PROPOSED SUPPLEMENTAL ENVIRONMENTAL PROJECT TO SUPPORT RESTORATION OF THE LOCAL MARINE ENVIRONMENT

Understanding of the Problem and Proposed Remedies

The Clean Water Act regulates plastics and suspended solids as pollutants through its NPDES permitting process and, in particular, its storm water pollution prevention regulations as implemented in the case by Airtech through the California Water Resources Control Board's Industrial General Permit.

Discharges of plastic pellets and suspended solids can cause significant harm to the marine environment, as has been observed in the Orange County coast area, including significant loss of eelgrass and oyster habitat. Such damage due to regulated pollutants discharged from industrial facilities can be reduced through Best Management Practices (BMPs), administrative controls and monitoring required of facilities operating under the State Industrial General Permit. However, as discussed in this SEP proposal, there are actions that can be taken to mitigate currently existing harm to the marine environment.

This SEP arises out of observations made by the U.S. EPA Region IX Office of Water Programs, which identified the presence of plastic pellets and other pollutants—primarily suspended solids—potentially in contact with storm water at the Airtech facility, which is in the plastics industry. In response to the Agency's Administrative Order for compliance, Airtech achieved compliance with the State Industrial General Permit and the Order was terminated on June 3, 2019. Monitoring results indicate the facility is a source of Total Suspended Solids (TSS) and, based on its presumed historical discharge of plastic pellets and TSS, has contributed to the damage to the coastal marine environment.

To remediate environmental harm and to further reduce pollutant discharges at the source, Airtech proposes an environmental restoration project to be performed under contract by the Orange County Coastkeeper organization.

The SEP will include three distinct aspects of marine restoration in the Huntington Beach—Newport Beach coastal area:

One, Orange County Coastkeeper's Marine Restoration Program will conduct five Huntington Beach clean-up events;

Two, Orange County Coastkeeper will perform a project to enhance its oyster habitat restoration activities by sampling followed by replacing more oyster shells than removed to promote greater future habitat density; and

Three, Orange County Coastkeeper will survey eelgrass density in selected areas or plots and replant underpopulated plots of this critical component of the coastal ecosystem to assure a 60% density target for sustainability.

Each of these projects have a nexus to the type of Clean Water Act violations observed at the Airtech facility as it manufactures plastic products, which are part of beach litter and handles plastic pellets, which, if discharged with storm water are harmful to oysters, and its facility is a source of suspended solids adversely affecting eelgrass.

These three projects in tandem will help restore the damaged marine environment and support Orange County Coastkeepers' mission of community involvement in protection of the coastal ecosystem, and to substantially reduce the adverse effects of storm water pollution.

A full description of the Orange County Coastkeeper's Agreement with Airtech to accomplish the SEP's objectives and its cost details are included in Attachment 1. The proposed SEP cost, which is dedicated solely to fund Coastkeeper's marine restoration projects, is $66,120.

Coastkeeper Projects Meet SEP Guidelines

- *A SEP must improve, protect, or reduce risks to public health or the environment, although in some cases a SEP may, as a secondary matter, also provide the violator with certain benefits.*

  This SEP proposal will improve the currently damaged coastal environment by removing beach contamination, including plastic materials, and restoring oyster and eelgrass habitat through contracted services performed by Orange County Coastkeeper.

- *A SEP must be in settlement of an enforcement action.*

  This SEP is proposed in connection with an enforcement action by U.S. EPA.

- *A SEP is not otherwise legally required to perform.*

  Airtech is not otherwise legally required to perform the proposed SEP.

  This proposal also meets all guidelines a SEP must meet.

- *All projects must have sufficient nexus, a relationship between the violation and the proposed project.*

  The enforcement action alleges violation of § 301(a) of the Clean Water Act, 33 U.S.C. § 1311(a) due to discharge of water pollutants without NPDES permit authorization. This SEP would directly benefit the marine coastal environment impacted or potentially impacted by the alleged violations by removing and properly disposing of plastic and other debris from local beaches and mitigating damage to eelgrass and oyster habitats damaged by plastic and suspended solids or turbidity.

- *The SEP may not be inconsistent with any provision of the underlying statutes that are the basis of the enforcement action and must advance at least one of the objectives of the environmental statutes that are the basis of the enforcement action.*

  The objective of the Clean Water Act's storm water pollution prevention regulations is to improve environmental quality of affected waters by reducing discharges or the threat of discharges of pollutants carried by storm water run-off into those waters. This SEP is not inconsistent with the Clean Water Act and will directly improve water quality by removing coastal debris and potential pollutants from waterways and restoring compromised marine ecosystems.

