

**San Francisco – Oakland Bay Bridge
East Span Seismic Safety Project**

**2002 ANNUAL BIOLOGICAL MITIGATION
STATUS REPORT**

**In Accordance with California Department of Fish and Game
Incidental Take Permit No. 2081-2001-021-03**



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Introduction:

Per Condition 3.j of California Endangered Species Act Incidental Take Permit No. 2081-2001-021-03 for the East Span Project, this yearly status report provides the following: “1) a general description of the project’s status, including actual or projected completion dates, if known; 2) the current status of each avoidance, minimization, and mitigation measure; and 3) an assessment of the effectiveness of each completed or partially completed avoidance, minimization, and mitigation measure.”

Background:

The purpose of the East Span Project is to provide a seismically upgraded crossing for current and future users between Yerba Buena Island (YBI) and Oakland. The construction period is approximately six years for construction of the new East Span and two years to remove the existing structure. Construction activities will take place on land as well as in the Bay and include activities such as dredging, excavation, pile driving, construction of temporary and permanent structures, and removal of the existing bridge.

The project has four primary components (see attached figure):

- Geofill at the Oakland Touchdown
- Oakland Approach Structures
- Skyway
- Self-Anchored Suspension/Yerba Buena Island transition structure (SAS/YBI)

The first three project components will be constructed under three separate contracts. The SAS/YBI component will be constructed under a total of six different contracts including:

- Self-Anchored Suspension bridge land foundation [Foundations W2];
- Self-Anchored Suspension bridge marine foundations [Foundations for T1 and E2];
- Self-Anchored Suspension bridge superstructure [box, tower, and cables];
- Yerba Buena Island electrical substation and simple retrofit of the YBI viaduct near the tunnel;
- Yerba Buena Island demolition of four buildings; and
- Yerba Buena Island structures.

Project Status:

Geofill Contract

In late January of 2002, work started on the Geofill Contract. The Geofill Contract involves construction of a stable fill base for the future at-grade portions of the Oakland approach to the Skyway structure. The initial stages of the Geofill Contract included field testing a Geotube™ to reduce tidal influence at the work site. The Geotube™ barrier was a long semiporous geosynthetic tube that was hydraulically pumped full of sand and water allowing the excess water to pass through the walls of the tube, leaving only the sand behind. It was intended to increase the available work time within the tidal environment where fills were being placed, as well as to contain construction-related silt and turbidity.

This particular application of Geotubes™ was relatively new and the environment in which the work was being conducted was quite complex. Based on the demonstration program, it was determined that the use of the Geotube™ was not an effective construction method. The geofill installation was stopped on April 4, 2002 so other construction techniques could be evaluated.

Caltrans proposed to the permitting agencies that the construction method be altered to include a rock (rip-rap) and geosynthetic fabric berm to buffer the work site against incoming and outgoing tides and to protect the surrounding waters from turbidity. In a letter dated May 3, 2002, the San Francisco Bay Conservation and Development Commission approved the use of rip-rap and the abandonment of the Geotube™. Accordingly, rip-rap was installed and has proved successful in protecting the work site and controlling turbidity. At the conclusion of the Geofill Contract, the rip-rap barrier will be placed on the face of the embankment for erosion control and storm protection.

Skyway Contract

The Skyway Contract was awarded in February 2002. The Skyway Contract involves construction of the bridge component that will connect to the Oakland approach structures on the eastern shore and to the Self-Anchored Suspension portion on the west side. The first phase consisted of mobilization and occurred between February 6 and June 21, 2002. The second phase of the contract, which started June 24, involves dredging for the barge access channel along the north side of the existing bridge. Dredging for the Skyway Contract is expected to last until September 28, 2002. During this phase, suitable dredged material will be transported and disposed of at the San Francisco Deep Ocean Disposal Site (SF-DODS). As of August 15, 2002, there have been 100 barge trips to SF-DODS.

Status of Mitigation:

Attached to this report is a table which shows the status of the mitigation measures listed in the Permit. The following is a summary of the mitigation measures.

- 1) Bird monitoring in and around the construction sites on the Oakland Touchdown and the barge access channel along the north side of the existing bridge began in July 2002. Monitoring for the California least tern, California brown pelican, and American peregrine falcon have included land-based and boat reconnaissance surveys. Survey trips are made two times per week with four to five hours spent on-site during each survey. During the month of July, eight California brown pelicans (seven near the dredging site and one near the geofill area) and one California least tern near the geofill area were observed. No American peregrine falcons were observed. None of the observed birds displayed any behavior that seemed to be in response to construction activities.
- 2) The first seabird monitoring trip to the SF-DODS occurred on July 22, 2002. Two observers accompanied the tug on the trip to the site. Sixteen species of birds were observed within 200 meters (660 feet) of the tug during transit. Eight species were seen within 200 meters (660 feet) of the scow. No birds were observed at the SF-DODS survey area due to fog. The most frequently observed

species during transit was common murre, followed by western gull and Brandt's cormorant. The only birds that appeared to be attracted to the tug or the scow were western gulls that used the scow as a perching area. There were no observed effects on birds, except that individuals were scared away from the wake of the boat.

