

SALT RIVER ECOSYSTEM RESTORATION PROJECT

A SHORT HISTORY

Prior to 1850 the Eel River Delta had been home to the Wiyot people. The Wildcat Range to the south of the town of Ferndale represents the southern extent of the Wiyot territory. The Salt River Basin has undergone significant changes and modifications since Euro-American settlement of the Eel River Delta in the 1850's; with unforeseen cumulative ecological and hydrological impacts. The Salt River has now reached a point where the system is hydrologically dysfunctional, serves few ecosystem benefits, and creates numerous socio-economic problems. The Salt River Ecosystem Restoration Project is a community-driven restoration effort to restore this agricultural watershed.

- **1852** The Shaw brothers settle the land near the current site of Ferndale. Many other settlers soon follow. Forests on the valley floor were cleared and land converted to dairies and cropland. The Salt River is 15 feet wide and 200 feet deep at Port Kenyon and supports a shipping trade between Humboldt and San Francisco.
- **1884-1890**
An extensive system of levees is constructed in the estuary adjacent to the Salt River. An estimated 2,900 acres of tideland are reclaimed for agriculture and at least 700 acres of freshwater wetland are reclaimed near Williams Creek. Four dams with tide control devices are also constructed in sloughs tributary to the Salt River, reducing the tidal prism of the Eel River Estuary.
- 1901 U.S. Court of Appeals recognizes the tide control structures on Centerville Slough have negative effects on the navigability of the Salt River.
- 1906 Earthquake damages Ferndale and causes fissures and slides around the valley.
- 1911 The construction of "Fernbridge" over the Eel River connects the residents of the Eel River delta, Bear River, and Mattole Valley to the Humboldt Bay region.
- 1955 The second largest flood recorded on the Eel River occurs. Discharge peaks at 27.7 feet at Fernbridge.
- **1964** Largest recorded flood in the Eel River – 29.5 feet at Fernbridge.
- 1967 Leonardo Levee is constructed to help alleviate flooding damage to valuable agricultural lands from the Eel River. This coincidentally also eliminates historic "flushing" of the Salt River channel once accomplished by episodic overtopping of the Eel River in this location.
- 1970 Department of Fish and Game curtails the unregulated cutting of riparian vegetation in the Salt River Basin.
- 1975 Ferndale wastewater treatment plant is built at the confluence of Francis Creek and Salt River.

- 1978 Sediment plug forms in the Salt River channel upstream of Williams Creek diverting Williams and Coffee Creek flows from the Salt River overland toward Old River/ Perry Slough.
- **1987** By popular vote, landowners in the Lower Eel Basin form the *Eel River* Resource Conservation District (RCD). Landowners focus on bringing local, state and federal expertise together to develop long-term solutions to water quality problems associated with animal waste from dairies as well as flooding and water quality problems associated with sedimentation in the Salt River and its tributaries.

Congressional request made to US Army Corps of Engineers for funding to address flooding.

- **1988** The Eel River Resource Conservation District requests assistance from USDA Soil Conservation Service to investigate problems associated with accelerated sedimentation in the Eel River Estuary and the Salt River channel.
- 1989 The Soil Conservation Service field office in Eureka submits a draft work plan to the RCD to “discover the causes of sedimentation and annual flooding so a long lasting solution can be achieved.”

Funds that were previously committed from the Army Corps of Engineers is later denied upon their determination that flooding problems are associated with drainage rather than flooding and does not qualify as a Corps project.

- **1990** The RCD receives a grant for \$100,000 from the State Coastal Conservancy to conduct a number of studies related to geology, hydrodynamics, biology and wildlife in the Salt River Watershed.

The City of Ferndale publishes their Master Drainage Plan that identifies drainage problems in the Francis Creek sub-watershed.

- **1992** Ferndale earthquake (magnitude 7.1) triggers landslides in Francis Creek and elsewhere in the watershed and causes coastal uplifting near Petrolia.

The RCD Board accepts final reports from consultants who performed various studies of the Salt River Watershed.

- **1993** The *Salt River Basin Local Implementation Plan* is published by the USDA – Soil Conservation Service (Later re-named the Natural Resources Conservation Service, NRCS).

The RCD is expanded to county-wide and re-named the *Humboldt County Resource Conservation District (HCRCD)*.

