**NOTICE OF PREPARATION**
**ENVIRONMENTAL IMPACT REPORT**
**SALT RIVER ECOSYSTEM RESTORATION PROJECT**
**APRIL 27, 2007**

The Humboldt County Resource Conservation District is the lead agency in the preparation of an Environmental Impact Report (EIR) for the Salt River Ecosystem Restoration Project in accordance with the California Environmental Quality Act (CEQA). Preparation of the EIR will be a cooperative effort between the Humboldt County Resource Conservation District and the County of Humboldt. The County of Humboldt will serve the principal role in developing the document.

This notice is being issued to inform the public and governmental agencies that an EIR will be prepared for the project, and to invite comments on the scope and content of the document. Pursuant to CEQA Section 21080.4(a) and Section 15082 of the State CEQA Guidelines, responsible and trustee agencies are asked to provide in writing the scope and content of the environmental information that is germane to their statutory responsibilities, as these agencies may need to use the EIR when considering permits or other approvals for the project. Responsible and trustee agencies are also requested to provide a list of the permits and/or other approvals that must be obtained in order to implement the project.

For additional information about the project or the scoping process, please contact:

**Hank Seemann**
**Humboldt County Public Works Department**
1106 Second Street
Eureka, CA 95501
Tel: (707) 445-7741
Fax: (707) 445-7409
hseemann@co.humboldt.ca.us

**Curtis Ihle**
**Humboldt County Resource Conservation District**
5630 S Broadway
Eureka, CA 95503
Tel: (707) 442-6058 X116
Fax: (707) 442-7514
cihcrcd@yahoo.com

Written comments on the scope and content of the EIR should be directed to the Humboldt County Public Works Department and must be received at the above address no later than June 15, 2007. A public scoping meeting will be held before the end of the comment period, likely in mid- to late May 2007.

This Notice of Preparation was sent to the following entities:

Bear River Band of the Rohnerville Rancheria
Bertha Russ Lytle Foundation
California Department of Fish and Game
California Department of Transportation
California Regional Water Quality Control Board
California State Clearinghouse
California State Coastal Commission
California State Coastal Conservancy
California State Lands Commission
California State Parks
City of Ferndale
Del Oro Water Company
Ferndale Chamber of Commerce
Humboldt County Community Development Services Department
Humboldt County Farm Bureau
Riverside Water District
NOAA's National Marine Fisheries Service
Pacific Gas and Electric Company
Reclamation District
Redwood Regional Audubon Society
Sea Grant Program
U.S. Army Corps of Engineers
U.S. Bureau of Reclamation
U.S. Department of Agriculture-Natural Resources Conservation Service
U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service
Wiyot Tribe

**NOTICE OF PREPARATION**
**ENVIRONMENTAL IMPACT REPORT**
**SALT RIVER ECOSYSTEM RESTORATION PROJECT**

## PROJECT LOCATION

The Salt River watershed is located in Humboldt County, 15 miles south of Eureka. The Salt River flows near the City of Ferndale and is one of the main channels discharging into the Eel River estuary. The project area includes the mainstem portion of the Salt River, four Salt River tributaries (Williams Creek, Francis Creek, Reas Creek, and Smith Creek), and Riverside Ranch which is contiguous to the Salt River estuary. The project area includes various waterways and adjacent wetlands and uplands in private or public ownership.

## INTRODUCTION

The purpose of the Salt River Ecosystem Restoration Project is to restore fish habitat, improve water quality, and alleviate flooding impacts to private property and public infrastructure. The project is being developed through collaboration between private landowners and multiple public agencies including the Humboldt County Resource Conservation District (HCRCD), the County of Humboldt, the City of Ferndale, California Department of Fish & Game, State Coastal Conservancy, U.S. Army Corps of Engineers, NOAA's National Marine Fisheries Service (NMFS), U.S. Department of Agriculture-Natural Resource Conservation Service, and other partners. The private landowners participating in this project are members of the Salt River Advisory Group, an HCRCD subcommittee working to address Salt River watershed issues and maintain agricultural resources in the Ferndale area. Project implementation is expected to occur in 2008 and 2009.

The project is subject to the California Environmental Quality Act (CEQA), a state law intended to ensure that adverse environmental impacts associated with a project are identified and mitigated to the maximum extent feasible. CEQA is broadly applicable to projects involving physical changes to the environment, including environmental restoration projects. CEQA contains requirements intended to promote interagency coordination, encourage public participation, prevent avoidable significant impacts, and disclose actions by public agencies.

