Targeted Supplemental Environmental Assessment
For the City of Arcata McDaniel Slough Expansion Project

The Estuary Restoration Act (ERA) directs the National Oceanic and Atmospheric Administration (NOAA) and certain other federal agencies to encourage the restoration of estuary habitat through more efficient project financing and enhanced coordination of Federal and non-Federal restoration programs. Consistent with the goals and requirements of the ERA, NOAA's National Marine Fisheries Service (NMFS) proposes to provide financial assistance to a habitat restoration activity entitled "The City of Arcata McDaniel Slough Expansion Project".

Purpose and Need for Action

Tidal estuary habitat in Humboldt Bay has been degraded over time by various causes, including urban development, agriculture, water pollution, limiting the ability to conserve several sensitive fish species. There is a need to restore suitable habitat for such species. The purpose of the proposed action is to restore historic natural geomorphic and biologic processes to create a self-sustaining restored tidal estuary, and enhance freshwater wetlands on 285.5 acres within Humboldt Bay. This project will provide access to habitat for numerous species including federally listed salmon, steelhead, and tidewater goby.

Description of the Proposed Action

The City of Arcata McDaniel Slough Expansion Project is a result of collaboration between numerous partners. In addition to the participation of the City and NOAA, there are several partners involved in this project including the United States Army Corps of Engineers (USACOE), the United States Fish and Wildlife Service (USFWS), the Natural Resources Conservation Service (NRCS), and the California Department of Fish and Game (DFG). The USACOE has been designated as the lead federal agency for this project and has issued a 404 permit for the action. In addition, the ACOE has completed consultations pursuant to Section 7 of the Endangered Species Act with the NMFS and USFWS. Furthermore, the USACOE has completed an Environmental Assessment for the proposed action in which the USFWS and NRCS have adopted as cooperating agencies. The NRCS, USFWS, and DFG have all provided funding and technical expertise throughout the permitting, design and implementation phases of the project. The City has prepared an Environmental Impact Report (EIR) under the California Environmental Quality Act (CEQA), which has been adopted by DFG, the lead CEQA agency.

After reviewing the proposed project, we determined that the action described below falls within the scope and effect of activities analyzed in the February 6, 2002 Programmatic Environmental Assessment (PEA) for the Community-based Restoration Program Implementation Plan and the June 23, 2006 Supplement (SPEA), except for potential impacts to certain species that are listed and managed under the requirements of the Endangered Species Act (ESA). The PEA and the SPEA are incorporated by reference into this targeted supplemental environmental assessment (TSEA). A formal ESA section 7 consultation was initiated by the United States Army Corps of Engineers (USACOE) with the U.S. Fish and Wildlife Service (USFWS), Arcata Office on September 15th, 2006 due to potential adverse impacts to the Tidewater Goby (*Eucyclogobius newberryi).* A Biological Opinion (BiOp) was issued by the USFWS on June 18th, 2008. The BiOp concluded that the proposed action is likely to adversely affect Tidewater Goby but not likely to jeopardize the continued existence of the species or result in adverse modification or

destruction of designated critical habitat. In 2007, the California Department of Fish and Game (CDFG) was able to acquire an additional 45.5 acres of property adjacent to the restoration site, allowing the project to expand to 285.5acres, increasing tidal estuarine habitat by 22 acres and enhancing 23.5 additional acres of freshwater wetlands. The USACOE reinitiated consultation with USFWS to include the additional acreage in the project on January 9, 2009. The USFWS reissued a BiOp on September 9, 2009 that concluded that the proposed action is likely to adversely affect Tidewater Goby but not likely to jeopardize the continued existence of the species or result in adverse modification or destruction of designated critical habitat.

The USACOE conducted an informal ESA section 7 consultation with the National Marine Fisheries Service's (NMFS) Regional Protected Resources Office in Arcata, CA for the federally threatened Central California Coast (SONCC) Coho Salmon (*Oncorhynchus kisutch*), Northern California steelhead trout (*O. mykiss*) and California Coastal (CC) Chinook (*O. tshawytscha*). The USACOE also conducted an Essential Fish Habitat (EFH) consultation with the NMFS Regional Habitat Conservation Office in Arcata under provisions of the Magnuson-Stevens Fishery Conservation and Management Act of 1976 (MSA). The NMFS concurred with USACOE's determination that the proposed action is not likely to adversely affect coho salmon, Chinook salmon, steelhead, or EFH. It prepared this TSEA specifically to evaluate the effects of the proposed action on Tidewatewr Goby and its habitat. This level of review is described in this SPEA and reflects the analysis provided in the BiOp.