- *A SEP may not be an agreement to spend a certain amount on a project that will be defined later. Type and scope of the project must be clearly defined for a case team to establish nexus.*

  This SEP is a clearly defined three-part project that will restore the Orange County coastal environment through specified project elements to be performed under contract between Airtech and Orange County Coastkeeper.

Qualifying Categories of Acceptable SEPs

Of the seven qualifying categories of acceptable SEPs, this SEP would primarily qualify as an Environmental Restoration and Protection Project.

Environmental Restoration and Protection (Category D)

This SEP's Environmental Restoration component is a three-part project to conduct beach plastic and debris clean-ups and restore the ecosystem directly affected by historical discharges of plastic pellets and TSS particulate through the eelgrass and oyster bed habitat restoration project designed by Orange County Coastkeeper under contract with Airtech. This project meets the SEP guidelines definition of an Environmental Restoration and Protection category.

Goals and Success Criteria for SEP

The goals of this aspect of Airtech's SEP as set forth in Coastkeepers' project description [Attachment 1] are to 1) conduct five additional Huntington Beach clean-up events to remove a substantial amount of plastic and other types of debris from the beach area and properly dispose it; 2) extend and expand Newport Bay marine ecosystem restoration and expansion of oyster habitats through sampling and replacing oyster shells to maintain this marine resource; and 3) survey and replant deficient eelgrass plots. An additional benefit of this overall project is to expand outreach activities to include more educational opportunities and participation by volunteers and other participants interested in monitoring and maintaining restored marine habitats.

Success of the project will be measured by the monitoring process and its projected results, which are expected to show a statistically greater density of native oysters in restored plots where shell habitat has been added compared to non-enhanced control plots. The project will result in enhancement of significant areas of oyster shell coverage and eelgrass beds over the course of the project. The critical need for marine restoration projects as proposed by this SEP has been identified by NOAA Fisheries West Coast Region, which, in response to damage of eelgrass habitats crucial to the marine ecosystem has adopted an Eelgrass Mitigation Policy to study and implement restoration projects similar to this SEP. Contaminated storm water has been identified as a cause of eelgrass along with oyster habitat deterioration. As a further linkage to the storm water pollutants involved in this SEP, the *Los Angeles Times* reported on February 9, 2016 the extent to which plastic pellets and microplastic pollutants adversely affect oyster populations based on several studies in both laboratory and marine settings. [*See* Attachments 2 and 3.]

Measurement of success of the Airtech-sponsored Orange County Coastkeeper project will be shown by the following goals, which have a high probability of success given Coastkeeper's experience and track record, and Airtech's oversight.

Beach Clean-ups: This aspect of the SEP will support five beach clean-up events located between Huntington Beach and the mouth of the Santa Ana River, which is a point of a large accumulation of trash and debris, as more fully explained in Coastkeeper's work agreement (Attachment 1). Based on past beach clean-ups, hundreds of pounds of litter, including particularly harmful small items like cigarette butts, will be collected and properly disposed. The project's progress reports provided to Airtech for oversight will document the times, locations, volume of debris gathered and the disposal method.

Oyster Bed Survey and Shell Replacement: As explained in Attachment 1, Orange County Coastkeeper's oyster bed restoration project will sample oysters in newly-created oyster restoration sites in Upper Newport Bay, including collecting oysters and examining them to determine their size and condition, which is necessary to determine success of existing repopulation efforts, plus adding replacement oyster shells to restore habitat for future oyster population expansion. Approximately 80 oysters, representative of eight plots will be sampled and shells added to bring the coverage of shells in plots from 70 to 80%. Success of this aspect of the SEP will be measured by periodic reports directed to Airtech's attention describing the day, number of oyster harvests and shell replacements, and other relevant information.

Eelgrass Replanting: As described in Orange County Coastkeeper's Work Agreement at Attachment 1, eelgrass is a critical component of the marine habitat in terms of sheltering and providing food for fish and invertebrates, birds and sea turtles. In addition, eelgrass improves water quality by filtering polluted storm water run-off and by absorbing carbon dioxide and excess nutrients, thereby reducing adverse effects of these pollutants. However, eelgrass presence has been severely harmed by such pollutants and other human activities to where its coverage and density has been significantly diminished in the Orange County coast marine environment. This aspect of Coastkeeper's work for Airtech will include surveys of extent of eelgrass deterioration measured by density and will replant eelgrass plots with less than 60% density to improve sustainability. Measurement of success of this aspect of the SEP will include documentation in progress reports provided to Airtech for oversight of the number of plots replanted; it is expected that up to 320 square meters of eelgrass habitat will be affected.

