STATE OF CALIFORNIA—THE RESOURCES AGENCY GRAY DAVIS, *GOVERNOR*

CALIFORNIA COASTAL COMMISSION
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RECORD PACKET COPY

W3a

ADMINISTRATIVE PERMIT

APPLICATION NO: **E-02-010**

APPLICANTS: **Hubbs-Seaworld Research Institute ("HSWRI")**

PROJECT LOCATION: Carlsbad, San Diego County

PROJECT DESCRIPTION: Install and operate two 8 x 8 x 4 meter cages and one 3 x 22 meter research platform constructed of polyethylene, mesh netting, and styrofoam plugs for the purpose of rearing and releasing juvenile white seabass as part of the CDFG's Ocean Resources Enhancement Hatchery Program ("OREHP"), in the outer basin of Agua Hedionda Lagoon.

EXECUTIVE DIRECTOR'S DETERMINATION: The findings for this determination, and for any special conditions, appear on subsequent pages.

NOTE: Public Resources Code § 30624 provides that this permit shall not become effective until it is reported to the Commission at its next scheduled meeting. If one-third or more of the appointed Commissioners so request, the Executive Director's permit issuance shall not be effective, and the application shall be set for public hearing at a subsequent Commission meeting.

This permit will be reported to the Commission at the following time and location:

DATE: **Wednesday, October 9, 2002**
TIME: **Meeting begins at 9:00 a.m., Item W3a**
PLACE: Eureka Inn
518 Seventh Street
Eureka, CA 95501
(707) 442 6441

IMPORTANT – Before you may proceed with development, the following must occur:

Pursuant to 14 CCR §13150(b) and 13158, you must sign the enclosed duplicate copy acknowledging the permit's receipt and accepting its contents, including all conditions, and return it to our office. Following the Commission's meeting, and once we have received the signed acknowledgement and evidence of compliance with all special conditions, we will send you a Notice of Administrative Permit Effectiveness.

BEFORE YOU MAY PROCEED WITH DEVELOPMENT, YOU MUST HAVE RECEIVED BOTH YOUR ADMINISTRATIVE PERMIT AND THE NOTICE OF PERMIT EFFECTIVENESS FROM THIS OFFICE.

PETER M. DOUGLAS
Executive Director

By: _____
ALISON J. DETTMER
Manager
Energy and Ocean Resources Unit

ACKNOWLEDGEMENT OF PERMIT RECEIPT AND ACCEPTANCE OF CONTENTS:

The undersigned permittee acknowledge receipt of this permit and agree to abide by all terms and conditions thereof.

The undersigned permittee acknowledge that Government Code § 818.4 states in pertinent part that: "A public entity is not liable for injury caused by issuance … of any permit" applies to issuance of this permit.

Applicant's Signature _____
Date _____

Co-Applicant's Signature _____
Date _____

STANDARD CONDITIONS

1. **Notice of Receipt and Acknowledgment**. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. **Expiration**. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. **Interpretation**. Any questions of intent of interpretation of any condition will be resolved by the Executive Director or the Commission.

4. **Assignment**. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

5. **Terms and Conditions Run with the Land**. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

SPECIAL CONDITIONS

This permit is granted subject to the following special conditions:

1. **Facility Removal.** Within 90 days of project termination, the permittee shall remove all fish, cages and grow-out structures, anchoring devices, materials, and equipment.

2. **Facility Purpose.** The permittee shall use the grow-out facility only for the purpose of rearing and releasing of white seabass (*Atractoscion nobilis*) supplied through the Ocean Resources and Enhancement Hatchery Program ("OREHP") of the California Department of Fish and Game ("CDFG").

3. **Compliance with Memorandum of Agreement.** The permittee shall design, construct, operate, and maintain the grow-out facility in strict compliance with all directions of the Joint Panel established under the 1994 Memorandum of Agreement ("MOA") by and between the California Coastal Commission, the CDFG, the Ocean Resources Enhancement Advisory Panel, and the Southern California Edison Company, including those specified in the OREHP *PROCEDURES MANUAL FOR THE GROWOUT OF JUVENILE WHITE SEABASS.* The directions and provisions of the MOA and the Procedures Manual are incorporated herein by reference as though set forth in full and are made a part of this permit.

4. **Maintenance and Cleaning of Grow-out Facility.** The permittee shall use and maintain the grow-out facility in a manner that protects localized water quality, benthic habitat,

and human health. Maintenance measures shall include regular cleaning of the cages to remove excess food, and diseased and parasite infested and deformed fish. Diseased, parasite infested, and deformed fish shall be destroyed and disposed of in a permitted upland solid waste disposal facility. All below water cage screening and netting shall be regularly cleaned to prevent fouling. Damaged screening and netting shall be immediately repaired or replaced to ensure the integrity of all enclosures. Any unplanned release or escape of fish shall be reported immediately to the Executive Director of the Coastal Commission (hereinafter "Executive Director") and the CDFG.

5. **Fish Stock Health.** The cages shall be sterilized prior to restocking following the infestation of disease or parasitism resulting in a loss equal to or greater than 50 percent of the reared stock. Any major loss of rearing fish (50% or greater) shall be reported immediately to the Executive Director and the CDFG.

6. **Compliance with Release Plan.** The permittee shall release the cage-reared white seabass in strict compliance with the release plan prepared by the Joint Panel which is incorporated herein by reference as though set forth in full and is made a part of this permit. All white seabass shall be tagged prior to their release. The permittee shall not release any batch of fish until it has been inspected by a CDFG biologist or a qualified biologist approved by the Executive Director. Fish that the biologist determines to be diseased, parasite infested, or deformed shall not be released.

7. **Monitoring Reports.** The permittee shall submit semi-annual monitoring reports to the CDFG/OREHP and the Executive Director. The first report shall be submitted within 180 days of the issuance of this permit. The monitoring reports shall include accurate records of: (1) the number of white seabass received, tagged, and released; (2) the mortality rate; (3) the time and location of release of all reared fish; and (4) any and all additional data required by the Joint Panel for monitoring operation of the grow-out facility for environmental degradation. The permittee shall promptly correct any incompleteness or inadequacy the Executive Director finds in the submitted data. If the Commission, after consulting with the Joint Panel determines that operation of the grow-out facility is causing significant environmental degradation, including genetic degradation, the Commission may order modification or cessation of the operation of the facility to abate the degradation.

8. **Permit Amendment.** If the MOA described in Special Condition 3 should be terminated, the permittee shall be required to obtain an amendment to this permit to continue operations. The permit amendment request shall demonstrate how the permittee shall provide an equivalent level of genetic quality control and monitoring for environmental degradation as is provided through the MOA.

9. **Caulerpa Taxifolia Pre-Construction Surveying.** Not earlier than 90 days nor later than 30 days prior to commencement or re-commencement of any development (the "project") authorized under this coastal development permit, the permittee shall undertake a survey of the project area and a buffer area at least 10 meters beyond the project area to determine the presence of the invasive alga *Caulerpa taxifolia*. The

survey shall include a visual examination of the substrate. The survey protocol shall be prepared in consultation with the Regional Water Quality Control Board, the California Department of Fish and Game, and the National Marine Fisheries Service. Within five (5) business days of completion of the survey, the permittee shall submit the survey for review and approval of the Executive Director, and to the Surveillance Subcommittee of the Southern California Caulerpa Action Team (SCCAT).[1] If *Caulerpa taxifolia* is found within the project or buffer areas, the applicant shall not proceed with the project until 1) the permittee provides evidence to the Executive Director that all *Caulerpa taxifolia* discovered within the project and/or buffer area has been eliminated in a manner that complies with all applicable governmental approval requirements, including but not limited to those of the California Coastal Act, or 2) the permittee has revised the project to avoid any contact with *Caulerpa taxifolia*. No revisions to the project shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

[1] The SCCAT Surveillance Subcommittee may currently be contacted through William Paznokas, California Department of Fish & Game (858/467-4218) or Robert Hoffman, National Marine Fisheries Service (562/980-4043).

1.0 EXECUTIVE DIRECTOR'S DETERMINATION (continued)

The Executive Director hereby determines that the proposed development is a category of development which, pursuant to PRC § 30624, qualifies for approval by the Executive Director through the issuance of an administrative permit. Subject to Standard and Special Conditions as attached, said development is in conformity with the provisions of Chapter 3 of the Coastal Act of 1976, and will not have any significant impacts on the environment within the meaning of the California Environmental Quality Act.