- 1996 California Conservation Corps completes project to remove riparian vegetation blocking the Salt River channel from Riverside Ranch to Francis Creek.
- 1997 Coho salmon are listed as “threatened” under the Endangered Species Act.
- 1998 Sediment plug forms downstream of Williams Creek diverting the flow into the Old River/Perry Slough making Francis Creek the headwaters of the Salt River.

A total of 42% of the Salt River Basin is diverted into the Old River/Perry Slough. Francis Creek is now the headwaters of Salt River.

- 2000 City of Ferndale begins work on a flood mitigation project on the urban portion of Francis Creek through Ferndale funded through Department of Water Resources, Prop 13 and Caltrans.
- 2002 Francis Creek urban flood mitigation project reaches completion with funding from Department of Water Resources Urban Streams Project.
- 2003 US Army Corps of Engineers (USACOE) begins to draft the Salt River Project Management Plan under the aquatic ecosystem restoration program.
- **2004** HCRCD establishes Salt River Advisory Group (SRAG). Group is established to build a partnership between private landowners living adjacent to the Salt River and public groups, including California Department of Fish and Game, NRCS, City of Ferndale, California Coastal Conservancy, and County of Humboldt to provide information and technical assistance to the Project.

Funding for the USACOE aquatic ecosystem restoration program is eliminated.

\$400,000 for feasibility studies of the Salt River Project is secured through contractual agreements between HCRCD and California Department of Fish and Game and California Coastal Conservancy;
Salt River Bibliography and Literature search completed;
Congressman Mike Thompson requests appropriation for the Salt River Project;
NRCS-Watershed Planning Services pledges assistance;
Thalweg and Channel Survey of Salt River and Francis Creek completed;
Aerial reconnaissance of Salt River flood conditions conducted by Humboldt County in February. Aerial photo composite maps provided by County of Humboldt;
Rare Plant survey report completed by NRCS;
CDFG publishes draft stream report / fishery survey reports for Francis, Williams, Russ and Reas Creeks;
CDFG publishes Salt River Watershed Assessment with recommendations;
Estuarine hydrological analysis initiated.

- **2005-2006** Wide group of stakeholders apply to the State Water Board for funding to implement the Salt River Ecosystem Restoration Project. HCRCD is asked to act as lead agency for contracts. Project is subsequently granted a total of \$6,169,502 in Proposition 50 funds. Contracts are finally executed at the end of 2007.
- **2006-2007**
 - SRAG continues to investigate channel design and provide technical support to the Project.
 - Humboldt County accepts funds from the State Coastal Conservancy to conduct environmental investigations to begin to develop permits and the project's Environmental Impact Report (EIR).
 - Public Meetings held inviting landowners and interested citizens to form a **Salt River Watershed Council** that would focus on supporting the Project and help with funding and coordinating ongoing maintenance.

- HCRCDC submits proposal to the State Water Board for funds to implement additional sediment retention strategies within the tributaries of the Salt River Watershed (not funded).

2008

- The Salt River Watershed Council is formed and incorporated as a 501 c 3. The Council is a community based partnership that encourages long-term cooperative watershed management practices to sustain, protect, and improve water quality, drainage, aquatic and riparian habitat, and other natural resources, while contributing to long-term economic, agricultural and community sustainability in the coastal Salt River watershed;
- A proposed conceptual channel design and footprint is released for comment and refinements;
- A pilot test to excavate sediment from three locations along the channel footprint is completed by the County;
- A conceptual estuary restoration plan is developed for the estuary component of the project;
- Additional funding is secured for estuary restoration through the NRCS, Wetland Reserve Program;
- An assessment of priority erosion sources in the three tributary watersheds is initiated and sediment reduction work begins in the Francis Creek Watershed;
- December 18, 2008 State freezes all bond funds and project activities, including completion of EIR, are stopped due to State budget crisis.

2009

- In June a portion of the project is exempted from State funding freeze and project activities begin again. Funds are received at HCRCDC for past invoices held since December.
- HCRCDC engages consultant to pick up development of CEQA document from County; project team focuses energies on completing EIR.
- The Upslope and In-stream Erosion Hazard Inventory, Assessment and Report for Francis Creek watershed is completed.
- Erosion reduction treatments, including shaping and surfacing 8,178 feet of road surface and upgrading 28 specific treatment sites in the Francis Creek Watershed are completed. This work was done through a cooperative cost share agreement between HCRCDC and a landowner in the Francis Creek watershed. The landowner provided in excess of 50% match in the form of rock, grass seed and mulch, additional cubic yards of crushed rock installed on the roadway, the installation of two additional culverts at his own expense, and upgrades to the proposed treatments that included upgrading two rock rolling dips to culverts, additional armoring of inlets and additional rock rolling dips. All upgrades will serve to prevent sediment from entering the waterways.
- The Project Team collaborates with staff of the Army Corps of Engineers to complete wetlands and uplands determinations on some of the agriculture lands near the project footprint to develop a cost-effective plan to re-use sediment excavated from the project footprint.

