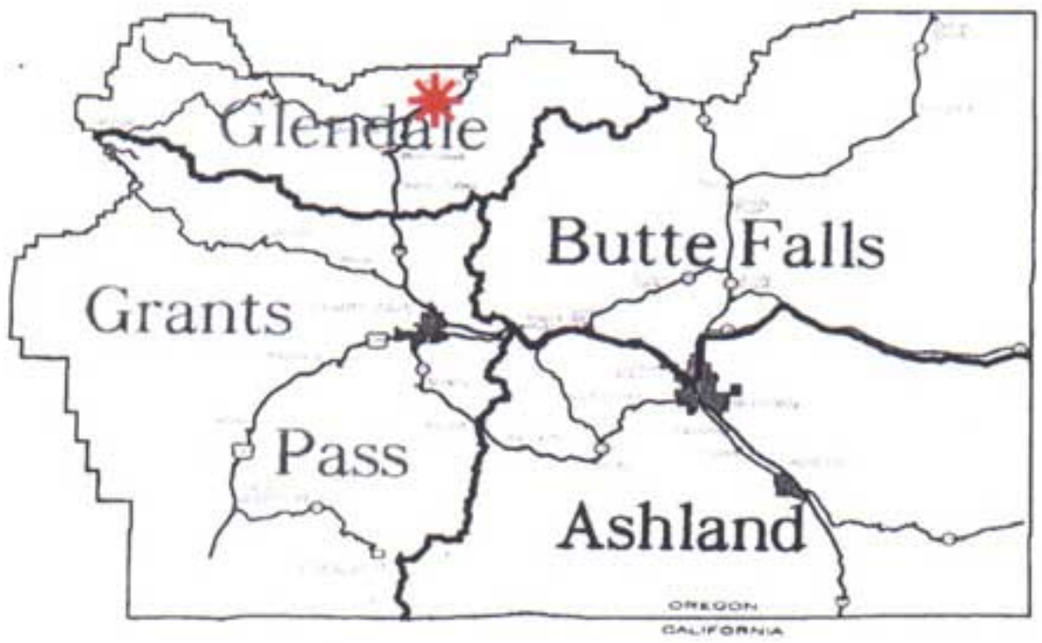
29

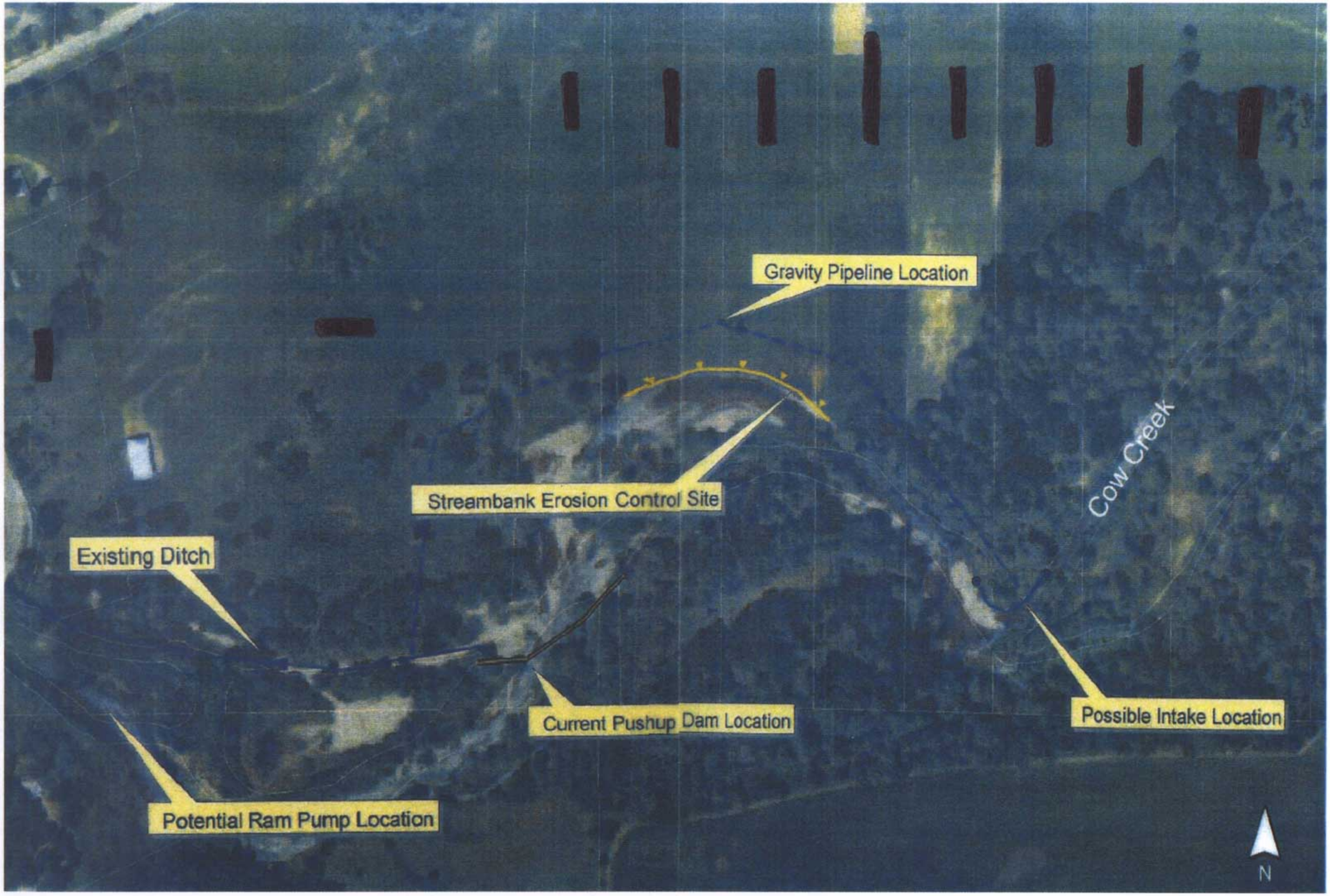
5

0 0.5 1 1.5 Miles

Glendale roads.shp
Glendale streams.shp
Land line.shp
BLM
private
Section.shp
project area

N
W E
S




Gravity Pipeline Location
Cow Creek
Streambank Erosion Control Site
Existing Ditch
Current Pushup Dam Location
Possible Intake Location
Potential Ram Pump Location
N

Glendale-Cow Creek Ditch Project

lateral cut portion of Cow Creek (above picture)

example of area with rock barbs, pulled back bank, and re-vegetated