SEP Cost/Budget

The total SEP cost proposed is $66,120, which is the cost of the three elements.

Orange County Coastkeepers Restoration Project

Orange County Coastkeeper's September 25, 2019 project description explains these costs in detail. The following is a summarized breakdown of this sum, which is described more fully in Attachment 1.

Beach Clean-Ups (5 Events):

• Staff Time	$5,000
• Vehicle Expense	2,000
• Clean-up Supplies	2,000
• Other Material Costs	1,000
SUBTOTAL	$10,000

Oyster Bed and Eelgrass Restoration:

• Staff Project Manager	$30,750
• Professional Diver Support	1,000
• Communication Services	2,500
• Field Supplies	2,850
• Boat and Related Supplies	7,500
• Travel Costs	500
SUBTOTAL	$45,100
Administrative Indirect Costs	$11,020
COASTKEEPER SEP COSTS TOTAL	**$66,120**

Note: The project, although managed by Coastkeeper under contract to Airtech, relies to a significant extent on unpaid volunteer participants, which will maximize the true value of the project. In addition, Airtech will offer incentives for its own employees to participate in beach clean-ups.

Reports and Deliverables

Pursuant to requirements of the contract between Airtech and Orange County Coastkeeper, periodic progress reports will be required and reviewed by Airtech. These reports will describe tasks completed and measurable results; for example, after a beach clean-up, the date and area cleaned, volume or weight of debris collected and its disposal location. Similarly, the oyster sampling and shell replacement tasks will be reported with quantitative results. Airtech will keep records of these activities under the SEP to assure and document performance and facilitate the final report.

All work pursuant to this SEP can be completed in Calendar Year 2020. A mid-2020 report on progress is proposed, and any other conditions included in the Consent Agreement and Final Order incorporating the SEP will be satisfied.

ATTACHMENT 1

ORANGE COUNTY COASTKEEPER®

Costa Mesa, CA 92626
Phone 714-850-1965
www.Coastkeeper.org

September 25, 2019

Work Agreement with Airtech and Orange County Coastkeeper

Mission of Orange County Coastkeeper:

Founded in 1999, Orange County Coastkeeper (Coastkeeper) promotes and restores water resources that are Drinkable, Fishable, Swimmable, and Sustainable. Coastkeeper is a nonprofit clean water organization that serves as a proactive steward of our fresh and saltwater ecosystems. We have successfully restored habitats in southern California, engaged thousands of K-12 students in hands-on watershed education, and provide scientific data to governmental agencies at every level to advocate for clean water. We work collaboratively with diverse groups in the public and private sectors to achieve accessible and sustainable water resources for the region. We implement innovative, effective programs in education, advocacy, restoration, research, enforcement, and conservation.

Program and Project Description:

Since its founding in 1999, Coastkeeper has been putting advocacy into action to protect Orange County's watersheds, harbors, and coastal waters and has spearheaded multiple habitat restoration projects. These include eelgrass restoration since 2012 in Upper Newport Bay, giant kelp restoration from 1999 to 2005, green abalone restoration from 2010-2012, and native Olympia oyster restoration in 2012 and 2017. In 2017, along with collaborators, Coastkeeper restored 240 square meters of oyster habitat and has restored almost an acre of eelgrass in Upper Newport Bay (UNB) in one of the largest attempted oyster and eelgrass restoration projects in Southern California to date. The creation of the oyster habitat along with additional planted eelgrass will provide benefits extending well beyond its size in the bay. We see this project as instrumental in fulfilling the core of our mission of improving water quality so that our community can enjoy this important resource.

Our Upper Newport Bay project utilizes a living shoreline approach through integrated restoration of the native Olympia oyster and eelgrass. As foundation species, oyster and eelgrass populations are crucial habitat for many important species, including commercial fishery species. Oyster beds and eelgrass meadows provide habitat and foraging grounds for a diverse community of fish, invertebrate, and bird species, dramatically increasing biodiversity. They also deliver several ecosystem services such as improving water quality, cycling nutrients, sequestering carbon, stabilizing sediments, and attenuating wave energy. This project was created out of the critical need to protect, enhance and restore these habitat forming species to increase their resiliency to future change and preserve the ecosystem benefits they provide.