- 3) Funds for off-site mitigation were placed in escrow accounts on August 13, 2002. Procedures and planning for off-site mitigation have begun. An initial kickoff meeting was held with the National Marine Fisheries Service (NMFS) on June 19, 2002 to discuss preparation of a work plan and grant procedures to fund steelhead (salmonid) habitat projects. NMFS has developed scoring criteria for assessing grant proposals for such projects. NMFS has also agreed to lead the process and Caltrans' role will be limited to providing the funding. NMFS will involve the California Department of Fish and Game in the process for developing selection criteria for restoration projects and in the selection process itself.
- 4) A bubble curtain will be used when permanent piles are driven without cofferdams. The curtain will attenuate underwater sound pressure levels.

In general, work will proceed from east to west beginning with the eastbound structure of the Skyway from Piers E16 to E6. Once the eastbound structure is complete, construction would begin for the westbound structure, also proceeding from east to west. Permanent in-water pile-driving without cofferdams will occur at Piers T1, E2, E3, E4, E5, and E6. It is anticipated that pile-driving for the first pile without cofferdams (Pier E6) would begin in June 2003.

Pile-driving for the temporary access trestle at the Oakland Touchdown began on July 29, 2002. The majority of the pile-driving activities for the temporary access trestle will take place on the Oakland Touchdown and will not require mitigation measures.

Assessment:

Eight California brown pelicans and one California least tern were observed flying overhead the construction areas. There was no apparent response to the construction activity. No American peregrine falcons were observed in the project area and therefore it is assumed that there have been no impacts to this species. In addition, there have been no observed effects on seabirds during transport and disposal at SF-DODS, except that individuals were scared away from the wake of the boat.

**California Department of Fish and Game
Incidental Take Permit No. 2081-2001-021-03
2002 Annual Biological Mitigation Status Report**

Table of Minimization and Mitigation Measures

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status/Date/Initials
1	Permittee shall fully implement and adhere to the conditions in the "Bubble Curtain Background Specification"	Permittee	During Construction	Permittee	Pile-driving without cofferdams for permanent piles has not started.
2	Install and maintain an effective air bubble sound attenuation curtain around all large steel piles (i.e., 5.9-8.2 feet in diameter) during pile driving activities, unless other equally effective methods (e.g., cofferdams) are used, or as otherwise directed by the Department and the National Marine Fisheries Service (NMFS) for the purpose of collecting performance data. "Effective" for purposes of this permit shall mean a continuous stream of air bubbles enclosing all permanent in-water and/or pile groups from the bottom of San Francisco Bay to its water surface. Airflow to the bubble curtain system shall be sufficient to provide a bubble flux of three cubic meters of air per minute per linear meter of pipeline in each concentric ring.	Permit	During Construction	Permittee	Pile-driving without cofferdams for permanent piles has not started.
3	To monitor the performance of the bubble curtain and assess the level of impact to fisheries, Caltrans, in conjunction with the Federal Highways Administration (FHWA), shall prepare and implement a fisheries and hydroacoustic monitoring program. The monitoring include the following components: (1) underwater sound measurements at various distances and depths from pile driving operations; (2) observations of predation by gulls and other birds; and (3) experiments using fish in cages at different distances and depths from pile driving operations to evaluate fish mortality and injury rates. The fish cage experiments shall be designed to document near-term fish mortalities and the likelihood of delayed mortality of differing sizes and species of fish that have swim bladders. Caltrans shall submit the above-described monitoring program to the Department and NMFS for review and approval at least ninety days prior to the initiation of pile driving. Data collected from the monitoring program shall be made available to the Department on a real-time basis. An interim report shall be provided to the Department by December 31, 2002, and a final report shall be provided to the Department by June 1, 2004.	Permit	During Construction Interim report due by December 31, 2002 Final report due by June 1, 2004	Permittee	Pile-driving without cofferdams for permanent piles has not started. In a letter dated August 7, 2002, NMFS approved the Fisheries and Hydroacoustic Monitoring Program.
4	Pile driving shall be restricted to daylight hours to the extent practicable and the use of artificial lights shall be minimized.	Permit	During pile driving	Permittee	Pile-driving without cofferdams for permanent piles has not started.
5	Caltrans shall provide \$4 million for the purpose of monitoring construction related impacts and restoring the habitat in tributaries to central and south San Francisco Bay of anadromous salmonids listed under CESA and/or ESA, including the covered species ("salmonids"). Caltrans shall make available a portion of the \$4 million, not to exceed \$500,000, prior to the initiation of project construction activities, which shall be used to fund the monitoring of fisheries impacts, sound pressure levels, and other environmental conditions associated with pile driving after project construction activities commence.	Permit	Prior to installation of project construction activities	Permittee	Funds were placed in an escrow account on August 13, 2002 as required by amendment to BCDC Permit 8-01. NMFS will lead the off-site fisheries restoration process. NMFS has prepared a first draft of criteria to off-site restoration sites.

