



DEPARTMENT OF FISH AND GAME

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NORTHERN REGION
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January 27, 2009

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DEPARTMENT OF
COMMUNITY DEVELOPMENT

Ms. Sidnie L. Olson, Senior Planner
Community Development Department
City of Eureka
531 K Street
Eureka, CA 95501

Dear Ms. Olson:

Marina Center Draft Environmental Impact Report (DEIR),
Eureka, Humboldt County, California

The Department of Fish and Game (DFG) has reviewed the Draft Environmental Impact Report (DEIR; State Clearinghouse #2006042024) received on December 3, 2008, for the proposed Marina Center Mixed Use Development Project (project). As a trustee for the State's fish and wildlife resources, DFG has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants and the habitat necessary to sustain their populations. As a responsible agency, DFG administers the California Endangered Species Act (CESA) and other provisions of the Fish and Game Code that conserve the State's fish and wildlife public trust resources. DFG offers the following comments and recommendations on this project in our role as a trustee and responsible agency under the California Environmental Quality Act (CEQA, California Public Resource Code §21000 et seq.).

Project Description

The project site is 43 acres and consists of 11 parcels. The project site has been vacant since the late 1980s but historically had been used as a railroad switching, maintenance, and freight yard. The project site is a brownfield with soil and groundwater contamination characterized by long-chain petroleum hydrocarbons and metals. The site contains several old building foundations, rail cars, soil piles, and a transmission tower. The remnants of Clark Slough and wetlands (one to three parameters) occur throughout the project site and are described in Section IV D-31 of the DEIR as "meager and highly disturbed." The preferred alternative proposes to develop some of the wetlands (5.54 acres). Creation of an estimated 11.89-acre wetland reserve (8.98-acre estuarine wetland preserve and 2.91 acres of associated upland buffer) around Clark Slough is the proposed mitigation for wetland loss.



## Humboldt Bay

Eureka is situated between the two largest tributaries to Humboldt Bay: Eureka Slough (formed by the confluence of Freshwater and Ryan sloughs) and the Elk River. Humboldt Bay is California's second largest estuary and vital fish and wildlife habitat. Humboldt Bay is a biodiversity hotspot and provides refuge and nursery habitat for more than 120 fish species, many with important commercial and recreational fisheries value. The Bay and its wetlands and dunes are habitat for at least 20 State- and federally-listed species and California Species of Special Concern (SSC). Humboldt Bay is California's largest producer of cultured oysters and a critical nursery for juvenile Dungeness crab. Due in part to significant declines in the salmon fisheries, Dungeness crab is now a mainstay of the local fishing industry accounting for more than 50% of the economic value of Humboldt County's fishing industry (Prosperity 2007).

The lower reaches of all the major tributaries entering Humboldt Bay are utilized by anadromous salmonids, including: coho salmon (*Oncorhynchus kisutch*), State- and federally-threatened; Chinook salmon (*O. tshawytscha*) (Eureka Slough only), federally-threatened; Coastal cutthroat trout (*O. clarki clarki*), SSC; and Steelhead (*O. mykiss*), federally-threatened.

Recent studies performed by the DFG Natural Stocks Assessment Project (Wallace 2006) have shown that juvenile salmonids use Freshwater Creek Slough as rearing habitat, in particular young-of-the-year (yoy) coho salmon, yoy Chinook salmon, and, to a lesser extent, juvenile steelhead and cutthroat trout, as well as, numerous other marine fish and invertebrates. While residence time may vary between sloughs, years, and species, yoy coho salmon used Freshwater Creek Slough extensively, and yoy coho salmon residing in the upper slough were larger than their cohorts residing upstream in Freshwater Creek (Wallace 2006).

These studies illustrate that juvenile coho throughout the Humboldt Bay watershed exhibit redistribution, primarily downstream, to over-winter in low gradient habitat in freshwater-estuary ecotone ringing Humboldt Bay (Wallace 2009). For example, DFG studies found that coho salmon smolts in Freshwater and Eureka sloughs moved into accessible adjacent habitat including other sloughs, marshes, and tidal meanders. They also found that marked coho salmon smolts from Freshwater Creek and Slough moved into the lower portion of Elk River Slough during their residence time in Humboldt Bay. These findings strongly suggest that juvenile coho will move into non-natal habitat around Humboldt Bay if they have access to that habitat. As such, the restoration and creation of the wetlands reserve (i.e., Clark Slough and associated wetlands) should include a "fish-friendly" tide gate that allows for safe passage of juvenile salmon and marine species.

Native eelgrass (*Zostera marina*) beds are highly productive nurseries and refuge areas that are widely recognized for their critically important ecological function in Pacific Northwest estuaries (Phillips 1984). Pursuant to Title 14, California Code of Regulations, §30.10, native eelgrass is protected and under the Magnuson-Stevens Fishery Conservation and Management Act is considered Essential Fish Habitat. Eelgrass is documented in Clark Slough (Goldsmith 2006); however, the DEIR does not disclose this. Furthermore, *Z. japonica* was discovered in Humboldt Bay in 2002 and is an emerging issue that threatens many aspects of the Bay's ecosystem. The DEIR includes a five-year monitoring plan for the wetland reserve. The plan should include avoidance measures or mitigation for any impacts to eelgrass, monitoring for *Z. japonica*, as well as a general goal to increase the area of native eelgrass within the wetland reserve.