Cleanup OC is Coastkeeper's volunteer-led trash removal and community involvement program. Coastkeeper coordinates 2 monthly beach cleanups, quarterly Adopt-A-Channel cleanups, and seasonal creek cleanups. Cleanup OC reaches an average of 5,000 volunteers annually. The trash found along our coast and within our aquatic ecosystems, often referred to as marine debris is an ever-growing concern for ecosystem vitality, recreational and cultural importance and food system reliability.

Scope of Project:

Coastkeeper will enter into a contract with Airtech to provide three coastal projects, including: beach cleanups and two marine restoration projects as described below. Airtech's SEP Project will contribute 5 additional community beach cleanups at Huntington State Beach and an assessment of a recent oyster restoration effort to determine the effectiveness and answer key unresolved questions around the success of integrated habitat restoration while providing additional shell to supplement the Olympia oyster restoration project, and supplement planted eelgrass restoration area.

Beach Cleanup:
So far this year, we've collected 1,087 lbs. at Huntington Beach and have had roughly 9 cleanups there - the average is about 100+ lbs. per cleanup; however there can be a large range with one cleanup collecting 325 lbs. and others low as 55lbs. The proximity of our Huntington Beach site to the mouth of the Santa Ana River creates a large point source of trash and debris, particularly during wet and rainy seasons. Additionally, vehicles traveling on Pacific Coast Highway, beachgoers using picnic areas and fire pits, as well as pedestrians utilizing the bike trail, are all additional sources of debris. The focus of our cleanup program is not necessarily in the quantity of pounds or volume of items collected but in the types of objects that often go unnoticed such as cigarette butts, plastic bottle caps, and food wrappers. This contract will increase our ability to capture more of these items per cleanup (see supplies budget below).

Oyster Bed Survey and Shell Replacement:
Micro plastics are known to damage marine life, and oysters as filter feeders are particularly vulnerable to these anthropogenic inputs of pollutants. In addition to providing increased habitat resilience, oyster restoration provides enhanced habitat for species and considerable shoreline protection benefits. One of the goals of our habitat restoration project is to demonstrate the effectiveness of innovative oyster bed creation to provide shoreline protection and climate change adaptation, along with greater ecological benefits than traditional shoreline stabilization techniques. Airtech will provide additional instrumentation to tease out the factors associated with oyster and eelgrass restoration success. This project will support an assessment of newly created oyster restoration sites in upper Newport bay and sampling of the beds via hand excavation of 1-gallon Zip loc bags to sort and count juvenile oysters. When the plots are excavated the shell is then replaced in each plot (8 plots, 10 samples per plot for a total of 80 samples). This project will support the staff time, transport and materials for this work (see budget below).

Eelgrass Replanting:
In addition to the oyster restoration work this project will support an eelgrass density survey and replanting of plots with coverage below our target density. According to NOAA Fisheries West Coast Region, eelgrass is one of nature's most valuable and productive habitats in the marine environment: "Eelgrass provides a number of important ecosystem functions, including foraging areas and shelter to young fish and invertebrates, food for migratory waterfowl and sea turtles, and spawning surfaces for species such as the Pacific herring. By trapping sediment, stabilizing the substrate, and reducing the force of wave energy, eelgrass beds also reduce coastal erosion. In fact, eelgrass forms the base of a highly productive marine food web. [This] unique habitat also produces food and oxygen, improves water quality by filtering polluted runoff, absorbs excess nutrients, stores greenhouse gases like carbon dioxide, and protects the shoreline from erosion. There has been significant degradation of eelgrass, primarily from human impacts such as urban development, dredging, pollution, and sediment runoff from upland areas."

As part of the survey, additional eelgrass restoration in plots with less than 60% cover will be re planted providing additional restoration acreage to our living shorelines project in Upper Newport Bay. Each plot is 20 x 8 meters, and we anticipate re planting of up to 6 plots, for additional coverage of up to 320 square meters.

Budget Description:

Beach Cleanup Activities:
The following is a detailed description of the costs of this beach cleanup program. Costs include staff time ($5,000), allowing for 235 hours and would provide time for planning, coordinating, and executing 5 beach cleanups. Another portion of the funding ($2,000) would support routine upkeep and maintenance of Coastkeeper's vehicle (insurance, fuel). Additionally, a share of the project funds would allow Coastkeeper staff to purchase and replenish their current supply of latex gloves, reusable bags, sand sifters, trash grabbers, storage bins, pens, and paper ($2,000). Material costs for educational displays include glass jars and promotional materials leaflets & pamphlets to be incorporated into cleanup and outreach efforts ($1,000).