2.0 FINDINGS FOR EXECUTIVE DIRECTOR'S DETERMINATION

2.1 Project Location and Description

The Hubbs-Seaworld Research Institute ("HSWRI") proposes to install and operate two 8 x 8 x 4 meter cages and one 3 x 22 meter research platform for the purpose of rearing and releasing juvenile white seabass as part of the California Department of Fish and Game's ("CDFG") Ocean Resources Enhancement Hatchery Program ("OREHP"), in the outer basin of Agua Hedionda Lagoon, City of Carlsbad, San Diego County. (See Exhibit 1, Project Location.) The cages will be constructed of polyethylene, mesh netting, and styrofoam plugs. The 1-meter wide walkways surrounding each cage will be constructed of steel and wood. The depth of the water at the proposed project location is approximately 7 meters (23 feet).

The cages will be constructed according to requirements of the OREHP grow-out program. The fish cages will be attached to the research platform and moored to the seafloor. (See Exhibit 2, Project Diagram.) The total area of the operation on the water surface will be approximately 273 square meters. The cages will be moored using two pairs of Navy stockless style anchors on each end of the cage system connected by a 2-meter long chain. The four anchors each weigh 136 kg with chains that will extend upward to a mooring buoy for each cage, and are then attached to each cage itself. The four anchors and chain segment will cover approximately 8 square meters of seafloor.

Fish containment nets and predator nets will be suspended from the handrails of each cage, with weights at the bottom of each net to keep them taut. Fish containment nets will consist of either 2.5 centimeter or 6.3 centimeter mesh depending on the age of the fish in the cages. The predator nets will consist of 20 centimeter mesh panels of clearly visible heavy gauge twine. Bird netting will also be stretched across the surface of each cage.

The project will be stocked with fish from the nearby hatchery at the Hubbs-Seaworld Research Institute. Fish feeding will occur by hand and automatic feeder according to a schedule determined by fish response. The frame will be cleaned regularly by scraping off any fouling organisms. Nets will be replaced at intervals based on the rate of fouling, generally four to six weeks in the summer. Old nets will be power washed on the docks and dried prior to reuse. Fish will be monitored daily, and any evidence of ill health will be reported to the project supervisor. Releases will occur at the dock once or twice each year as determined by OREHP. Each cage will hold a maximum of 17,500 fish. Based on an assumed 90% survival rate, approximately 15,750 fish can be released from each cage. Since two groups of fish can be raised each year, the

approximate number of fish to be released each year will be approximately 63,000. No antibiotics will be used in the fish rearing project.

2.2 California Department of Fish and Game's ("CDFG") Ocean Resource Enhancement and Hatchery Program ("OREHP")

The proposed fish cages are part of a larger endeavor to produce and release hatchery-reared fish in the ocean waters off of southern California. The overall project is coordinated by the CDFG's OREHP. The OREHP program was created by state legislation (Fish and Game Code § 6592) in 1983, extended for an additional ten years in 1992, and was recently extended indefinitely by Senate Bill 58-Alpert (Ch. 368, Stats. 2001). The purpose of the program is to support research into the artificial propagation, rearing, and stocking of marine finfish species that have a high sport and commercial fishing value, in the ocean waters off southern California. Marine fish hatcheries are considered experimental, and OREHP has had successes as well as failures with the artificial propagation and small-scale rearing of white seabass. The OREHP is self-supporting, funded by a tax on fishing licenses. An advisory panel, the Ocean Resources Enhancement Advisory Panel, counsels the CDFG on funding and policy decisions for the OREHP.

The OREHP has targeted white seabass for artificial propagation, rearing and release due to the decline in the wild population and fish size since the early 1900s. An analysis of commercial boat catches indicated a decisive decline in the white seabass stock between 1918 and 1928. Later studies conducted between 1951-60 and 1973-84 indicated that the population might have stabilized at the level found in 1960. This equilibrium is at a much lower level than the historic white seabass population.

2.3 Prior White Seabass Grow-out Projects Approved by the Coastal Commission

In March 1994, the Coastal Commission approved a coastal development permit ("CDP") for an experimental hatchery (CDP No. 6-93-113) capable of producing 450,000 juvenile white seabass per year for release. White seabass are currently cultured at a hatchery administered by Hubbs Sea World Research Institute in Carlsbad under contract to the OREHP.

A condition of the CDP for the San Onofre Nuclear Generating Station, CDP No. 183-73, required Southern California Edison Company to contribute $1.2 million toward the construction and evaluation of the fish hatchery, as a part of its mitigation package. Action by the Coastal Commission in April 1997 on the SONGS permit added $3.6 million in mitigation funds to the OREHP account and these monies were used for additional hatchery construction, build-out and operating expenses. Pen- and cage-rearing facilities such as the proposed grow-out cages are preferred by OREHP as the grow-out method for the white seabass propagated by the hatchery.

The Coastal Commission has permitted a total of ten white seabass grow-out projects in the OREHP program since 1993 (six regular permits and four amendments to previous permits), and the Executive Director issued four administrative coastal development permits, for a total of fourteen OREHP project permits in eleven locations. (See Table 1 below.) All of the white seabass grow-out facilities permitted by the Coastal Commission are located along the southern California bight in the jurisdictions of the City of Santa Barbara, the City of Newport Beach, City

of Avalon, County of Los Angeles, the City of Marina del Rey, the City of Redondo Beach, the City of Oxnard, the City of Huntington Beach, City of Carlsbad, City of Dana Point, the City of San Diego, and the City of Long Beach.

Table 1: OREHP White Seabass Fish Rearing Projects

CDP No.	Permittee	Location
E-93-01	Pacific Fisheries Enhancement Foundation	Newport Bay
E-93-02	Marina Del Ray Anglers	Marina Del Ray
E-93-03	King Harbor Fisheries Management	King Harbor, Redondo Beach
E-94-5	Dana Point Fisheries Enhancement Program	Dana Point Harbor
E-94-15	Santa Barbara Salmon Enhancement Association	Stearns Wharf, Santa Barbara Harbor
E-94-15-A1	Santa Barbara Salmon Enhancement Association	Stearns Wharf, Santa Barbara Harbor
E-94-16-A (formerly 4-92-14)	United Anglers of California	Channel Islands Harbor, Oxnard
E-95-4	Catalina Island Seabass Program	Catalina Island Harbor
E-95-4-A1	Catalina Island Seabass Program	Catalina Island Harbor
E-96-18 *	Harbor Ocean Preservation Enhancement	Huntington Harbor
E-96-19 *	San Diego Oceans Foundation	Mission Bay
E-98-5 *	Alamitos Bay Fishery Enhancement Project	Alamitos Bay, Long Beach
E-98-5-A1	Alamitos Bay Fishery Enhancement Project	Alamitos Bay, Long Beach
E-00-020*	Project Pacific and CDFG	Mission Bay

* Denotes administrative permits issued by the Executive Director.

2.4 Memorandum of Agreement

In April 1994, the Executive Director of the Coastal Commission signed a Memorandum of Agreement ("MOA") with the CDFG, the Ocean Resources Enhancement Advisory Panel and the Southern California Edison Company (Exhibit 3). The MOA established the roles and responsibilities of the various parties in the construction and evaluation of a marine fish hatchery and related grow-out facilities. The MOA also required the CDFG to prepare a Comprehensive Hatchery Plan and a Grow-Out Facilities Procedures Manual.

A Joint Panel made up of representatives of each party to the MOA (with the exception of Southern California Edison, which may participate in the Joint Panel meetings as an observer only), plus the National Marine Fisheries Service and the University of California, oversees evaluation of the success of the hatchery and development and implementation of a genetic

quality assurance program. **Special Condition 3** requires the permittee to operate the grow-out facility in compliance with the directions of the Joint Panel as described in that condition.

The MOA also includes provisions to limit the potential environmental degradation associated with the hatchery and grow-out facilities. Accordingly, if the Executive Director finds that the hatchery or any particular grow-out facility is causing significant environmental degradation, including genetic degradation, the Executive Director may recommend to the Coastal Commission, and the Coastal Commission may require, that the operation of the facility may be modified, or halted to abate the degradation. Modifications to existing facilities or their operations may require a permit amendment from the Coastal Commission.

