



THE CITY OF SAN DIEGO
REPORT TO THE CITY COUNCIL

DATE ISSUED: March 10, 2010 REPORT NO: 10-029
ATTENTION: Natural Resources and Culture Committee
Meeting of March 17, 2010
SUBJECT: Amendment 2 with UCSD for the Evaluation of Anthropogenic Impacts
on the San Diego Coastal Ecosystem

REQUESTED ACTION:

Council is requested to approve a phase-funded Second Amendment with UCSD for professional services to monitor the health of the San Diego kelp forest ecosystem and authorize an amount not to exceed \$1,499,721.

STAFF RECOMMENDATION:

- Adopt an Ordinance approving a phase-funded Second Amendment to the Agreement with the University of California, San Diego for the Evaluation of San Diego's Coastal Ecosystem for an amount not to exceed \$1,499,721.
- Authorize an FY 2010 expenditure of \$344,516 from Wastewater Fund 700001 for Phase 5 of the aforementioned Amendment.

SUMMARY:

In response to concerns of the public and environmental groups, the Metropolitan Wastewater (now Public Utilities) Department worked with the Scripps Institution of Oceanography (SIO) of the University of California, San Diego to convene a panel of scientific experts to evaluate the City's Ocean Monitoring Program. The purpose of this scientific review was to insure that the program provides the necessary information with which to evaluate the local ocean ecology and to address emerging issues of concern. The scientific panel concluded that the existing ocean monitoring program for the Pt. Loma region did an excellent job evaluating the regulatory compliance parameters for which it was designed, but that it could be enhanced to include additional environmental parameters that could help to discern both anthropogenic (human caused) and natural impacts to the regional San Diego coastal ecosystem.

It is noted that the City's Ocean Monitoring Program is conducted as a requirement of two National Pollution Discharge Elimination System (NPDES) permits that have been issued to the City of San Diego by the San Diego Regional Water Quality Control Board and USEPA, including: (1) Permit No. CA0107409, governing the Pt. Loma Wastewater Treatment Plant (PLWTP), and (2) Permit No. CA0109045, governing the South Bay Water Reclamation Plant (SBWRP). The monitoring programs required by these NPDES permits were revised most recently in 2003 and 2006 for the PLWTP and SBWRP, respectively. Renewal and additional modification of the PLWTP permit and monitoring program is currently underway and is expected in Spring 2010. In addition to core and regional monitoring requirements, the modified

permits require the City to conduct special studies of additional environmental parameters on a broader coastal scale as were recommended by the above scientific review.

Continued monitoring and protection of the coastal marine environment are the main objectives of the City's Ocean Monitoring Program and is of great importance to the citizens of the region. In order to achieve these enhanced monitoring goals in the most cost-effective and scientifically sound manner, the City requires professional services for special projects and on-going scientific assistance that will follow the recommendations of the panel of experts and study the broader scale of questions regarding the San Diego coastal ecosystem.

Under this Second Amendment, SIO will conduct studies monitoring the status of the San Diego region's kelp forests as part of the City's enhanced ocean monitoring requirements for the PLWTP and SBWRP. Specifically, SIO scientists will continue long-term monitoring studies to define the impacts or potential impacts of treated wastewater discharge on the health and stability of the local kelp forest ecosystem off Point Loma, La Jolla and in North County relative to other environmental parameters. This work will build upon previous long-term studies funded by the City (~1992 to present), and contribute to the regional approach emphasized in the scientific review of the City's program, as well as to the integration of monitoring efforts along the entire San Diego coastline. The project will continue to provide important information relevant to maintaining the City's 301(h) waiver from secondary treatment for the PLWTP, and it will also serve as a critical link between the City's core monitoring efforts focused in offshore waters and potential new requirements for more nearshore habitats associated with the Marine Life Protection Act.

The projected term of the contract will be from May 2010 through May 2013 and appropriated as follows: Phase 5 (FY2010) \$344,516; Phase 6 (FY2011) \$365,649; Phase 7 (FY2012) \$382,897; and Phase 8 (FY2013) \$406,659.

EQUAL OPPORTUNITY CONTRACTING:

This agreement is subject to the City's Equal Opportunity Contracting (San Diego Ordinance No. 18173, Section 22.2701 through 22.2708) and Non-Discrimination in Contracting Ordinance (San Diego Municipal Code Sections 22.3501 through 22.3517).

FISCAL CONSIDERATIONS:

The entire expense will use current and future appropriations from Public Utilities Department, Wastewater Fund 700001, in the following manner: Phase 5 (FY2010) \$344,516; Phase 6 (FY2011) \$365,649; Phase 7 (FY2012) \$382,897; and Phase 8 (FY2013) \$406,659.

PREVIOUS COUNCIL and/or COMMITTEE ACTION:

Original Agreement adopted June 22, 2006 (R-301549); Amendment 1 (no cost) approved October 22, 2006 (C-13927).

COMMUNITY PARTICIPATION AND PUBLIC OUTREACH EFFORTS:

There is no change or impact anticipated to communities and the public for continuing current service level. This item is subject to Charter Section 99 requirements (10 day public noticing).