Restoration Activities:
A portion of the project funds will go to support staff time of the project manager ($30,750), Coastkeeper's marine restoration program director who is responsible for monitoring field work, project oversight, reporting, and coordinating volunteers and interns. While most of our field work is conducted by students and volunteers, $1,000 will support occasional dive support assistance from trained professional scientific divers. The other portion of personnel cost is associated with maintaining communications about the project including outreach to stakeholders, media, website, and social media posts ($2,500). We have minimal costs associated with expendable field supplies (clip boards, counters, probes, quadrat materials, stakes, transect tapes and shell transport materials, $2,850). Other supply costs for our restoration project include costs associated with using and maintaining our boat; occasional captain fees, storage and launch fees, maintenance and fuel ($7,500). Travel costs include attending local outreach events and mileage to and from the field sites which is billed at a cost of .58 cents per mile ($500).

Our total direct costs are $55,100 and indirect costs for administration are included at 20% ($11,020) for a total request of $66,120.

Goals and Criteria to measure success:

Coastkeeper will endeavor to remove as much plastic and debris as possible with this agreement and will track the total number of pounds of debris removed per cleanup. Periodic reports will demonstrate to Airtech successful completion of beach clean-ups and amount of debris collected and disposed.

For the oyster restoration project we are endeavoring to maintain statistically greater density of native oysters in restored plots where shell habitat has been added, relative to densities present pre-construction and in control plots where habitat has not been manipulated. We also endeavor to maintain at least 70% shell cover and 80% of the original oyster restoration area. Regarding eelgrass, this aspect of the restoration project will increase the density of eelgrass in established plots to at least 60%. We will measure progress and success towards these metrics via regular visits and annual in depth sampling of the restored habitat. Periodic reports will provide updates and a summary of progress and accomplishments to Airtech.

Reports and Deliverables:

Airtech will be responsible for project completion and success through communications and review of progress reports and preparation of a final report on deliverables. Coastkeeper will provide periodic reports on a schedule as determined by the contract, reporting on activities of cleanups and restoration.

For Orange County Coastkeeper

Katie Nichols
Marine Restoration Director

ATTACHMENT 2

SCIENCE

Plastic microbead pollution harms oysters, the ocean's critical ecosystem engineers, study finds

Farmers harvest oysters in Samish Bay, Wash., in 2008. A recent study found microplastic pollution harms Pacific oysters, which are grown for food on the West Coast. (Liz O. Baylen / Los Angeles Times)

By SEAN GREENE
DATA JOURNALIST

FEB. 9, 2016
11:25 AM

Oysters eat by filtering the water around them and digesting anything small enough to trap, whether that's algae, phytoplankton — or tiny pieces of plastic floating in the ocean.

It stands to reason that the plastic isn't good for them. Now scientists know why: It takes such a toll on their digestive systems that their ability to reproduce is cut almost in half, according to a study published this month in Proceedings of the National Academy of Sciences.

Scientists recently estimated that the world's oceans contain more than 5 trillion floating plastic particles, which have a combined weight of 250,000 tons.

Microplastic pollution "has been found on almost every beach worldwide, on polar icecaps and just about everywhere in the ocean," said Arnaud Huvet, a marine physiologist at the French Research Institute for Exploitation of the Sea. "It's a real concern for marine ecosystems."

The pollutants find their way to the ocean when cosmetics, hygiene products and toothpaste containing plastic microbeads wash down the drain or when larger plastic products break down in seawater. About 4 million to 12 million tons of plastic enters the ocean each year, and that amount is expected to increase tenfold by 2025, according to a 2013 study in Science.

How does all that plastic debris impact ecosystems?

To find out, Huvet and colleagues looked to the Pacific oyster (*Crassostrea gigas*), a species of commercial, ecological and culinary importance around the world.

The researchers set up experimental tanks in which half the oysters received a steady diet of microalgae (their normal food) and the other half, a combination of microalgae and polystyrene microspheres.

The oysters readily gobbled up the plastic particles, which were similar in size and shape to the phytoplankton they typically eat.

These oysters ate more algae — and absorbed it more efficiently — to compensate for eating so much plastic, the study authors wrote.

But that wasn't enough. The oysters spent so much energy dealing with the plastic in their digestive systems that they had less energy left over for reproduction.

For male oysters, that meant sperm cells were slower. For females, it meant fewer and smaller oocytes, which develop into egg cells. Compared to the oysters in the clean tanks, oysters exposed to the plastic produced 41% fewer offspring, and they were 20% smaller.