Special Condition 8 requires that if the MOA is terminated, the permittee must obtain a permit amendment or a new permit to provide the equivalent level of genetic quality control and environmental degradation monitoring as is guaranteed via the MOA. This condition is necessary to ensure that, in the absence of the MOA and the related Joint Panel, the grow-out facility will continue to be operated in conformance with the Chapter 3 policies of the Coastal Act.

2.5 Grow-Out Facility Procedures Manual

The MOA requires the preparation of a Grow-Out Facility Procedures Manual to provide guidance for the individual grow-out facility operators. The CDFG has completed the manual and distributed it to the grow-out facility operators. The Grow-Out Facilities Procedures Manual provides guidance in the following areas: (1) the application process; (2) site selection; (3) pen or cage design and construction; (4) preparation for receiving fish; (5) feeding; (6) monitoring, recognition, and treatment of diseases; (7) procedures for releasing fish; and (8) record keeping procedures. **Special Condition 3** requires the permittee to adhere to the standards and procedures of the Grow-Out Facilities Procedures Manual, and incorporates the directions and provisions of the manual as a part of this permit.

2.6 Coastal Act Issues

2.6.1 Placement of Fill in Coastal Waters

Coastal Act § 30233(a) states in part:

> *The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:*
>
> *(1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.*
>
> *(2) Maintaining existing, or restoring previously dredged depths on existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.*

(3) In wetland areas only, entrance channels for new or expanded boating facilities; and in a degraded wetland, identified by the Department of Fish and Game pursuant to subdivision (b) of Section 30411, for boating facilities if, in conjunction with such boating facilities, a substantial portion of the degraded wetland is restored and maintained as a biologically productive wetland. The size of the wetland area used for boating facilities, including berthing space, turning basins, necessary navigation channels, and any necessary support service facilities, shall not exceed 25 percent of the degraded wetland.

(4) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.

(5) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.

(6) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.

(7) Restoration purposes.

(8) Nature study, aquaculture, or similar resource dependent activities.

Coastal Act § 30108.2 defines "fill" as "earth or any other substance or material ... placed in a submerged area." The four anchors and short 2-meter chain that will be placed on the seafloor as moorings for the fish cages constitute fill under this definition. The total area of seafloor that will impacted by the four anchors and chain is approximately 8 square meters.

Coastal Act § 30233(a) authorizes a project that includes fill of open coastal waters only if it meets three tests. The first test requires the proposed activity to fit into one of eight categories of uses enumerated in Coastal Act § 30233(a)(1)-(8). The second test requires that there be no feasible less environmentally damaging alternative. The third and last test mandates that feasible mitigation measures be provided to minimize the project's adverse environmental effects.

(1) Allowable Use Test

Coastal Act § 30233(a)(8) allows for fill of coastal waters for "nature study, aquaculture, or similar resource dependent activities." The proposed project is an aquaculture project and thus meets the allowable use test.

(2) No Feasible Less Environmentally Damaging Alternative

After qualifying as an allowable use under §30233(a), the Commission must find that there is no feasible less environmentally damaging alternative to the proposed project.

Land-based farming in pools or raceways is one alternative to the proposed cage design and operation. A land-based system will not produce significant quantities of marine fish because of the large surface area required for the culture tanks and the associated high land costs. Although culture densities in land-based systems can be maintained 3-5 times higher than those in cages, they require at least 10 times the physical footprint for the same production as the proposed cage system. Land-based farming also requires a large amount of expense and energy to pump water to maintain high water quality standards for the fish. In addition, land-based culture systems are also prone to catastrophic mechanical and electrical failures, while cages are not. For the purpose of fisheries enhancement projects such as the proposed project, cages function as an important acclimation step for the fish prior to release into the ocean. During this acclimation phase, fish are exposed to natural predators and prey, which are absent in land-based rearing environments. For these reasons, a land-based system would be neither feasible nor less environmentally damaging than the proposed project.

The proposed project will impact a small area of the seafloor. A total of four anchors, each less than two square meters, will be used to maintain the position of the cages. Four anchors are necessary to ensure system integrity, so that even if one mooring line fails, three lines will remain. Using fewer anchors would add a significant safety risk. The proposed project is small by commercial standards but could be expanded without adding additional anchors. A smaller scale system would not be cost-effective to install and operate, and would still require a four-point anchor mooring system for safety reasons. Regarding site selection, the proposed project location was chosen to minimize environmental impacts while maintaining a good, healthy environment for the fish. Factors in site selection included distance from sensitive eelgrass habitats, water depth, and good current flow. The project area is also characterized by soft sediment that is dredged approximately once a year[2] for maintenance purposes related to the Encina Power Plant, so it is highly disturbed and currently unsuitable for long-term colonization by aquatic plants or animals.

The Executive Director thus finds there are no feasible, less environmentally damaging alternatives to the proposed project and therefore the project is consistent with the second test of Coastal Act § 30233.

(3) Feasible Mitigation Measures

The final requirement of Coastal Act § 30233(a) is that filling of coastal waters may be permitted if feasible mitigation measures have been provided to minimize any adverse environmental impacts. In other sections of this report, the Executive Director has identified feasible mitigation measures that will minimize the project's adverse environmental impacts. With the imposition of the conditions of this permit, the Executive Director finds that the third and final test of Coastal Act § 30233(a) has been met.

[2] See Coastal Development Permit 6-01-80, Cabrillo Power LLC.

2.6.2 Marine Resources

Coastal Act § 30230 states:

> *Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environmental shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

Coastal Act § 30231 states:

> *The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

The potential impacts associated with the fish grow-out facility are impacts to water quality and benthic habitat, degradation of the genetic diversity of wild white seabass populations, and risk of spreading the invasive alga *Caulerpa taxifolia* which is present in the inner basin of Agua Hedionda Lagoon.

2.6.2.1 Water Quality and Benthic Habitat

Water quality may be impacted in several ways. Not all food distributed to the fish will be eaten; some will escape from the cages through the netting and fall to the seafloor. Fish feces also escape and fall to the seafloor. In OREHP's experience, however, neither of these actions have significant water quality or benthic habitat impacts. The Hubbs Sea World Research Institute has monitored rearing facilities in the past to determine if there was any buildup of organic material on the seafloor through visual observation by divers, but the area under rearing facilities has remained clear of either excess food or fecal material. In most areas tidal flushing is a significant factor in preventing buildup under the cages; however, even in areas of minimal tidal flushing, no buildup of organic material has ever been observed.

Rearing facility operators are instructed to feed fish at set rates to minimize excessive food from escaping the cages. The rate of feeding is determined based on water temperature and the size of the fish. In addition, **Special Condition 3** requires that the grow-out facility be operated and maintained in strict compliance with the MOA and the OREHP Procedures Manual for the Growout of Juvenile White Seabass, which includes procedures and monitoring for maintenance of water quality. **Special Condition 4** requires that the grow-out facility be operated and maintained in a manner that protects localized water quality, benthic habitat and human health.

Maintenance procedures shall include regular cleaning of the cages to remove excess food. All below water cage screening and netting shall be regularly cleaned. **Special Condition 5** requires that cages be sterilized prior to restocking if disease or parasitism result in a 50% or greater fish loss. In order to prevent the creation of marine debris, **Special Condition 1** requires that all cage rearing structures and materials be removed within 90 days of project termination.

The MOA between the Coastal Commission, CDFG, the Ocean Resources Enhancement Advisory Panel, and Southern California Edison Company also includes provisions to limit the potential environmental degradation associated with the hatchery and grow-out facilities. Accordingly, if the Commission finds that the facility is causing significant environmental degradation, including genetic degradation, the Commission can require modifications to or the cessation of the hatchery or grow out facility operation to abate the degradation.

2.6.2.2 Genetic Diversity

There is potential for a decrease in the genetic diversity of the wild seabass population due to interbreeding from a small population of broodfish. In order to prevent genetic mutations and loss of genetic diversity, OREHP will follow the procedures outlined in the "Comprehensive Hatchery Plan for the Enhancement of White Seabass" to assure that genetic diversity is preserved. OREHP will continue to obtain broodfish from the wild and rotate in at least 10% of the fish on a yearly basis. OREHP will continue to genotype the broodfish and progeny to ensure that multiple fish are contributing to each spawn.

In addition, to ensure genetic diversity and genetic quality of the fish, **Special Condition 2** restricts the use of the grow-out facility to rearing white seabass supplied from the OREHP white seabass hatchery. **Special Condition 8** requires that if the MOA is terminated, the permittee must obtain an amendment to this permit to continue operations, and the permit amendment request must demonstrate how the permittee would provide an equivalent level of genetic quality control and monitoring.