The HCRCD and the County of Humboldt have determined that an Environmental Impact Report (EIR) should be prepared for the project in compliance with CEQA and the CEQA Guidelines, as amended. The EIR will describe the project, analyze the individual and cumulative impacts of specified alternatives (including the no-project alternative), and identify possible ways to avoid or minimize significant adverse environmental effects. CEQA requires that the EIR provide a full and fair discussion of the proposed actions' significant environmental impacts and inform the decision-makers and the public of reasonable alternatives. A Mitigation Monitoring and Reporting Plan will be developed to ensure that the mitigation measures outlined in the EIR for avoiding or minimizing significant impacts are implemented.

This notice is part of the EIR scoping process, which is designed to:

- Ensure agency and public involvement in the environmental review process.
- Determine which specific impacts must be evaluated in the EIR.
- Establish a reasonable range of alternatives.
- Identify the scope of issues that must be discussed in order to adequately and accurately address the potential impacts of the project as they relate to permitting and approval authority.

The County of Humboldt and the HCRCD will review the comments received during the scoping process and incorporate the comments as appropriate into the EIR development process. A Draft EIR will be made available for a 45-day public review period, during which time both written and verbal comments will be solicited on the adequacy of the document. The Final EIR will include written responses to address the comments received on the Draft EIR during public review.

The HCRCD will serve as the lead agency for the project under CEQA because it is the public agency with the principle responsibility for carrying out the project. Following the completion of the Final EIR, the HCRCD will take the Final EIR under consideration for certification and will evaluate the need for adopting a Statement of Findings and/or Statement of Overriding Considerations, as applicable, in accordance with CEQA. As lead agency, the HCRCD will adopt the Mitigation Monitoring and Reporting Plan and will file a Notice of Determination upon deciding to carry out the project.

**BACKGROUND**

The Salt River watershed has been significantly impacted since land use changes accelerated in the late 19$^{th}$ century. Currently, only a small fraction of the original Salt River estuary complex is subject to tidal influence, due to historical land reclamation activities, levee and tide gate construction, and channel aggradation (filling in with sediment). The tributaries to the Salt River are contributing large amounts of sediment, associated with unstable geology, historical land use, and ongoing channel constraints. The upper portion of the Salt River above Williams Creek has been diverted, resulting in a 42% reduction in the size of the Salt River basin (currently the lower Salt River only receives flows from Francis Creek, Reas Creek, and Smith Creek). The main channel of the Salt River and the lower reaches of its tributaries have become choked with sediment and willows and have lost nearly all normal hydraulic function.

Historically, the Salt River functioned as a migration corridor for adult salmonids reaching spawning habitat in tributaries within the Wildcat Mountains and provided rearing habitat for juveniles migrating downstream to the Eel River estuary. However, the current poor fish passage conditions have resulted in drastic population declines of all species of salmonids that formerly used the Salt River and its tributaries. In addition, there has been a substantial loss of wetlands and habitat diversity. These conditions are described further in the Salt River Watershed Assessment developed by the California Department of Fish & Game in May 2005.

The hydraulic dysfunction of the Salt River causes significant problems related to flooding, discharge of wastewater treatment plant effluent, and overall water quality. During the wet season, even small rain events cause the Salt River and the lower reaches of its tributaries to overflow their banks, resulting in almost perpetual flood conditions. Hundreds of acres of dairy and grazing land have been impacted by flooding, and entire parcels have been taken out of agricultural production. In the summer, surface water disappears in several channel reaches as water flows subsurface through the accumulated sediment. Road culverts have become severely plugged by sediment, with complete blockage in some cases.

Historically, water flows within the Salt River were sufficient to provide the required dilution for discharge from the City of Ferndale wastewater treatment plant; however, sedimentation has reduced the receiving water flows to the point that the effluent violates water quality standards, for which the North Coast Regional Water Quality Control Board has issued a Cease and Desist Order. Treated effluent often flows undiluted into residential areas and agricultural lands, and sediment deposition near the confluence of Francis Creek and the Salt River puts the entire wastewater treatment plant at increasing risk of being flooded. Impaired channel conditions contribute to other water quality problems by limiting drainage of adjacent agricultural lands. Overall, there have been broad changes to in-stream biological and ecological communities as the Salt River is functioning more like a marsh than a river. Conditions in the Salt River and its tributaries continue to worsen with each storm event and the associated delivery and buildup of sediment.

**PROJECT DESCRIPTION**

The Salt River Ecosystem Restoration Project is a watershed-based, ecosystem-scale project with multiple objectives including habitat restoration and enhancement, water quality improvement, and flood alleviation. The project is intended to provide immediate and substantial improvements to the watershed, and to restore natural processes to the extent that conditions within the project area are self-sustaining or can be feasibly maintained. However, due to the scale and magnitude of the alterations that have occurred within the watershed, additional restoration projects will likely be required in the future.