The researchers also found the plastic spheres did not stick inside the oysters' guts, suggesting much of the material passed through their systems undigested. In the real world, oysters would also ingest larger irregularly shaped particles, which could persist in their guts for longer, potentially causing damaging inflammation, the researchers wrote.

Huvet said more research is needed on both wild and farmed oysters to really measure the impacts of microplastic pollution, but he expects strong populations of the highly fertile oysters to withstand the reduction in offspring.

Native to the east coast of Asia, Pacific oysters have traveled the world with humans looking to establish farmed populations. In some places, introduced Pacific oysters have fully taken up residence in local estuaries — so much so in Northern Europe that they're regarded as pests, Huvet said.

However, for weaker populations of Pacific oysters — or for sparser native species such as Europe's flat oyster, the West Coast's Olympia and the East Coast's eastern oyster — the decrease in quality offspring could pose a problem, Huvet said.

On the West Coast, the larger and more appetizing Pacific oysters were introduced to the waters off California, Oregon and Washington after the native Olympia oyster all but disappeared. These waters are too cold for Pacific oysters to really take off, and populations tend to be sparser and more disconnected.

As oysters live and reproduce, their shells stick together and build reefs off the shoreline. These reefs protect coastlines from floods and provide habitat for commercially important species.

But plastic pollution makes that essential work more difficult, said George Waldbusser, an ocean ecologist and biogeochemist at Oregon State University who was not involved in the study. And it adds to a growing list of stressors impacting oyster populations.

The bivalves are also threatened by ocean acidification, oxygen dead zones, rising temperatures and climate change — all of which can be traced back to humans, he said.

"I am wondering when the bivalves will decide to go on strike for better working conditions when you consider all the things we throw at them in our estuaries," Waldbusser said. "They are essentially critical ecosystem engineers that do many positive things for

humanity and our coastal waters, and yet we just continue to make it harder and harder for them to continue."

ATTACHMENT 3

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The importance of Eelgrass

Fall 2014

NOAA Fisheries is providing guidelines to prevent further loss of one of nature's most valuable and productive habitats in the marine environment—eelgrass.

Eelgrass provides a number of important ecosystem functions, including foraging areas and shelter to young fish and invertebrates, food for migratory waterfowl and sea turtles, and spawning surfaces for species such as the Pacific herring. By trapping sediment, stabilizing the substrate, and reducing the force of wave energy, eelgrass beds also reduce coastal erosion. In fact, eelgrass forms the base of a highly productive marine food web.

Pacific halibut resting on a bed of eelgrass. NOAA photo by Adam Obaza.

The unique habitat also produces food and oxygen, improves water quality by filtering polluted runoff, absorbs excess nutrients, stores greenhouse gases like carbon dioxide, and protects the shoreline from erosion.

Many people are unaware of the importance this plant plays in the marine environment. As a result, there has been significant degradation of eelgrass, primarily from human impacts such as urban development, dredging, pollution, and sediment runoff from upland areas.

Eelgrass along the bottom provides foraging areas and shelter for fish. NOAA photo by Adam Obaza.

The federal government designated eelgrass as Essential Fish Habitat (EFH) and a Habitat of Particular Concern under the Magnuson-Stevens Fishery Conservation and Management Act in 1996. The designation as EFH requires federal agencies to consult with NOAA Fisheries on ways to avoid or minimize the adverse effects of their actions on eelgrass. The consultation process does not apply to state or private projects.

The new guidelines – called the *California Eelgrass Mitigation Policy and Implementing Guidelines*, or CEMP – provides federal agencies consulting with NOAA Fisheries with comprehensive and consistent information to ensure their actions result in "no net loss" of eelgrass habitat function. This is an important goal for one of California's most productive and rare marine habitats.

Using this new policy, biologists will help federal agencies mitigate for unavoidable impacts and create 20 percent more eelgrass habitat than was destroyed. The additional habitat would not only replace the original eelgrass but also compensate for the loss of the beneficial properties of the eelgrass as it matures over the next several years.

The CEMP also provides information on how to avoid or lessen impacts to eelgrass and for considering different options for mitigation. This flexibility provides an opportunity to protect and restore eelgrass, a key foundation to a healthy marine habitat, and to preserve the basic ecosystem functions along the California coast.

More information about seagrasses and California Eelgrass Mitigation Policy

Frequently Asked Questions

Home page NOAA photo by Adam Obaza.