2.6.2.3 Invasive Species *Caulerpa taxifolia*

A current concern affecting Agua Hedionda Lagoon in Carlsbad is the eradication of the invasive green alga, *Caulerpa taxifolia* (referred to hereafter as "Caulerpa") that was discovered within inner Agua Hedionda Lagoon in the summer of 2000. Caulerpa grows quickly as a dense smothering blanket, covering and killing all native aquatic vegetation in its path when introduced in a non-native marine habitat. Fish, invertebrates, marine mammals, and sea birds that are dependent on native marine vegetation could be displaced or die off from the areas where they once thrived. Although warmer southern California habitats are most vulnerable, until better information if available, the whole California coast is at risk. All shallow marine habitats could be impacted. If this alga were to become permanently established along the state's coastline, it would have devastating ecological consequences.

In response to the threat that Caulerpa poses to California's marine environment, the Southern California Caulerpa Action Team ("SCCAT"), was established to respond quickly and effectively to the discovery of Caulerpa infestations in Southern California. The group consists of representatives from several state, federal, local and private entities. The goal of SCCAT is to completely eradicate

all Caulerpa infestations. On August 7, 2000 the Executive Director issued an emergency permit 6-00-99-G for Caulerpa eradication work in a small area of the inner Agua Hedionda Lagoon. The program included placement of tarps over areas of Caulerpa, treatment with chlorine, and capping the areas to preclude regrowth. This permit was later superceded by Emergency Permit E-02-012-G issued on April 17, 2002, for further eradication and monitoring work.

To date, no Caulerpa has been found in the outer basin of Agua Hedionda Lagoon where the proposed project is to be located. To ensure that the project does not cause the dispersal of Caulerpa, the Commission is requiring in **Special Condition 6** that the applicant prior to construction survey the project area and a buffer area around the project site for the presence of Caulerpa. If Caulerpa is found in the project area prior to commencement of project construction, the applicant must provide evidence that the Caulerpa within the project site has been eradicated (the applicant could seek an emergency permit from the Executive Director to authorize the eradication) or that the project has been revised to avoid any disturbance of Caulerpa. If revisions to the project are proposed to avoid contact with Caulerpa, then the applicant must apply for a permit amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

2.6.2.4 Eelgrass

Eelgrass is present around the perimeter of the outer basin of Agua Hedionda Lagoon. The proposed project could impact eelgrass if the cages and research platform shaded eelgrass (which could cause eelgrass mortality), or if any organic materials or discharges from the project were close enough to eelgrass to affect water quality and eelgrass abundance or health.

The proposed project will not cause shading of eelgrass because the cage location is at least 100 feet from existing eelgrass. In addition, eelgrass does not grow in water deeper than 15 feet in the outer basin of the Lagoon, and the proposed project will be in approximately 23 feet of water.

According to the applicant, the amount of feed introduced to the water that is not eaten by cultured fish will be minimized through careful timing of fish feedings. In addition, NMFS has stated that the proposed cage location has a significant amount of water current and circulation that will prevent or minimize any potential buildup of organic material. (*Personal communication*, Bob Hoffman, NMFS, September 17, 2002) Therefore, the proposed project should not impact eelgrass.

2.6.2.5 Conclusion

Thus, the Executive Director finds that the proposed project as conditioned "shall be carried out in a manner that will sustain the biological productivity of coastal waters and that maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes," as required by Coastal Act § 30230. The Executive Director also finds the project as conditioned will be carried out in a manner such that the "biological productivity of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health

shall be maintained," as required by Coastal Act § 32031. The project is therefore consistent with Coastal Act §§ 30230 and 30231.

2.6.3 Cumulative Impacts

Coastal Act § 30250(a) states in part:

> *New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources.*

Coastal Act § 30105.5 defines the term "cumulatively" as it is used in Coastal Act § 30250(a) to mean that "the incremental effects of an individual project shall be reviewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects."

Since 1993, the Commission or the Executive Director has approved a total of fourteen permits of various types for fish rearing projects associated with the CDFG's OREHP in eleven grow-out locations (See Table 1). All of the white seabass grow-out facilities are located along the southern California bight in the local jurisdictions of the City of Santa Barbara, the City of Newport Beach, City of Avalon, County of Los Angeles, the City of Marina del Rey, the City of Redondo Beach, the City of Oxnard, the City of Huntington Beach, City of Carlsbad, City of Dana Point, the City of San Diego, and the City of Long Beach.

Cumulative direct releases from the hatchery and grow-out facilities have totaled 502,000 white seabass from 1986 to the end of 2001. Taking into account typical mortality rates, CDFG estimates that there were 43,000 OREHP-produced adult white seabass in the wild at the end of 2001. During calendar year 2001, 66,266 juvenile white seabass were transferred to grow-out facilities and 51,724 were ultimately released into the open ocean. The OREHP released 100,319 juvenile seabass during that year when releases from grow-out facilities were combined with fish released directly from the hatchery. The OREHP is currently authorized to release a maximum total of 125,000 juvenile white seabass per year from all fish rearing facilities. If hatchery production remains at current levels, it would be possible to produce more than 200,000 fish for transfer to grow-out facilities. Before more than 125,000 juvenile white seabass could be released annually, the Joint Panel must recommend that the maximum total release number be increased, based upon completion of certain program benchmarks contained in the MOA. The CDFG may then request the Executive Director to approve an increase in the maximum total release number.

A significant expansion in the grow-out facility operation has the potential to result in food and/or animal detritus which may add to the cumulative marine impacts that already exist in developed harbor settings. However, cumulative water quality impacts to the local marine environment resulting from the use of the proposed floating fish cages are not expected to be significant. The relatively small numbers of seabass reared and released from the grow-out

facility, local tidal flushing action, and the facility maintenance requirements contained in the Growout Procedures Manual and **Special Condition No. 4** should reduce the potential cumulative impacts to marine resources to insignificant levels.

The impact of hatchery propagated fish on the genetic diversity of wild populations is of particular concern. The cumulative impacts associated with extensive marine finfish mariculture operations could potentially be severe and irreversible, and have the potential to result in cumulative impacts on the wild white seabass population. A loss of genetic diversity has the potential of reducing the adaptability of the natural populations in dealing with changes in environmental conditions, such as global climate changes, or other human induced impacts.

To assist in the evaluation of cumulative impacts associated with hatchery propagated and cage-reared fish on the native white seabass population, the permittee is required by **Special Condition 6** to tag all fish prior to release and to comply with the release plan prepared by the Joint Panel, which may require transporting the cage-reared white seabass to another location for release. **Special Condition 7** requires the permittee to maintain accurate records of the rearing facility's operational practices and the release of fish. Additionally, **Special Condition 4** requires the permittee to prevent the premature release of untagged fish and to report any accidental release of untagged fish to the Executive Director. The tagging and record keeping requirement will also ensure the integrity of CDFG's future evaluation of the OREHP, and allow for an assessment of whether the release of hatchery propagates are adversely affecting the genetic diversity of the white seabass population.

The white seabass grow-out facility project, and the others like it, offer an opportunity to evaluate the impacts (both direct and cumulative) associated with the artificial propagation, rearing and stocking of important marine fish species. The California Department of Fish and Game, the Coastal Commission, the National Marine Fisheries Service, the University of California, and the Ocean Resources Enhancement Advisory Panel, through the Joint Panel's oversight and evaluation of the white seabass hatchery, will produce important information on both direct and cumulative impacts, which will assist the agencies in guiding and regulating future marine fish hatchery and rearing/release projects.

For the reasons described above, the Executive Director finds that the proposed project, as conditioned, will not have significant adverse cumulative effects and therefore is consistent with the Coastal Act §30250(a).

2.7 California Environmental Quality Act ("CEQA")

The Coastal Commission's permit process has been designated by the State Resources Agency as the functional equivalent of the California Environmental Quality Act ("CEQA") environmental review process. Pursuant to Section 21080.5(d)(2)(A) of the CEQA and Section 15252(b)(1) of Title 14, California Code of Regulations, the Commission may not approve a development project "if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment." The Executive Director finds that only as conditioned are there no feasible less environmentally

damaging alternatives or additional feasible mitigation measures that would substantially lessen any significant adverse impact which the activity may have on the environment, other than those identified herein. Therefore, the Executive Director finds that the project as fully conditioned is consistent with the provisions of the CEQA.