The three primary components of the project include:

1) **River Restoration** – Restoration of hydraulic capacity, in-stream fish habitat, and water quality in the lower Salt River, and lower Francis and Reas creeks. (The extent of the upstream restoration will depend on the alternative chosen.)

2) **Estuary Restoration** - Restoration of Riverside Ranch, an approximately 400-acre property with over one mile of frontage adjacent to the lower Salt River. The property is being acquired by the California Department of Fish & Game, and portions of the property will be restored to open water, salt marsh, and other wetland types while other portions will remain in agricultural use.

3) **Upslope Sediment Reduction** - Sediment reduction actions in the Williams Creek, Francis Creek, and Reas Creek sub-watersheds, including sediment retention basins, upslope channel restoration, riparian planting, bank stabilization, livestock fencing, and road drainage upgrades.

Anticipated project activities include: channel dredging, construction of sediment basins, vegetation removal, re-vegetation, tide gate modification and/or removal, channel realignment, wetland restoration, construction of set-back levees, re-grading of existing levees, spoils transport and placement, and channel maintenance.

The longevity of the project will depend to a large extent on successfully restoring the functioning of natural ecological processes. The main Salt River channel will be designed to maximize sediment transport capacity while restoring a more functional channel morphology. The geometry of the restored channel will be designed with a low-flow channel that will allow for fish passage and an inset floodplain that can accommodate flows with a recurrence interval of one to two years (depending on the selected alternative). The two-year floodplain in all alternatives will be re-established as riverine wetland habitat populated by sedges, grasses, and forbs. Disturbed areas above the two-year floodplain will be planted with native species including conifers and cottonwoods. The objective is to minimize sediment deposition in the low-flow channel by promoting higher water velocities, while allowing the inset floodplain to function as a sediment deposition zone. In addition, expansion of tidal flows and salt water effects within the lower Salt River channel will help maintain the desired plant communities and channel configuration by increasing scour effects (reducing sediment accumulation) and inhibiting willow growth.

The project will include some unavoidable impacts, such as disturbance of existing stream channels and riparian vegetation (currently composed primarily of a monoculture of willows). However, the net effect of the project will be beneficial by achieving significant improvements in the diversity and quality of habitat. The project design has been developed in close coordination with the National Marine Fisheries Service, California Department of Fish & Game, U.S. Army Corps of Engineers, and other regulatory agencies.

**Actions Common to All Alternatives**
The following actions are common to all alternatives and are described in more detail below:

- Estuary restoration on Riverside Ranch.
- Sediment and erosion reduction actions in the Williams Creek, Francis Creek, and Reas Creek sub-watersheds.
- Reconnection of the Eastside Drainage Ditch to Francis Creek.
- Relocation and restoration of lower Francis Creek.
- Tidal wetland restoration and fish passage improvements on Smith Creek and Reas Creek.
- Ongoing maintenance of the lower Salt River channel.

Estuary Restoration on Riverside Ranch

All alternatives include restoring tidal action to a portion of Riverside Ranch. The primary restoration goals and benefits include the following:

- Restore tidal connectivity to historic wetlands to increase acreage of wetland and shallow water habitat, improve estuary productivity, and improve water quality in the lower Salt River and Eel/Salt River estuary.
- Enhance rearing and migration conditions for estuarine-dependent species including coho salmon, chinook salmon, steelhead trout, coastal cutthroat trout, and tidewater goby by increasing the amount and quality of transition (salt/freshwater) habitat.
- Provide wintering habitat for migratory waterfowl and shorebirds.
- Restore riparian habitat to benefit fish and wildlife species.
- Increase the acreage of salt- and brackish-marsh habitat.

Anticipated restoration activities include removal or modification of existing flood gates, floodplain and vegetation improvements, modification of existing levees, and/or construction of set-back levees. In order to prevent tidal flooding of adjacent properties, up to 13,000-feet of low (one- to four-foot high) set-back levees may be constructed with material obtained from the Salt River channel excavation. Other options include construction of wide, flat-topped berms along strategic lengths that can be seasonally managed as Aleutian goose habitat. Existing infrastructure located on Riverside Ranch that provides drainage for adjacent land will be maintained.

Sediment and Erosion Reduction Actions

All alternatives include sediment and erosion reduction actions within the upper watersheds of Williams Creek, Francis Creek, and Reas Creek, which are tributaries of the Salt River. Sediment sources will be prioritized based on previous and ongoing assessments. Options for sediment and erosion reduction measures include road improvements, drainage improvements, crossing upgrades, bank stabilization, livestock fencing, and off-channel watering site development. In addition, community education efforts will be implemented to encourage voluntary best management practices related to sediment and erosion reduction.