This Targeted Supplemental Environmental Assessment (TSEA) tiers to and incorporates by reference the above referenced PEA and SPEA in accordance with 50 C.F.R. §1502.20 and NAO 216-6, subsection 5.09a. The TSEA also incorporates evaluations and determinations from the USFWS BiOp, the ACOE Environmental Assessment, and DFG's EIR by reference. This TSEA level of review is conducted in accordance with the implementation procedures described in the SPEA and appropriately focuses on consideration of effects to species listed under the Endangered Species Act, 16 U.S.C. 1531 et seq. Beyond consideration of site-specific effects to the ESA-listed species, our [NMFS] review of the proposed action has not revealed any substantial changes in the proposed action or new potentially significant adverse effects to other elements of the human environment which would require additional review in the TSEA or supplementation of the pre-existing NEPA documents.

Alternatives Considered

I. *No Action Alternative*

Under the no-action alternative, the NOAA RC would not fund the proposed project to increase and enhance habitat. The 285.5 acre site would remain as it currently exists as agricultural pasture and diked former tideland. Wildlife diversity would remain low due to the predominance of agricultural wetland with low plant species composition. The cutoff sloughs intended for historic channel excavation would remain aggraded with sediment and would provide little wildlife or aquatic habitat value. The deepening and channeling of these sloughs have the potential to provide enhancements to endangered tidewater goby habitat. McDaniel Slough would remain a degraded stream for fishery migration or rearing and would remain confined to a narrow channel with limited flow capacity. The City lands would continue to be grazed by livestock, the DFG lands would remain as grasslands with potential succession to shrub and wooded area, and the McDaniel Slough/Janes Creek channel would continue to aggrade, thereby increasing the flood hazard level for adjacent area.

II. *Preferred Alternative*
The City of Arcata proposes to conduct the following work at the above project site: (1) **Phase I** - Continue Phase I freshwater pond excavation and construction (East Pond and West Pond), enhance historic tidal slough channels on the eastern portion of the site (1,400 linear feet), remove portions of levee bordering McDaniel Slough to create wildlife islands (1,200 linear feet and 3.02 acres in area), contour the bottom of the future brackish pond, build and vegetate islands in the brackish pond, provide access to PG&E for reinforcing utility towers, construct trails, viewing structure and information kiosks and install storm water Best Management Practices throughout the project site; (2) **Phase II** - Mute or close the lowest elevation culvert at the mouth of McDaniel Slough, reinstall a tide gate or flapper gate at this culvert, place 53, 500 cubic yards of soil onto agricultural wetland to construct new flood levees and eco levees on the western portion of the site just west of the turn on V Street and Old Samoa Boulevard, replace two 24-inch diameter culverts with a 48-inch diameter culvert at the southwest corner of the project where a proposed flood levee would be constructed adjacent to the Reclamation District bay front levee, isolate the borrow ditch area, dewater the borrow ditch area, and install, replace and remove culverts at various locations, modify and excavate remnant tidal channels located on the western portion of the site inboard of the new levees; (3) **Phase III** - Remove tide gates from all four culverts at the mouth of McDaniel Slough with the culverts remaining in place for one full construction season, after one year of tidal exchange remove all four 48-inch culverts and breach the Humboldt Bay front levee at the culvert location, place rock slope protection on both side of the levee breach, and complete design and build infrastructure for and begin operation of the brackish marsh. A more detailed description of the preferred alternative, including measures to minimize adverse effects to Tidewater Goby and its habitat, is provided on pp. 4-11 of the June 18, 2008 BiOp.

Affected Environment

For purposes of this analysis NOAA has determined that the description of the "action area" "status of the species," and "environmental baseline" in the BiOp, pp. 11-24, serve as the description of the affected environment.

Environmental Effects

I. *No Action Alternative*
Under the no-action alternative, NOAA would not fund the proposed grant. Other agencies would still have the option to fund this project, however, the need for coastal habitat restoration is great, and fewer important projects would be funded if NOAA did not fund the project type outlined in the preferred alternative.