APPENDIX B: SUBSTANTIVE FILE DOCUMENTS

Coastal Development Permit Application Materials

Application for Coastal Development Permit E-02-010 dated March 5, 2002, as amended on May 3, 2002, August 12, 2002, and September 15, 2002.

Agency Permits and Letters

Letter from Paul Richter, Regional Water Quality Control Board, San Diego Region, to Paul Curtis, HSWRI, February 28, 2002.

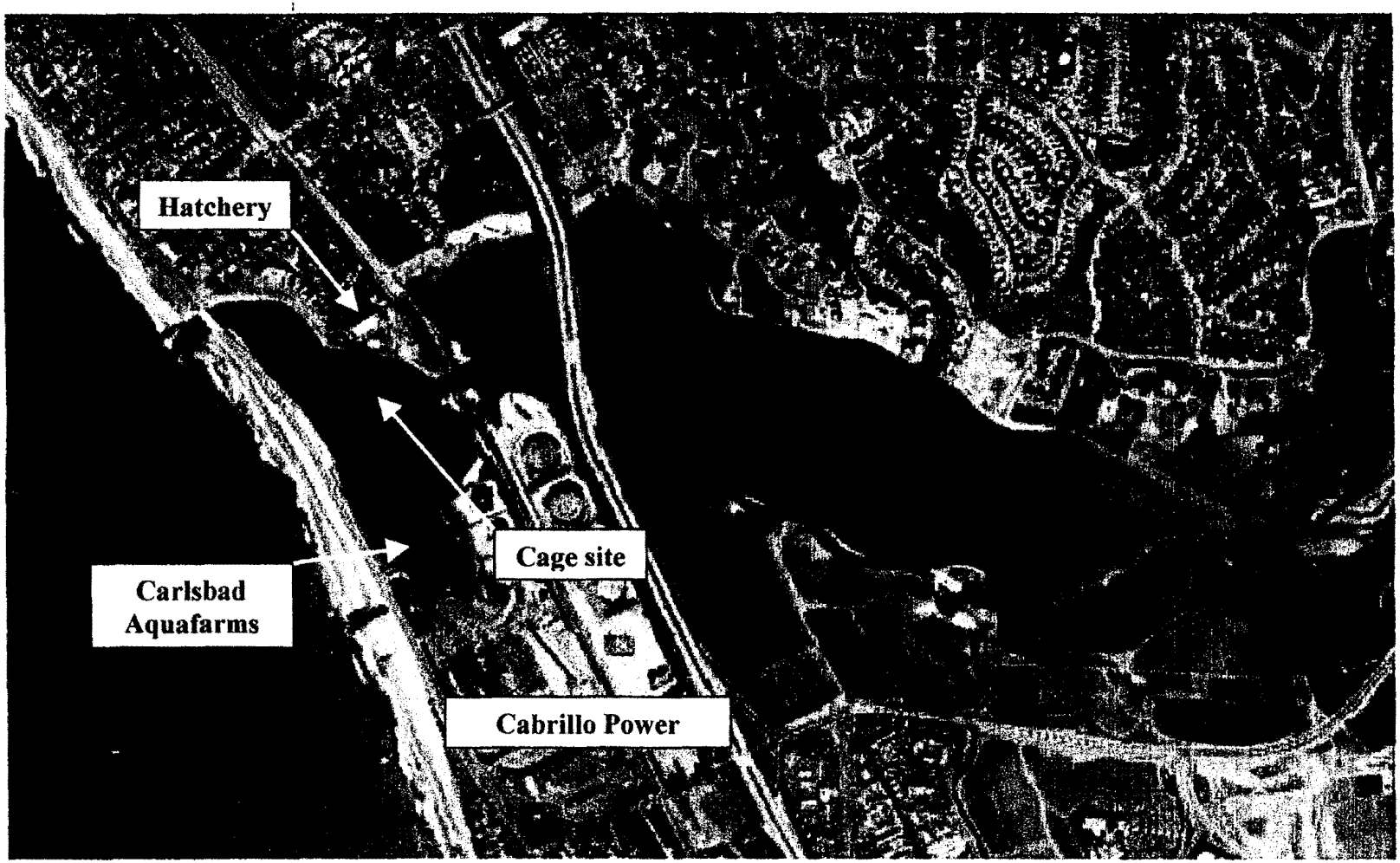
Other

Electronic communication from Mark Drawbridge, HSWRI, to Marina Cazorla, California Coastal Commission, Memo Re: HSWRI white seabass project, dated September 10, 2002

Electronic communication from Mark Drawbridge, HSWRI, to Marina Cazorla, California Coastal Commission, Memo Re: Antibiotics, dated September 15, 2002

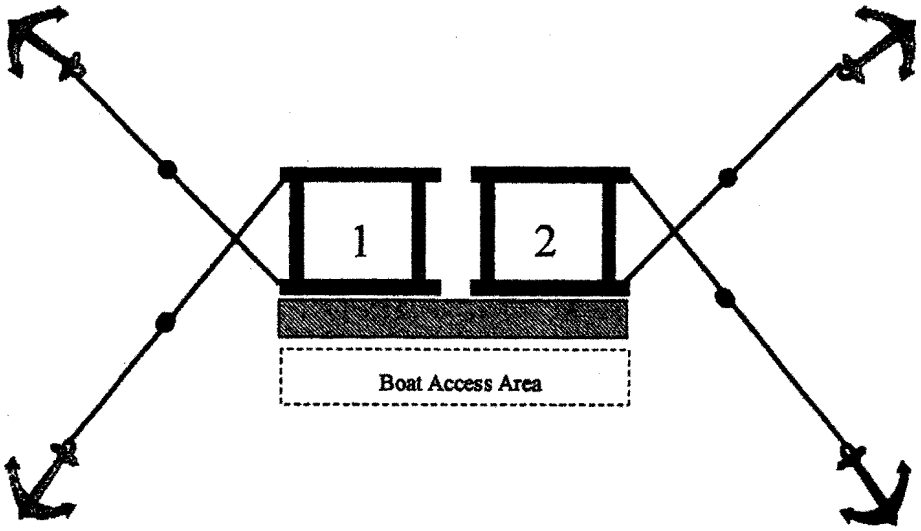
Electronic communication from Mark Drawbridge, HSWRI, to Marina Cazorla, California Coastal Commission, Memo Re: Eelgrass, dated September 18, 2002.

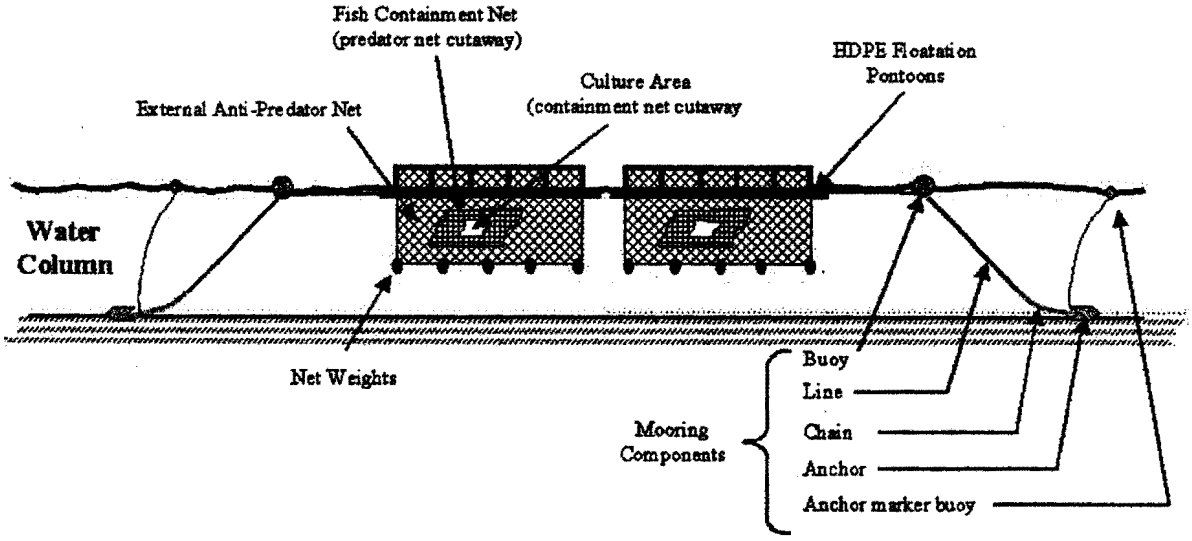
Personal communication from Bob Hoffman, NMFS, to Marina Cazorla, California Coastal Commission, September 17, 2002.