Reconnection of the Eastside Drainage Ditch

All of the EIR alternatives include re-connecting the Eastside Drainage Ditch with Francis Creek near the City of Ferndale wastewater treatment plant with an approximately 500-foot-long channel. This connection existed historically, but has been lost due to sediment deposition. The Eastside Drainage Ditch collects seasonal runoff from the east side of the City of Ferndale. This action will alleviate flooding in adjacent pastures, dairy barns, and residential areas and increase flows into Francis Creek, thereby increasing dilution of wastewater treatment plant discharge and improving water quality.

Restoration and Relocation of Lower Francis Creek

All of the EIR alternatives include restoration and relocation of lower Francis Creek. The channel was previously relocated in order to maximize grazing lands and put the channel

closer to the outfall of the wastewater treatment plant. However, winter flows regularly exceed the channel capacity and top over the adjacent berms, flooding adjacent pastures. A new channel that more closely approximates the historical alignment will be excavated north of the existing channel to eliminate a 90-degree turn, allow room for the creation of an inset depositional floodplain and sediment retention basin, and create a more stable channel location.

Tidal Wetland Restoration and Fish Passage Improvements on Smith Creek and Reas Creek

All of the EIR alternatives include removal of a set of gated culverts on Smith Creek, located a short distance upstream of the Salt River confluence. Removal of these tide gates will reintroduce unrestricted tidal exchange to Smith Creek and associated low-lying areas and allow unrestricted movement of fish into the upper Smith Creek watershed. This project component includes realignment of Reas Creek to merge with Smith Creek upstream of the Smith Creek confluence with the Salt River. Reas Creek will be redirected west of its current channel alignment at some point north of the intersection of Meridian Road and Damon Lane. The new alignment will direct Reas Creek through low-lying terrain, allowing for controlled sediment deposition off of the Salt River channel. The combined flow of Smith and Reas Creeks will pass down the current alignment of Smith Creek to the existing confluence with the Salt River.

Disposal and Reuse of Excavated Sediment

Accreted sediment will be excavated from the mainstem Salt River channel and lower Francis Creek in all EIR action alternatives. The amount and extent of excavation varies with each alternative (Table 1). Reuse of excavated sediment is planned and will depend on the results of geotechnical investigations and soil contaminant testing. Potential reuses include building up existing berms around the City of Ferndale's wastewater treatment plant, constructing set-back levees around Riverside Ranch to protect adjacent properties from inundation due to estuary restoration, and reuse in association with other local restoration projects (including two local projects planned by the U.S. Fish and Wildlife Service for Salmon Creek and White Slough). Surplus sediment may be hauled by dump trucks to off-site locations and spread on agricultural land as a soil supplement. Potential landspreading sites located inside and outside of the coastal zone will be evaluated.

Ongoing Maintenance of the Lower Salt River Channel

Although the ultimate goal is for a self-sustaining system, it is anticipated that periodic maintenance of sediment and vegetation will be required. Due to the high sediment loading from the Wildcat tributaries, it is expected that for all project alternatives, the new low-flow channel and/or inset floodplain will need periodic re-excavation. The frequency and extent of sediment maintenance will vary by alternative, and will be described in detail in the EIR. Alternatives 3, 4, and 5 (described below) are specifically designed to minimize the need for excavation through incorporation of a depositional floodplain and restoration of tidal flushing. However, it is expected that portions of the channel will need to be re-excavated periodically using the same design as the initial project. In the future, equipment will be able to access the river corridor through the

open inset floodplain and will be able to maneuver along the length of the channel on the floodplain, without having to remove shrubs or trees and without disturbing the low-flow channel. Channel maintenance would occur during summer or early fall months when the inset floodplain is dry to minimize disturbance.

Options for vegetation maintenance include intermittent cattle or goat grazing, manual removal, and mechanical removal. If grazing is used, fencing would be installed to protect the low-flow channel. Portions of the floodplain corridor could also be managed to optimize Aleutian goose habitat, providing them with desired foraging conditions during their seasonal migration, to relieve impacts on adjacent dairy/cattle pasture.