2010

- A conceptual Construction Management Plan is developed for the project that discusses potential earthwork needed, cut and fill volumes, soil characteristics and reuse limitations, construction sequencing, construction impacts and associated mitigation measures. Also provides first opinion of probable costs and a preliminary long-term management plan.
- Inventory of culverts, drainages, confluences and infrastructure completed, assessment of bridge scour completed, surveys for threatened and endangered species completed and Biological Assessment completed.
- Work begins on developing an Adaptive Management Plan for long-term project maintenance; work on the re-vegetation and land use plan for the project is initiated.
- A Special Study Session is held between the Humboldt County Resource Conservation District (HCRCD) Board of Directors and the Board of the Salt River Watershed Council to build collaboration and affirm the long-term role of the Watershed Council.
- Conversations with landowners adjacent to the project footprint continue. Specific landowners with identified uplands on their properties are approached by HCRCD to discuss opportunities for potential staging areas, temporary haul roads and beneficial reuse of excavated material as an agricultural amendment.
- Staff of NOAA's National Marine Fisheries Service works to finalize the proposed channel surface.
- HCRCD coordinates with the County of Humboldt to conduct measurements of flow and turbidity on Francis Creek to refine design of channel and sediment management areas. Project design team and landowners work to incorporate local knowledge of drainage and hydrology and land management constraints into design.
- Project Team continues to pursue additional funding to cover project costs. State Coastal Conservancy pledges funding to assist with final engineering design and permits. Ducks Unlimited joins project team and provides additional funding to complete project design and permitting and assists in securing additional implementation funding. State Coastal Conservancy is awarded a \$1 million grant from the National Coastal Wetland Conservation Grant program. This grant will go toward Phase 1 of the project; tidal marsh restoration on Riverside Ranch.

2011

- Project stakeholders devote a great amount of time meeting with landowners in the project footprint to develop consensus on project design and to obtain access agreements.
- Project Environmental Impact Report (EIR) is approved by HCRCD Board of Directors. It is subsequently challenged by the California Farm Bureau, who later agrees to drop their petition challenging the EIR. The Adaptive Management Plan and the Habitat Monitoring and Mitigation Plan are completed.
- HCRCD secures funding from Department of Conservation and NRCS to hire a Salt River Watershed Coordinator.
- Additional project implementation funds received from Caltrans and Department of Fish and Game-Fisheries Restoration Grant Program.
- A large debris torrent washes out a bridge in the Francis Creek watershed and contributes sediment load to Francis Creek. Multiple stakeholders assess the problem and determine that it would be difficult to address. HCRCD works with California

Conservation Corps (CCCs) to look at bioengineering ideas to stabilize torrent. HCRCD also works with landowners to develop and implement streambank stabilization projects in the Williams Creek watershed.

2012

- **Phase 1 engineered design plans and technical specifications are completed; all required Landowner agreements secured; all Project permits issued; project bidding commences.**
- The bidding process for multiple components of the estuary restoration phase (Phase 1) of the project is completed. Pre-implementation activities commenced, including; site clean-up, vegetation removal, nursery production, seed production, construction planning and coordination.
- A small community celebration is held for the project reaching this milestone.
- CCCs develop a bioengineering project to stabilize the debris torrent on Francis Creek with HCRCD acting as project sponsor.
- Community education and outreach continues. A great deal of coordination and work occurs to meet project monitoring requirements. HCRCD actively outreaches to Humboldt State University and University of California Cooperative Extension for assistance with a variety of monitoring tasks. The Watershed Coordinator actively works to begin the development of a citizen-based monitoring program.
- Additional funding proposals for a range of project activities are submitted. Funding for the channel restoration phase of the project is received from State Coastal Conservancy and Department of Water Resources.
- Construction of Phase 1 of the project (the estuary) is planned to commence in May of 2013.
- December brings a large storm event with the Eel River peaking at 22.8 feet and causing wide-spread flooding throughout the valley. The resulting sediment plume entering the ocean from the Eel River is visible on satellite imagery.