Aerial photograph of Agua Hedionda Lagoon showing proposed location of cages.

EXHIBIT NO. 1
APPLICATION NO.
E-02-010
Project Loca n





Aerial and vertical profile of mooring for a two-cage system.

EXHIBIT NO. 2
APPLICATION NO.
E-02-010
Project Diagram

Memorandum of Agreement

for the

State of California's

Experimental Marine Fish Enhancement Hatchery

between the

California Coastal Commission

California Department of Fish and Game

Ocean Resources Enhancement Advisory Panel

Southern California Edison Co.

This Memorandum of Agreement (Agreement or MOA) is entered into between the California Coastal Commission (Coastal Commission), Southern California Edison Company (SCE), California Department of Fish and Game (DFG), and Ocean Resources Enhancement Advisory Panel (OREAP), sometimes referred to as the Parties. The Parties agree as follows:

WHEREAS, the Coastal Commission has required SCE to contribute funds toward the capital costs of construction of a marine fish hatchery and toward an evaluation of its effectiveness at increasing the fish stock in the ocean, as a supplemental element to SCE's mitigation program for adverse impacts to fish that the Coastal Commission found to be caused by the operation of the SCE's San Onofre Nuclear Generating Station (SONGS) Units 2 and 3; and

WHEREAS, the Hubbs-Sea World Research Institute (Hubbs) has proposed to construct a hatchery for depleted marine species at Agua Hedionda Lagoon, in the City of Carlsbad, California; and

WHEREAS, the Coastal Commission has made SCE's expenditures of funds for a fish hatchery project contingent upon an agreement among SCE, DFG, C

EXHIBIT NO. 3
APPLICATION NO.
E-02-010
Memorandum of Agreement

Commission, and OREAP as to the funding, design, and implementation of evaluation and genetic quality assurance programs for the hatchery project.

Therefore, the Parties agree as follows:

Section 1.0. Parties

1.1. DFG The California Department of Fish and Game is the principal state agency responsible for the establishment and control of fishery management programs. The DFG is the trustee agency with jurisdiction over the conservation, protection, and management of fish, and habitat necessary for biologically sustainable populations of fish species. (Fish and Game Code (Fish & G. Code), sections 1802, 711.7.) The DFG administers the California Ocean Resources Enhancement and Hatchery Program (hereinafter, "OREHP"). The purpose of the OREHP is to support applied research on the artificial propagation, rearing, stocking, and distribution of adversely affected marine fish species that are important to sport and commercial fishing in the ocean waters off California, south of a line extending due west from Point Arguello. (Fish & G. Code, section 6592.)

1.2. OREAP The Ocean Resources Enhancement Advisory Panel is a ten member panel established by the Legislature to assist the DFG in establishing policy and direction for the OREHP.

1.3. Coastal Commission The California Coastal Commission is a state coastal management and regulatory agency with authority over the development and use of the California coast and coastal waters.

1.4. SCE Southern California Edison Company is an investor-owned electric utility serving four million customers in central and southern California.

Section 2.0. Purpose

This Agreement is to give effect to Permit Condition "E" of the March 17, 1993 Resolution of the Coastal Commission concerning SCE's Permit 6-81-330-B (formerly 183-73). A copy of the Coastal Commission's Permit Condition "E" is attached hereto as Exhibit 1. This Agreement also furthers the intent of the OREHP. Notwithstanding any other provision of this Agreement to the contrary, aside from the obligation to deposit funds as required under Section 6.1, this Agreement imposes no other obligations or duties upon SCE.

In entering into this Agreement, the Parties intend to determine if hatchery-reared depleted ocean species can artificially enhance certain stocks of various desirable species, and to ensure that the experimental hatchery program is evaluated in a scientific manner that will determine the viability and effectiveness of the project. This will help both DFG and the Coastal Commission guide future hatchery efforts and possible mitigation applications, and protect the coastal waters from any potential adverse impacts.

Section 3.0. Project Description

3.1. Hatchery Construction This project will fund the construction of an experimental marine fish hatchery for white seabass (See Appendix A). The hatchery will be operated in conjunction with grow-out facilities until the fish are large enough to be released into the marine environment at selected release sites (See Appendix D). The hatchery will be constructed and operated by a non-profit corporation. It is anticipated that volunteer angler and other groups will operate and maintain the grow-out facilities. Other parties may assume these responsibilities should the need arise.

Only white seabass will be reared in the facility. With the exception of culturing experiments, rearing of a different fish species will require an amendment to this Agreement (See Section 11.0) and to the coastal development permit for the hatchery facility.

3.2. Evaluation Program The project will be evaluated scientifically to determine its effectiveness in increasing the stock of white seabass (See Appendix B hereto).

3.3. Genetic Quality Assurance Program A program will be developed and implemented to ensure that the introduction of hatchery-reared fish into the ocean does not degrade the genetic quality of the wild white seabass stock (See Appendix C hereto).

3.4 Name In accordance with Section 6598 of the Fish and Game Code, the hatchery shall be a unit of, and known as the "California Marine Hatchery Institute."

Section 4.0. Planning and Oversight

4.1. Joint Panel; Composition

A joint panel (Joint Panel) shall be formed, consisting of one representative from each of the following entities: the Coastal Commission (appointed by the Executive Director), DFG (appointed by the Director of DFG), OREAP (appointed by the members of OREAP), the National Marine Fisheries Service (NMFS, appointed by the Science and Research Director for the Southwest Region of NMFS), and the University of California (U.C.) (appointed by the U.C. President s Office). The U.C. representative must not also serve on the OREAP or Coastal Commission Scientific Advisory Panel. SCE may participate in the Joint Panel meetings as an observer.

4.2. Responsibilities

The Joint Panel shall have the following general oversight responsibilities to ensure development of the fish hatchery and grow-out facilities:

(1) develop and oversee the evaluation and genetic quality assurance programs;

(2) develop Requests for Proposals (RFPs) or contracts to conduct the programs, consistent with requirements of State law and all relevant provisions of this Agreement;

(3) make recommendations for contractor selections to the OREAP and Director of DFG;

(4) make recommendations for development of contract terms; and

(5) oversee and evaluate contractor performance in carrying out the evaluation and genetic quality assurance programs.

4.3. Procedures The Joint Panel shall select its chairperson from among its members, and shall make decisions by a majority vote of all panel members entitled to vote. The Joint Panel shall meet as often as necessary, but at least twice a year.

Section 5.0. Environmental Quality

Permits issued by the Coastal Commission, in connection with the hatchery project, may require careful monitoring of the hatchery and grow-out facilities to ensure they are not causing significant environmental degradation. The Joint Panel shall review the potential causes of environmental degradation from the hatchery and grow-out facilities, and develop a monitoring program to be implemented by the fish hatchery operator and grow out facility operators. In addition, the Joint Panel shall make

recommendations to DFG and OREAP as to whether additional applied ecological studies should be conducted to ensure adequate monitoring, or to develop methods to reduce or eliminate the potential causes of degradation.

The hatchery contractor must satisfy the waste discharge requirements of the appropriate Regional Water Quality Control Board, adhere to the standards set forth in the Hatchery Plan, and comply with the requirements of the Joint Panel with respect to the evaluation program, the genetic quality assurance program, and the environmental monitoring program. Managers of the grow-out facilities must comply with the requirements of the Joint Panel with respect to the evaluation program, the genetic quality assurance program and the environmental monitoring program, and follow the Grow-Out Facility Procedures Manual described in Appendix A.

If, after consulting with the Joint Panel, the Executive Director of the Coastal Commission determines that the operator of the hatchery or of a particular grow-out facility is causing significant degradation of the environment, the Executive Director may recommend to the Coastal Commission, and the Coastal Commission may require, that operation of the facility be modified, or halted to abate the degradation. The parties agree to take whatever action is necessary and appropriate to enforce the Coastal Commission decisions.

Section 6.0. Funding

6.1 Hatchery Construction At the direction of the Executive Director of the Coastal Commission, within 30 calendar days of the execution of this MOA by all Parties, SCE shall deposit $1.2 million in an interest-bearing escrow account. These funds shall be expended for hatchery construction, only upon authorization of the Executive Director of the Coastal Commission, who shall have the authority to release the funds in phases. The Joint Panel may make recommendations to the Executive Director of the

Coastal Commission as to the appropriate phases in which to release the funds. No funds shall be expended until the following has occurred:

(1) The Executive Director of the Coastal Commission has approved a Comprehensive Hatchery Plan, prepared by DFG (see Appendix A).