**ALTERNATIVES FOR CHANNEL RESTORATION**

The EIR will consider a range of alternatives for the restoration work to be performed within the lower Salt River and lower Francis Creek corridors. Differences in the channel design and longitudinal extent of the work result in different areas of impact, quantities of sediment, and areas of restored habitat. The preliminary list of anticipated alternatives includes the following:

- No Action Alternative.
- Alternative 1: Minimal Channel Disturbance, Francis Creek-Salt River Confluence to Smith Creek.
- Alternative 2: Two-Year Storm Flow Channel, Francis Creek-Salt River Confluence to Cutoff Slough.
- Alternative 3: Maximum Floodplain, Francis Creek-Salt River Confluence to Smith Creek.
- Alternative 4: Two-Year Storm Flow Channel With Reconnection of Upper Salt River, Williams Creek-Salt River Confluence to Cutoff Slough.
- Alternative 5: Historic Channel, Francis Creek-Salt River Confluence to Smith Creek.

The anticipated EIR alternatives are described briefly below and summarized in Table 1. The dimensions, area, and volume estimates presented below are preliminary; more exact quantities and estimates will be generated through the technical studies and assessments that will be completed in support of environmental permit applications and the EIR. Based on effectiveness in meeting the project objectives, Alternative 4 is expected to be the preferred project.

**Alternative 1: Minimal Channel Disturbance, Francis Creek-Salt River Confluence to Smith Creek.** This alternative represents the least amount of disturbance to the existing stream and riparian corridor. The channel design for this option is based on existing flow conditions (diversion of the upper portion of the Salt River), and it is assumed that additional excavation may be needed if and when Williams Creek is reconnected to the Salt River.

Channel excavation would occur along 2.6 miles of the lower Salt River between the Francis Creek confluence (near the City of Ferndale wastewater treatment plant) to just

upstream of the Salt River's confluence with Smith Creek. The channel would have an average depth of five feet and width of 20 feet. A total of approximately 51,500 cubic yards of sediment would be removed. A 12- to 15-foot-wide band of vegetation would be removed on one side of the channel to allow small mechanized equipment to access the channel. Approximately 16 acres of riparian habitat would be disturbed. Six acres of existing low-quality riparian vegetation would be converted to a mix of open water, permanent fresh and brackish wetland, and forested riparian habitat.

**Alternative 2: Two-Year Storm Flow Channel, Francis Creek-Salt River Confluence to Cutoff Slough.** This alternative is designed to maximize fish passage and sediment transport under low flow conditions, based on modeling performed by the National Marine Fisheries Service. The channel design for this option is based on existing flow conditions (diversion of the upper portion of the Salt River), and it is assumed that additional excavation may be needed if and when Williams Creek is reconnected to the Salt River.

Channel excavation would occur along 4.2 miles of the lower Salt River, starting 1,300 feet upstream of Port Kenyon Road and extending downstream to Cutoff Slough. The channel would include a low-flow channel within an inset floodplain. The low-flow channel would have an average depth of three feet, which would contain a two-year storm flow event. The inset floodplain would be 60- to 100-feet-wide and would receive flows under moderate and high-flow conditions. A total of approximately 260,000 cubic yards of sediment would be removed to create the channel and floodplain. Approximately 40 acres of existing low-quality riparian habitat would be converted to a mix of open water, permanent fresh and brackish wetland, and forested riparian habitat.

**Alternative 3: Maximum Floodplain, Francis Creek-Salt River Confluence to Smith Creek.** This alternative represents the design developed by the HCRCD in 2005. Like Alternative 1, current flow conditions are assumed, and channel excavation would occur along 2.6 miles of the lower Salt River between the Francis Creek confluence (near the City of Ferndale wastewater treatment plant) to just upstream of the Salt River's confluence with Smith Creek. The channel design for Alternative 3 provides for maximum excavation of the inset floodplain in addition to the low-flow channel. The low-flow channel would have a trapezoidal configuration with an upper width of ten feet, lower width of five feet, and average depth of three to five feet. The width of the excavated floodplain would range from 100 to 200 feet. A total of approximately 282,000 cubic yards of sediment would be removed. Approximately 26 acres of existing low-quality riparian habitat would be converted to a mix of open water, permanent fresh and brackish wetland, and forested riparian habitat.

**Alternative 4: Two-Year Storm Flow Channel With Reconnection of Upper Salt River, Williams Creek-Salt River Confluence to Cutoff Slough.** This alternative expands on Alternative 2 using a channel design based on modeling performed by the National Marine Fisheries Service, and assuming reconnection of the upper Salt River and the inclusion of Williams and Coffee Creek flows.

Channel excavation would occur along 5.5 miles of the Salt River, from the confluence of Williams Creek to Cutoff Slough. The channel would include a low-flow channel within an inset floodplain. The low-flow channel would have an average depth of three feet, which would contain a two-year storm flow event. The inset floodplain would be 60- to 100-feet-wide and would receive flows under moderate and high-flow conditions. A total of approximately 321,000 cubic yards of sediment would be removed to create the channel and floodplain. Approximately 56 acres of existing low-quality riparian habitat would be converted to a mix of open water, permanent fresh and brackish wetland, and forested riparian habitat.