### **Climate Change and Sea Level Rise**

Consistent with the intent of CEQA, local lead agencies have a very important role to play in California's fight against climate change. Local lead agencies can encourage well-designed, sustainable private projects by analyzing and disclosing to the public the environmental benefit of such projects in any required environmental document (Brown 2008). The project as proposed is estimated to generate 20,000 metric tons per year of CO<sub>2</sub> emissions (i.e., greenhouse gasses; GHG) from operations.

Average expected sea level rise, determined from several climate models, ranges from 10-80 cm over the 2000-2100 period (Projecting Future Sea Level 2005). A higher sea level will have significant effects on Humboldt County, including more coastal land becoming flood-prone and salt water intrusion into existing freshwater areas. Increased sea level elevation, especially in combination with storm-driven surges, extreme waves, intense low-pressure winter storms and high tides, is predicted to result in extensive flooding in coastal regions of California (Projecting Future Sea Level 2005).

Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006, recognizes that California is a substantial source of GHG emissions. While the project as described falls below current reporting standards for industrial stationary sources for CO<sub>2</sub> emissions in relation to AB 32 goals, mitigation for the project (wetland reserve) and the project infrastructure itself may be impacted over time from climate change and related rising sea levels. The DEIR should address the prognosis of sea level rise in relation to the current project, the potential for additional GHG Reduction Measures (See: OPR 2008), and the viability of Clark Slough wetland reserve in perpetuity.

## Trash Removal

The DEIR recognizes the removal of trash and debris as part of the Stormwater Management Plan. DFG concurs this is appropriate given the known adverse impact of these materials on fish and wildlife likely to frequent the project area. However, the associated mitigation measure suggests that trash removal would occur each year before the start of the rainy season. It is unlikely that trash removal occurring at such a limited frequency will adequately address the likely volume of wind-blown trash that will be inadvertently generated from the proposed mixed-use development. The Final EIR should include a trash removal plan that ensures the wetland reserve is free of trash in perpetuity.

### Recommendations:

1. The Final EIR shall address mitigation and enhancement for eelgrass habitat in Clark Slough.
2. The five-year monitoring plan described in Mitigation Measure D-3b shall also include monitoring for the non-native eelgrass, *Z. japonica*. The project shall notify DFG as soon as possible if *Z. japonica* is detected in Clark Slough, and coordinate with DFG for eradication.
3. DFG shall be provided an opportunity to review and comment on the draft restoration plan for the wetland reserve before it is made final.
4. The final project shall include "fish-friendly" tidegate modifications and the Final EIR shall discuss how the project would improve estuarine habitat for all species, including salmonids.
5. A trash removal program shall be developed that is adaptive, comprehensive, and proportional to trash generated and will ensure the wetland reserve is trash free in perpetuity.
6. The Final EIR shall address the prognosis of sea level rise in relation to the current project, the potential for additional GHG Reduction Measures (See: OPR 2008), and the viability of Clark Slough wetland reserve in perpetuity.

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If you have any questions or comments regarding this matter, please contact Environmental Scientist Michael van Hattem at (707) 445-5368 or Environmental Scientist Vicki Frey at (707) 445-7830 or write to them at 619 Second Street, Eureka, California 95501.

Sincerely,

  
**GARY B. STACEY**  
Regional Manager

cc: See Page Six

#### References

Brown, E. G., 2008. The California Environmental Quality Act: Addressing Global Warming Impacts at the Local Agency Level. Office of the Attorney General Global Warming Measures Updated 3/11/08.

Office of Planning and Research (OPR), 2008. CEQA and Climate Change: Addressing Climate Change through the Environmental Quality Act (CEQA) Review.  
[www.opr.ca.gov](http://www.opr.ca.gov)

Phillips, R.C., 1984. The ecology of eelgrass meadows in the Pacific Northwest: a community profile. U.S. Fish Wildlife Service FWS/OBS-84/24.

Projecting Future Sea Level, 2005. A report from: California Climate Change Center, California Energy Commission, CEC-500-2005-202-SD. Sacramento, CA.

Prosperity, 2007. Fisheries state of the industry report. County of Humboldt Economic Development Division, Eureka, CA. [northcoastprosperity.com](http://northcoastprosperity.com)

Goldsmith, G., 2006. Clark Slough Assessment for Tidewater Goby. U.S. Fish and Wildlife Service, Arcata Fish and Wildlife Office.

Wallace, M., 2006. Juvenile salmonid use of Freshwater Slough and tidal portion of Freshwater Creek, Humboldt Bay, California. 2003 Annual Report. Final Report for Contract P0210710. California Fisheries Restoration Grants Program. March 2006.

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Wallace, M., 2009. Field Note: Martin Slough, Thence Swain Slough, Thence Elk River, Thence Humboldt Bay. California Fisheries Restoration Grants Program. January 2009.

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