(2) The Joint Panel has been formed.

(3) The Coastal Commission has issued a permit for the hatchery construction and all other necessary permits have been secured.

6.2. Evaluation Program DFG and OREAP shall allocate OREHP funds, consistent with the recommendations of the Joint Panel, as explained below, necessary to conduct the evaluation of the experimental marine enhancement hatchery. At DFG's sole discretion, DFG may seek additional revenue for the OREHP to supplement the existing annual budget to provide for enhanced resources for the evaluation programs, beyond the minimum requirements specified below. Subject to the provisions of Section 6.5 below, DFG and OREAP shall allocate a minimum of $170,000 per year for the Evaluation Program (see Appendix B) for the duration of the Evaluation Program (approximately 10 years after the initial releases of fish into the ocean). OREAP and DFG shall dedicate funds for the first year of the Evaluation Program (OREAP shall adopt a resolution declaring that the funds are available for expenditure), prior to the issuance of the permit for construction of the hatchery.

6.3. Genetic Quality Assurance Program DFG and OREAP shall allocate OREHP funds to implement the Genetic Quality Assurance Program (see Appendix C). The Joint Panel shall determine the amount of funding and the duration of the studies. The parties agree that Ocean Hatchery Program funds to be allocated for a Genetic Quality Assurance Program shall be approximately $70,000 annually, unless a majority of the members of OREAP and the DFG Director agree to fund a larger amount upon a specific request, with substantiation, by the Parties. The Parties agree that they shall also develop an allocation schedule for the disbursement of these

funds. Funding for the first year of genetic studies shall have been determined and dedicated by DFG and OREAP, prior to issuance of the permit for construction of the hatchery.

6.4. Grow-Out Facilities The Parties recognize that the success of the program is dependent on experimental grow-out (pen-rearing) facilities. Currently, these facilities are entirely supported by the volunteer efforts of United Anglers of Southern California and various private sport fishing clubs. At DFG's sole discretion, DFG and OREAP may support the grow-out program, to the extent DFG deems feasible, and provided that the Evaluation and Genetic Quality Assurance Programs shall have first priority for the expenditure of funds.

6.5. Selection of Release Sites

The Joint Panel will evaluate existing data, and, if necessary, will develop an RFP to help designate optimum release sites (see Appendix D). The Parties agree that if the Joint Panel determines that adequate information is available, the release sites contract may not have to be let. If the Joint Panel determines that the study is necessary, the study will be funded by the OREHP.

6.6. Conditions on Funding The Parties agree that, pursuant to Fish & G. Code section 6595, the availability of funds from the OREHP is strictly contingent on an annual Legislative appropriation of such funds, and that, absent this appropriation, DFG has no further obligation to make these funds available. DFG agrees to make good faith efforts to have such an appropriation included in the Governor's Budget and the budget approved by the Legislature, each year during the term of this Agreement.

The Evaluation and Genetic Quality Assurance Programs shall have priority over all other programs for the funds that are available from the OREHP.

Section 7.0. Contracting Procedures

7.1. Requests for Proposals The Joint Panel shall develop Requests for Proposals (RFPs) according to the requirements of the State Administrative Manual (SAM) Sections 1200–1290 and 8752, as applicable, and DFG contract procedures. These procedures will be provided to the Joint Panel by DFG. The RFP/Contract(s) for evaluation shall incorporate the evaluation criteria listed in Appendix B. The RFP/Contract(s) for genetic quality assurance shall incorporate the criteria listed in Appendix C.

7.2. Selection of Contractors The Director of DFG shall select contractors in accordance with the requirements of SAM Sections 1200–1290, and 8752, as applicable. Contractors are subject to the competitive bid requirements of SAM unless otherwise exempted. The Director of the DFG shall be guided by the Joint Panel's recommendation and advice in selecting contractors. If the Director of the DFG does not select a contractor recommended by the Joint Panel, the Director of the DFG shall provide the Joint Panel with a written explanation of the reason for the different selection. The Parties agree that these contracts will be let by the DFG Director pursuant to the SAM, and the Public Contracts Code.

7.3. Preparation of Contracts The DFG staff shall prepare contracts according to SAM Sections 1200–1290 and 8752. All contracts are subject to approval by the Department of General Services, unless otherwise exempted by State law.

7.4. Change of Contractors If the project is not terminated, but the Joint Panel determines that a new operations contractor is required, items 7.1 to 7.3 shall apply to the new operations contractor.

Section 8.0. Financial Records and Accounting

Generally-Accepted Accounting Procedures (GAAP), financial management, and accounting systems, and procedures must be maintained by the funding Parties (i.e. DFG and OREAP), and the contractors, which provide for (1) accurate, current and complete disclosure of all financial activity for the marine hatchery program, (2) effective control over, and accountability for all funds, property and other assets related to the program, (3) comparison of actual outlays with budgeted amounts, and (4) accounting records supported by source documentation. Semi-annual financial reports showing current and cumulative financial activity must be provided to the Joint Panel. This work must meet state-approved methods under the SAM. All program records must be available at any time for examination by the Joint Panel.

The funding parties shall retain all pertinent books, documents and papers, including financial transactions and supporting documents, and policies and procedures for the general accounting system, internal controls, and management practices for a period of three years following the date(s) of all final payment(s) under the Agreement.

Any of the parties can request that an audit be conducted at its own expense by an independent, certified public accountant. Copies of the audit report shall be provided to all Parties to this Agreement.

Section 9.0. Rights in Data

All data, including, but not limited to, reports, drawings, blueprints, technical information, financial information, and contracts, resulting from the implementation of the Agreement shall be the joint property of all parties to this MOA. Notwithstanding the foregoing, any Party to the Agreement, or to a contract prepared hereunder, may use the data for its own purposes, including publication, provided a statement is included

with each publication of the data that the views expressed are those of the individual party alone, and not of the other Parties.

Section 10.0. Dispute Resolution

A failure on the part of any of the Parties to carry out the terms of the Agreement shall result in the following process. First, the party that believes another party is failing to carry out the terms of the Agreement shall present the problem to the Joint Panel for resolution. If the Joint Panel cannot resolve the issue to the satisfaction of the Party, the Party may bring the issue to the Executive Director of the Coastal Commission and the Deputy Director for Fisheries of the DFG, who shall jointly try to resolve the problem. If the Executive Director of the Coastal Commission and the Deputy Director for Fisheries of the DFG cannot resolve the issue, the matter shall be referred to the Secretary for Resources for resolution.

Section 11.0. Modification

The Agreement may be amended only in a writing executed by all of the Parties.

Section 12.0. Termination

12.1. Initial Term This Agreement shall be effective upon execution by all Parties, and shall continue in effect until December 31, 2002, unless sooner terminated or extended as provided herein.

12.2. Extension If the Legislature extends the Ocean Hatchery Program beyond December 31, 2002, the Parties agree to extend this Agreement for the period of time determined by the Joint Panel to be necessary to complete the evaluation program (the length of the program is approximately 10 years after initial fish releases) or Genetic Quality Assurance Program, provided, however, that no extension shall be

effective beyond the date that the legislature has extended the Ocean Hatchery Program.

12.3. Early Termination

12.3.1. Mutual Agreement This Agreement may be terminated at any time by written mutual agreement of all the Parties.

12.3.2. Failure of Legislative Authority or Appropriation In the event that the Legislature repeals Article 8 of Chapter 5 of Division 6 of the Fish and Game Code, which provides for the OREHP, DFG, upon notice to the other parties, may withdraw from this Agreement as of the effective date of such repeal. The Agreement then shall terminate as to all other Parties, 30 days after DFG's withdrawal. In the event that the Legislature fails to appropriate funds for the OREHP, DFG may withdraw from this Agreement as of the last day of the fiscal year in which such funds have been appropriated. The Agreement then shall terminate as to all other Parties, 30 days after DFG's withdrawal.

12.3.3. Other Events Justifying Early Termination Any Party may effect the termination of this Agreement, upon 30 days notice, if the operation of the hatchery ceases for any of the following reasons:

(a) The operator loses the rignt to occupy the land upon which the hatchery is built, or is to be constructed;

(b) The operator ceases to exist as a non-profit entity, and another entity does not qualify to assume management and operation of the hatchery;

(c) The operation of the hatchery becomes impossible or impractical due to the occurrence of some event of force majeure.