**Alternative 5: Historic Channel, Francis Creek-Salt River Confluence to Smith Creek.** This alternative represents the most amount of disturbance to the existing stream and riparian corridor. The channel design for this option is based on historic channel conditions, and aims to recreate a slough-type channel in the lower Salt River extending up to the wastewater treatment plant.

Channel excavation would occur along 3.0 miles of the lower Salt River, from the Francis Creek-Salt River confluence to Smith Creek. The channel would have an average width of 300 feet and an average depth of 15 feet. A total of approximately 2.6 million cubic yards of sediment would be removed to create the channel. Riparian areas and pastures adjacent to the existing channel would be converted to approximate historic vegetation conditions. Approximately 109 acres of existing low-quality riparian habitat would be converted to a mix of open water, permanent fresh and brackish wetland, and forested riparian habitat.

**Table 1. Summary of Anticipated EIR Alternatives**

| Alternative | Channel Dimensions | Miles Restored | Sediment Removed (cubic yards) | Existing Riparian Habitat Converted (acres) |
|---|---|---|---|---|
| 1 | 5’ deep by 20’ wide | 2.6 | 51,500 | 6 |
| 2 | 3’ deep by 10’ wide, low-flow channel for two-year storm flow, 60’ to 100’ wide inset floodplain | 4.2 | 260,000 | 40 |
| 3 | 5’ deep by 10’ wide trapezoidal channel with 100’-200’ wide floodplain | 2.5 | 282,000 | 26 |
| 4 | 3’ deep by 10’ wide, low-flow channel for two-year storm flow, 80’ to 100’ wide inset floodplain | 5.5 | 321,000 | 56 |
| 5 | 15’ deep by 500’ wide slough-type channel | 3.0 | 2,600,000 | 109 |

## POTENTIAL DISCRETIONARY ACTIONS AND APPROVALS

The following actions and approvals are anticipated to be required:

| Agency | Permit/Approval |
|---|---|
| U. S. Army Corps of Engineers | Clean Water Act Section 404 Permit, River and Harbor Act Section 10 Permit |
| National Marine Fisheries Service | Biological Opinion |
| U.S. Fish and Wildlife Service | Biological Opinion |
| California State Coastal Commission | Coastal Development Permit |
| California Department of Fish & Game | Streambed Alteration Agreement |
| North Coast Regional Water Quality Control Board | Clean Water Act Section 401 Permit |
| Humboldt County Community Development Services Department | Grading Permit |

## ISSUE ANALYSIS (ENVIRONMENTAL CONSEQUENCES)

The EIR will analyze the environmental impacts of the project in accordance with CEQA. The analysis will identify the potential impacts and determine whether any of the identified impacts would have significant adverse effects. The EIR will consider both individual and cumulative impacts, and will evaluate construction activities as well as post-project conditions. For impacts that are potentially significant, feasible mitigation measures will be identified and the effectiveness of these measures will be discussed.

Based on a preliminary assessment of the project, the following list of issues was identified. This list is preliminary, and additional issues may be identified during the scoping process.

**Aesthetics Issues**: *Certain project components, such as removal and conversion of riparian vegetation, would change the aesthetic character of the project area. This change could be viewed either positively or negatively.*
The EIR will:

- Describe and present photographs of the existing scenic and visual resources.
- Compare the existing scenic and visual resources with short-term conditions during implementation, and long-term conditions during predicted stages of restoration.

**Agricultural Resources**. *Channel restoration in the lower Salt River would occur on lands not currently usable for agricultural operations, and minimally on lands that are seasonally used. Estuary restoration on Riverside Ranch would reduce existing agricultural operations on that site due to modification or removal of tide gates and restoration of salt marsh and wetland habitat. A portion of the Riverside Ranch would be maintained for livestock grazing and Aleutian goose foraging. Loss of prime agricultural soils on that site, if any, could be a significant impact. Construction of sediment*

*retention basins and realignment of Reas Creek could occur on property that is zoned for agricultural use but has diminished in value and productivity due to flooding.*

The EIR will:

- Analyze project effects on loss of agricultural resources including any prime agricultural soils and Williamson Act issues.
- Evaluate benefits to surrounding agricultural lands resulting from reduced flooding associated with improved hydraulic capacity within the Salt River and its tributaries.