II. *Preferred Alternative*

Direct Effects
The McDaniel Slough Expansion Project will occur within proposed critical habitat for a small estuarine fish, the endangered tidewater goby (*Eucyclogobius newberryi*), listed by the USFWS. The USACOE has determined that this project may affect and is likely to adversely affect the tidewater goby. The proposed action would occur within unit HUM-3 designated as critical

habitat under the ESA for the Tidewater Goby and would negatively affect the function of the primary constituent elements of this designated critical habitat within the McDaniel Slough project area. However, effects to primary constituent elements from channel excavation and levee breaching would be confined to only 8.8 acre (0.06 acre permanently affected and 8.8 acre temporarily affected) or < 0.5% of the suitable habitat within HUM-3. Furthermore, the long-term beneficial effects of the proposed action include the creation of 4 acres of additional brackish water habitat directly adjacent to suitable habitat. All of these affects are described in detail in the attached September 12, 2009 USFWS BiOp pp. 17-21.

Existing aquatic organism habitat within the former tidelands inside the dikes bordering Humboldt Bay is limited. McDaniel Slough, which upstream is also known as Janes Creek in its non-tidal reaches historically has been a migration, rearing and spawning corridor for anadromous fish including coho salmon, steelhead and coastal cutthroat trout. However, a series of culverts located under Highway 255 north of the project area appear to be barriers to fish migration (these culverts are not in the project area but are maintained by the California Department of Transportation). Throughout the 240 acre project area, there is just enough diversity in vegetation, topography and hydrology to attract a variety of small amphibians, reptiles, small and some large mammals such as deer, mice or grey fox, a variety of passerine birds or shorebirds such as herons, egrets, sparrows, warblers, raptors such as hawks, and the occasional peregrine falcon (no longer listed). Many of the raptors use telephone or high tension wires or fence lines to scout for prey in the fields below. Some of the terrestrial species may be scared off or disturbed by the presence of heavy equipment conducting excavation, fill or grading activities within the project, and with the presence of vehicles and personnel. This is expected to be a short-term, minor adverse affect on existing populations of both terrestrial and aquatic species in this area. Upon completion of the project, it is anticipated that the quality and number of aquatic and terrestrial fish and wildlife habitat would increase and result in a net, long-term beneficial impact on habitat for fish, other aquatic organisms, and wildlife.

Indirect Effects

In addition to the direct effects within the construction footprint, there will be indirect affects throughout the entire Janes Creek watershed, defined by the Janes Creek watershed ridge tops located in Arcata, CA. Removing the tide gates will improve access to 4.9 miles of freshwater spawning and rearing habitat for anadromous salmonids within the Janes Creek watershed. In addition, the removal of the tide gates will allow storm flows to drain more rapidly and reduce flooding impacts to upstream properties and municipalities adjacent to Janes Creek.

Cumulative Effects

Cumulative: Federal regulations implementing NEPA (40 C.F.R. 1500-1508) require that the cumulative impacts of a proposed action be assessed. NEPA defines a *cumulative impact* as an "impact on the environment, which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions" (40 C.F.R. 1508.7). The project area and adjacent properties are surrounded by approximately 5 miles of rock and earthen levees maintained by Reclamation District 768, a conglomeration of ranch owners and public or other private ownership within the interior of the levees. Some portions of these levees and the parallel borrow ditches were constructed in 1890 or shortly after the turn of the century. The proposed project involving interior levee construction and removal, pond excavation and slough excavation would be the first major cumulative impact since the use of the project area for agricultural use starting in the 1890's with the exception of the construction of Highway 255, the

railroad line located east of the project area, construction of the Arcata Marsh wastewater complex to the east in the 1980's and increasing residential and commercial construction adjacent to the project area. NOAA has not identified any other reasonably foreseeable Federal, State or local actions within the action area that are likely to have cumulative impacts.

Summary of Effects

The BiOp issued by the USFWS concluded that the proposed action will not jeopardize the federally endangered Tidewater Goby. In addition, this project will improve access to 4.9 miles of spawning and rearing habitat for federally listed coho and Chinook salmon and steelhead trout. An Incidental Take Statement (ITS) was included in the USFWS BiOp along with reasonable and prudent measures and terms and conditions to be adhered to. The USACOE is responsible for complying with the requirements described in the ITS, implementing the terms and conditions, and all monitoring, mitigation and reporting requirements associated with the BiOp.

List of Agencies/Persons Consulted

Lynn Roberts, Greg Goldsmith
U.S. Fish and Wildlife Service, Arcata California Fish and Wildlife Office

Leslie Wolf
NOAA Fisheries, Protected Resources Division, Arcata, California

David Ammerman
U.S. Army Corps of Engineers, Eureka, California

Attachment – USFWS' June 18, 2008 and September 9, 2009 Biological Opinions