12.3.4. Disposition of Assets

Upon termination of the MOA, the disposition of the hatchery building and raceways will be the responsibility of the operations contractor. Disposition of the hatchery fish will be the responsibility of DFG or its agent. Unexpended OREHP funds shall remain in the OREHP account for disposition by DFG. Equipment purchased with OREHP funds shall be declared surplus by the state and appropriate resolution made as determined by DFG. Any equipment purchased by the operations contractor (with non-OREHP funds) shall revert to that contractor.

Section 13.0. Designation of Party Representatives

For purposes of this Agreement, each of the representatives listed below may exercise all the rights and discharge all the obligations of the represented Party, to the extent otherwise permitted by law.

Coastal Commission: Executive Director

SCE: Chief Executive Officer

DFG: Deputy Director for Fisheries

OREAP: Panel Chairman

The designated representatives listed above may delegate any of the responsibilities or authority specified in this Agreement to other members of their respective staffs. However, no Party shall assign any of its responsibility or authority to any other person or entity, without the consent of all other parties.

IN WITNESS WHEREOF, the Parties have executed this Memorandum of Agreement to this effect as of the date last signed below.

CALIFORNIA COASTAL COMMISSION

By: Peter Douglas — 4/1/94

Peter Douglas
Executive Director

Date

CALIFORNIA DEPARTMENT OF FISH AND GAME

By: Boyd Gibbons — 4/6/94

Boyd Gibbons
Director

Date

OCEAN RESOURCES ENHANCEMENT ADVISORY PANEL

By: Robert C Fletcher — 3-28-94

Robert Fletcher
Panel Chairman

Date

SOUTHERN CALIFORNIA EDISON

By: _____

John R. Fielder
Vice President

Date

APPROVED
BRYANT C. DANNER
Senior Vice President
and General Counsel
By _____
Attorney
_____ 19__

APPENDICES

APPENDIX A: Comprehensive Hatchery Plan

The DFG shall develop a comprehensive hatchery plan and submit it for approval to the Joint Panel and the Executive Director of the Coastal Commission. The plan shall address the objectives set forth below:

(1) The Hatchery Plan will describe the methods for producing white seabass, including answers to the following questions:

   a. How will the broodstock be collected and maintained?

   b. How will eggs be produced?

   c. How will larvae be cultured?

   d. How will post settlement offspring be maintained?

(2) The Hatchery Plan will describe the methods for tagging all fish that are to be released, and how a tag database will be maintained.

(3) The Hatchery Plan will describe the procedures for the grow-out and release of the fish.

(4) The Hatchery Plan will describe the methods for transporting fish from the hatchery to the grow out facilities and from grow out facilities to release sites, if different.

(5) The Hatchery Plan shall provide standards for measuring the success of the hatchery. This will include a bioeconomic model.

(6) The Hatchery Plan will provide an enhancement objective, i.e., what biomass or catch will be considered the endpoint for restoration of the fish population.

(7) The Hatchery Plan will provide a budget and schedule for hatch construction.

(8) The Hatchery Plan shall be revised after the first year of operation, and biennially thereafter to provide samples for the Genetic Quality Assurance Program when required, and will incorporate any relevant findings and standards from the Genetic Quality Assurance Program, determined appropriate by the Joint Panel.

(9) The OREAP, in consultation with the DFG, shall develop a procedures manual that all grow-out facilities will be required to follow. The manual will standardize the operation of the grow-out facilities. The procedures manual will address the following: (A) application process, (B) site selection, (C) pen design and manufacture, (D) preparation for receiving fish, (E) feeding, (F) monitoring, recognition and treatment of diseases, (G) preparation for release of fish, and (H) record-keeping procedures.

As noted, in Project Description, section 3.1 above, the grow-out facilities will be operated separately from the hatchery by volunteer groups. As the program progresses, there will be a need to update both the Hatchery Plan and the Grow Out Facilities Manual. The Joint Panel will annually determine if these documents need revision. Likewise, the exact amount of funding designated for individual programs may be changed when justified and approved by the Joint Panel. The revision and funding noted above are contingent on availability of DFG resources and legislative appropriation.

Appendix B: Evaluation Program

The evaluation program shall have two stages: (1) the nearshore habitat sampling program for young white seabass (years 1–4), and (2) the ocean sampling program for adult white seabass (years 5–8). The evaluation proposals shall be judged primarily on the ability of each proposal to achieve the criteria for the Nearshore Habitat Sampling Program, and Ocean Sampling Program, as described below:

Nearshore Habitat Sampling Program. This Program monitors fish released nearshore, so that a baseline database may be established for survival of adult fish. Criteria for this program include:

(1) Released fish should be counted accurately and marked, so their source, date of release, place of release, and numbers released can be determined if they are subsequently recaptured.

(2) The field sampling program should include the following tasks:

a. Estimate an index of abundance that is proportional to the absolute numbers of fish present in each habitat sampled.

b. Estimate the fraction of fish that are marked or are wild, soon after release and sometime later, so as to estimate apparent mortality rates or survival, and determine whether these rates vary among habitat, regions, or seasons.

c. Use the information from (a) and (b) to determine, as near as possible, optimal stocking densities and seasons for individual habitat areas, taking into account the possibility that survival may vary among habitats and seasons, and that the release of juvenile fish may saturate habitat areas.

Ocean Sampling Program

(1) Heads of legal-sized white seabass should be collected by the appropriate contractor from anglers and commercial passenger fishing vessels in cooperation with DFG personnel and private parties. The heads will be examined for the presence of tags.

(2) The study should be well publicized to inform the public, and known opponents, about the purpose of the sampling thereby increasing the likelihood of recovering heads of tagged fish.

(3) The data from the ocean sampling program should be used to estimate the contribution of hatchery fish to the catch, and estimate the mortality rate of hatchery fish.

Appendix C: Genetic Quality Assurance Program

The following section contains the objectives of the Genetic Quality Assurance Program. Some of the objectives will be achieved through genetic studies, others address aspects of the hatchery operation. The Joint Panel shall incorporate relevant findings from this program into the Hatchery Plan. As described in Section 4.2, the Joint Panel shall develop an RFP for genetic quality assurance contract(s), evaluate proposals, and recommend a contractor to the Director of the DFG. The genetic quality assurance proposals will be evaluated primarily on the ability of each proposal to achieve the relevant criteria listed below.

(1) Determine the genetic variability and structure of the wild population. The Joint Panel will determine whether the genetics, genetic structure, and genetic variability of white seabass are already adequately known, or whether the existing database should be expanded and more precise techniques developed. If additional studies are needed, they shall include enough individuals and sampling locations and enough loci to characterize the population and monitor changes in the population over time. The first year of studies shall be completed before any substantial releases (>100,000) of hatchery reared fish.

(2) Assure that the hatchery releases protect the existing amount of genetic variability and structure of the wild population.

(a) Determine whether actions are needed to protect the existing amount of genetic variability and structure present in the wild population. This may require, for example, that the minimum effective broodstock size needed to maintain the genetic diversity of white seabass must be determined and maintained.

(b) Assess the impact of the releases on the genetic variability and structure of the wild population. Genotypes of all spawners and an

adequate sample of each batch of their offspring at the time they are released to the wild shall be monitored as a quality assurance measure to document hatchery contributions to the wild stock and to provide data to detect long-term changes in the genetic diversity of the wild population.

(c) If data from B(2) indicate that the hatchery is causing long-term changes in the genetic variability or structure of the wild population, assess whether additional actions are needed to protect genetic variability and structure.

Appendix D: Selection of Release Sites

The Joint Panel will evaluate existing data, and, if necessary, will develop an RFP to help designate optimum release sites. The Parties agree that if the Joint Panel determines that adequate information is available, the release sites contract may not have to be let. If the Joint Panel determines that the study is necessary, the study will be funded by the OREHP.

The study shall be designed to answer the following questions:

(1) What types of habitat do small white seabass (the same size as released fish) use?

(2) Where can white seabass be released with the best chance of survival?

Based on the results of this study, a review of existing information, the results of the genetic quality assurance studies, the Joint Panel will develop a plan for sites for release of depleted ocean species.

EXHIBITS

1) Coastal Commission Permit Condition "E". (See attached).