**Air Quality Issues**: *The proposed project components could have short-term air quality impacts due to fugitive dust generated during earthmoving, dredging, and other operations.*

The EIR will:

- Identify and discuss short-term construction dust impacts and potential mitigation measures.
- Assess the project's operational (traffic) air quality impacts, including contribution to cumulative air quality impacts, based on the anticipated level of activity.
- Address the project's conformity with applicable air quality plans, exposure of sensitive receptors to criteria air pollutants and odors, as well as federal Clean Air Act conformity.

**Aquatic Biological Resources.** *Benefits to native fish are a major objective of the Salt River Restoration Project. Historically, the Salt River provided migration and rearing habitat for Chinook salmon, coho salmon, steelhead and cutthroat trout. Currently, adults and juveniles may only migrate during peak flood flows due to sedimentation in the channel that forms a complete barrier under moderate and low flows. All of the proposed alternatives would improve or restore fish passage and rearing habitat.*

The EIR will:

- Describe existing fish habitat and ecological conditions in the project area.
- Analyze short-term impacts associated with construction, long-term impacts associated with future maintenance actions, and long-term benefits of restoration including enhancement of rearing habitat and fish passage.
- Address the main uncertainties of the project and underlying assumptions about the benefits of restoration for native fish, such as the potential benefits of restoring migration access to Wildcat Tributaries, channel function and design with respect to fish passage, and conversion of riparian vegetation.
- Consider effects on recreational and commercial fisheries as well as non-game fish resources.

**Cultural Resources.** *The project area includes potentially historic structures, sites, and landscapes, some of which could be substantially altered or removed by the project. The site may also contain prehistoric cultural resources that may be affected by project development.*

The EIR will:

- Review available information to determine if cultural resources have been previously identified in the project area.
- Prepare an architectural history analysis of potential historic structures.
- Evaluate the project area as a potential historic landscape in accordance with the evaluation criteria contained in National Register Bulletin 30 Guidelines for Evaluating and Documenting Rural Historic Landscapes.
- Document potential historic structures and landscape features (on California Department of Park and Recreation 523 forms).
- Identify appropriate mitigation measures to address the possibility of encountering previously unknown cultural resources
- Identify appropriate mitigation measures, if needed, to address potential effects associated with moving, altering, or demolishing historic structures or altering potentially significant landscape features.

**Geology and Soils**. *Geologic issues include potential erosion during and after construction due to proposed grading, dredging, channel reconfiguration, levee reconfiguration, and armoring.*
The EIR will:

- Describe the site's geologic conditions and hazards based on existing information and technical reports for the project area and vicinity.
- Determine whether the project would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving the rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure including liquefaction and landslides.
- Evaluate existing levee stability and stability of any newly constructed levees on Riverside Ranch.
- Summarize the implications of these conditions with respect to project outcomes, and identify appropriate mitigation measures.

**Hazards and Hazardous Materials.** *Portions of the project area may be contaminated from being in proximity to a wastewater treatment plant. Change in health risks associated with standing water and mosquitoes also could occur.*
The EIR will:

- Discuss and summarize the existing Environmental Site Assessments' findings on soil contamination and other potential hazards at the site, and contact the Regional Water Quality Control Board and the Humboldt County Health Services Department Hazardous Materials Programs, if appropriate.
- Identify appropriate spill prevention measures as well as emergency contacts.
- Review and summarize the City of Ferndale data on potential soil contamination of areas near the wastewater treatment plant.
- Identify potential impacts to project workers and recreation users due to potential soil contamination and other potential hazards at the project site, and describe necessary mitigation measures.
- Include information obtained from the Humboldt County Division of Environmental Health Vector Control Officer regarding potential mosquito health risks associated with existing and proposed wetlands, and potential mitigation

measures.

**Hydrology and Water Quality.** *The project could affect water quality through release of contaminants and sediment from construction activities. The project could alter hydrodynamic processes, which control local salinity levels. The project could increase turbidity during and after construction, adversely affecting water quality. In addition, flows in the lower Salt River and into Riverside Ranch are likely to change with the increased tidal prism following restoration; these increased flows could affect water quality, erosion along these waterways, and fisheries use of these waterways. The project could result in groundwater seepage affecting off-site properties after levees are breeched on Riverside Ranch. Potential flood hazards issues exist.*
The EIR will:

- Describe existing water quality conditions including those associated with the dysfunction of the wastewater treatment plant.
- Review available project data to evaluate potential effects on salinity levels and identify mitigation measures as appropriate.
- Develop hydrodynamic studies and, based on those studies, evaluate the ability of the restored tidal wetlands to achieve the degree of tidal circulation and exchange along with the appropriate geomorphology necessary to provide the habitats of interest on the project site.
- Evaluate the potential water quality effects of excavating a new channel versus retaining the lower Salt River in its current configuration, based upon available studies, modeling results, design documents, and related information from other wetland restoration projects, and develop conceptual mitigations as necessary.
- Review and summarize existing water quality and hydrology studies and identify any potential impacts based on that information.
- Describe levee seepage and groundwater elevation issues (based on existing studies) and summarize potential flood hazards associated with the project.