**California Department of Fish and Game
Incidental Take Permit No. 2081-2001-021-03
2002 Annual Biological Mitigation Status Report**

Table of Minimization and Mitigation Measures (Continued)

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status/Date/Initials
6	The remainder of the \$4 million ("restoration funding") shall be used for off-site, out-of-kind mitigation to offset project-related injury and mortality of salmonids.	Permit	December 31, 2004	Permittee	Funds were placed in an escrow account on August 13, 2002. Development of procedures for off-site mitigation has begun.
7	Prior to December 31, 2003, Caltrans shall deposit the restoration funding into an escrow account. Expenditures from the account shall be made at the discretion of the Department and NMFS in consultation with Caltrans and FHWA.	Permit	December 31, 2003	Permittee	Funds were placed in an escrow account on August 13, 2002.
8	Caltrans shall provide additional mitigation at off-site locations to offset the direct impacts of the project by establishing an escrow account of \$10.5 million to be used as follows: (1) a minimum of \$2.5 million to the East Bay Regional Park District (EBRPD) to restore, enhance, and/or create new aquatic habitat and transitional uplands at the Eastshore State Park and within central San Francisco Bay at the following sites or other suitable locations: Radio Beach Area, Brickyard Cove, Albany Beach Area, and Hoffman Marsh; (2) up to \$8 million to acquire approximately 3,200 acres of diked historic baylands at Skaggs Island in Sonoma County, demolish structures and facilities on the site, and take other actions necessary to restore the site to tidal marsh. If any of the \$10.5 million described above has not been fully expended by the time the project is completed, Caltrans shall consult with the Department and other interested state and federal permitting agencies to identify other projects that can be funded with the remaining monies that will offset the project's adverse impacts on fish and wildlife resources.	Permit	February 28, 2002	Permittee	Funds were placed in an escrow account on August 13, 2002.
9	Caltrans proposes to restore up to 1.73 acres of barge access channel to its pre-construction bathymetry and replant the channel with eelgrass. Stockpiled dredged material and sand will be used to restore the appropriate contours of the channel and the area will be replanted using eelgrass from an adjacent donor site. Caltrans will monitor the replanted eelgrass to evaluate its success. This mitigation proposal is contingent on approval by the Bay Conservation and Development Commission to change its policy governing the use of dredged material for in-bay habitat restoration.	Permit	Post-construction	Permittee	The eelgrass transplant pilot program began on August 9, 2002.
10	For the duration of construction activities, the permittee shall conduct compliance inspections at least once every week to ensure compliance with all measures specified in this permit to avoid the take of the covered species and to minimize and mitigate project impacts on the covered species and other fish and wildlife resources, especially those associated with pile driving activities ("avoidance, minimization, and mitigation measures or "measures")	Permit	Weekly	Permittee	Weekly compliance checks began in July 2002 with initiation of bird monitoring.
11	Every month for the duration of construction activities, the permittee shall provide the Department with a written compliance report. The compliance report shall document Caltrans' compliance with, and effectiveness of, all avoidance, minimization, and mitigation measures, including, but not limited to the bubble curtain. After the pile driving is complete, Caltrans shall submit a monitoring report to the Department on a quarterly basis.	Permit	Monthly during pile driving, quarterly thereafter	Permittee	The first monthly report will be submitted in August 2002.

**California Department of Fish and Game
 Incidental Take Permit No. 2081-2001-021-03
 2002 Annual Biological Mitigation Status Report**

Table of Minimization and Mitigation Measures (Continued)

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status/Date/Initials
12	Beginning in 2002 and continuing for the duration of the project, the permittee shall provide the Department a status report by July 1 of every year. Each status report shall include, at a minimum, the following information: (1) a general description of the project's status, including actual or projected completion dates, if known; (2) the current status of each avoidance, minimization, and mitigation measure; and (3) an assessment of the effectiveness of each completed or partially completed avoidance, minimization, and mitigation measure.	Permit	Annually	Permittee	First annual report submitted in August 2002.
13	No later than 45 days after completion of the project, including completion of all avoidance, minimization, and mitigation measures, the permittee shall provide the Department with a final mitigation report. The final mitigation report shall be prepared by a knowledgeable, experienced biologist and shall include, at a minimum, the following information: (1) a report showing when each of the measures was implemented; (2) all available information about project-related incidental take of covered species; (3) information about other project impacts on covered and non-covered species; (4) project construction dates; (5) an assessment of the effectiveness of the avoidance, minimization, and mitigation measures included in this permit on the covered species, especially the bubble curtain; and (6) recommendations on how such measures might be changed to more effectively avoid, minimize, and mitigate the impacts of similar future projects on the covered and non-covered species.	Permit	At projection completion	Permittee	Project currently in progress.