**Land Use/Planning.** *The project may conflict with the City of Ferndale and County of Humboldt land use plans and policies or with adjacent land uses.*
The EIR will:

- Describe nearby land uses in the project area, assess project impacts on nearby existing and planned land uses, and identify any potential land use conflicts.
- Review and summarize applicable goals and policies in the County's General Plan, and assess the project's consistency with General Plan goals and policies, land use designations, and Zoning Ordinances including conformity with height and density limits and parking requirements.

**Noise.** *The project will result in temporary noise impacts from construction.*
The EIR will:

- Review the existing applicable noise standards to determine the appropriate noise descriptors.
- Describe existing onsite noise levels.
- Evaluate the potential for temporary noise impacts from construction, including any construction noise impacts to noise-sensitive biotic species.

- Compare future noise levels with existing noise levels to determine if the project would cause a significant increase.

**Public Services.** *The project will not increase demand on local police and fire protection services. It is not anticipated to generate significant impacts on other public facilities.*
The EIR will:

- Include information obtained from the City of Ferndale Fire Department and Police Department regarding any concerns or constraints associated with provision of fire and police protection.

**Recreation.** *The project will result in benefits to local tourism and recreation due to increased aquatic and riparian habitat function, which is expected to increase fish and wildlife species, which in turn may increase tourism to the area. Public access for wildlife viewing is available on nearby County roads. The Project may increase public access.*
The EIR will:

- Analyze potential recreation benefits to the public as a result of the project and identify mitigation measures if significant impacts are identified.

**Terrestrial Biological Resources.** *Existing upland biological resources could be adversely affected by the project. The restoration alternatives would restore terrestrial habitats historically present on the site, including terrestrial habitats that would persist after riverine and riparian wetlands are restored, and artificially reclaimed "uplands" (diked, drained historic agricultural lands) that currently support some terrestrial (and wetland) biological resources.*
The EIR will:

- Describe existing upland terrestrial biological habitats and sensitive species.
- Evaluate the loss of terrestrial habitats from project development.
- Evaluate potential future interactions between restored wetlands and persistent, managed terrestrial habitats, and the effects of restoration alternatives on reclaimed terrestrial habitat.

**Transportation/Traffic.** *The project will result in increased traffic during construction, potentially affecting levels of service on local streets.*
The EIR will:

- Review and organize the existing documentation available regarding the existing and future transportation conditions and summarize existing transportation conditions and trends.
- Describe existing roadway facilities and discuss the existing traffic volumes and level of service in the project study area. Potential traffic impacts will be described.
- Address potential traffic and parking impacts from the restoration project, including construction traffic impacts.

- If appropriate, develop a series of potential mitigation measures for analysis. These mitigations may range from roadway improvements to bicycle/pedestrian facilities.

**Utilities/Service Systems.** *Construction and operation of the project may affect water, wastewater, and other utility services.*
The EIR will:

- Include information obtained from the City of Ferndale and applicable utility providers regarding potential constraints and any significant impacts and required mitigation measures. Impacts on storm water drainage will be summarized.
- Discuss the need for sufficient access to PG&E's overhead transmission lines.
- Identify the project and alternatives' effects on operations of the City of Ferndale's wastewater treatment plant.

**Wetland Biological Resources**. *The project would convert existing riverine, willow scrub, and seasonal wetlands/pastures to open water, tidal slough and salt marsh as well as riverine wetlands, permanent wetlands, and forested riparian. This change in habitat could be significant.*
The EIR will:

- Identify and describe existing wetland and upland habitats on the site.
- Evaluate how project alternatives are likely to differ in producing different amounts and configurations of wetland and aquatic habitats over time, and how they vary in the way they relate to adjacent habitats.
- Identify and quantify areas of wetland fill and associated impacts.
- Consider potential differences in restored marsh form, function, and biological diversity among alternatives over time. The discussion will emphasize key biological resources with special public and agency interest, such as rare or endangered species, dominant species and communities, and pest species (e.g., invasive, non-native wetland plants and non-native predators).
- Address potential project effects on existing non-tidal wetlands on site, and tidal wetland and other aquatic habitats in the site vicinity.