KEY STAKEHOLDERS AND PROJECTED IMPACTS:

The Regents of the University of California, San Diego. In addition, this Second Amendment would allow for the continued monitoring of the San Diego region's kelp forests which provides

important information relevant to maintaining the City's 301(h) waiver from secondary treatment for the PLWTP, and serves as a critical link between the City's core monitoring efforts focused in offshore waters and potential new requirements for more nearshore habitats associated with the Marine Life Protection Act.



Ann Sasaki
Assistant Public Utilities Director



J. M. Barrett
Director of Public Utilities

Attachments:

1. Amendment 2 to the Agreement with UCSD (draft)
2. Resolution R-301549 authorizing original Agreement with UCSD
3. Mayoral Action C-13927 authorizing Amendment 1 to the Agreement with UCSD (no cost)
4. Sole Source Request

**CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT**

**AGREEMENT BETWEEN
THE CITY OF SAN DIEGO**

AND

**THE REGENTS OF THE UNIVERSITY OF CALIFORNIA, SAN DIEGO
FOR THE EVALUATION OF ANTHROPOGENIC IMPACTS ON THE
SAN DIEGO COASTAL ECOSYSTEM**

H074007

AMENDMENT NO. 2

WHEREAS, on July 13, 2006 the CITY entered into an AGREEMENT with the CONSULTANT, the original of which is on file in the Office of the City Clerk as Document No. RR-301549, to provide an Evaluation of Anthropogenic Impacts on the San Diego Coastal Ecosystem;

WHEREAS, on October 10, 2006, the CITY and the CONSULTANT mutually agreed to amend the AGREEMENT to modify the period of performance:

WHEREAS, the CITY and the CONSULTANT mutually desire to amend the AGREEMENT to extend the period of performance, modify the scope of services, and increase the AGREEMENT funding;

NOW THEREFORE, the CITY and the CONSULTANT agree to amend the AGREEMENT thereto as follows:

1. ARTICLE I, PROFESSIONAL SERVICES

Paragraph 1.1, Scope of Services:

From: The CONSULTANT shall perform services [Professional Services] at the direction of the CITY and as set forth in the Scope of Services [Exhibit A].

To: The CONSULTANT shall perform services [Professional Services] at the direction of the CITY and as set forth in the Scope of Services [Exhibit A] SIO Kelp Proposal 20060203 and Scope of Services Entitled Evaluation of Anthropogenic Impacts on the San Diego

2. ARTICLE II, DURATION OF AGREEMENT:

Paragraph 2.1, Term of Agreement:

From: This AGREEMENT shall be effective on the date it is executed by the last Party to sign the Agreement. The duration of the AGREEMENT shall be from July 1, 2006, and effective for four (4) consecutive years thereafter, or until all funds authorized under this AGREEMENT have been expended whichever occurs first.

To: This AGREEMENT shall be effective on the date it is executed by the last Party to sign the Agreement. The duration of the AGREEMENT shall be from July 1, 2006, and effective for eight (8) consecutive years thereafter, or until all funds authorized under this AGREEMENT have been expended whichever occurs first.

3. ARTICLE III, COMPENSATION & PAYMENTS:

Paragraph 3.1.2, Funding Schedule:

From: The work to be performed under this AGREEMENT shall be performed during the four (4) separate and specific phases identified in the Funding Schedule below:

FUNDING SCHEDULE			
Funding Phase	Dates	Not to Exceed Amount	Cum. Total Not to Exceed Amount
1	From date of execution of Agreement through completion of Agreement	\$236,564	\$236,564
2	From May 1, 2007 through completion of the Agreement	\$245,959	\$482,523
3	From May 1, 2008 through completion of the Agreement	\$252,858	\$735,381
4	From May 1, 2009 through completion of the Agreement	\$262,879	\$998,260

To: The work to be performed under this AGREEMENT shall be performed during the eight (8) separate and specific phases identified in the Funding Schedule below:

FUNDING SCHEDULE			
Funding Phase	Dates	Not to Exceed Amount	Cum. Total Not to Exceed Amount
1	From date of execution of Agreement through completion of Agreement	\$236,564	\$236,564
2	From May 1, 2007 through completion of the Agreement	\$245,959	\$482,523
3	From May 1, 2008 through completion of the Agreement	\$252,858	\$735,381
4	From May 1, 2009 through completion of the Agreement	\$262,879	\$998,260
5	From May 1, 2010 through completion of the Agreement	\$344,516	\$1,342,776
6	From May 1, 2011 through completion of the Agreement	\$365,649	\$1,708,425
7	From May 1, 2012 through completion of the Agreement	\$382,897	\$2,091,322
8	From May 1, 2013 through completion of the Agreement	\$406,659	\$2,497,981

THIS AMENDMENT NO. 2 to the AGREEMENT shall affect only the page(s), paragraph(s), and/or terms and conditions referred to herein. All other page(s), paragraph(s), and/or terms and conditions of the AGREEMENT shall remain in full force and effect.

IN WITNESS WHEREOF, this AMENDMENT is executed by the City of San Diego, acting by and through its Mayor or his designee, pursuant to San Diego City Council Resolution No. R-_____ authorizing such execution, and by the CONSULTANT.

**THE REGENTS OF THE UNIVERSITY
OF CALIFORNIA, SAN DIEGO**

THE CITY OF SAN DIEGO
A Municipal Corporation

By: _____

By: _____

Date: _____

Date: _____

I HEREBY APPROVE the form and legality of the foregoing AMENDMENT this _____ day of _____, 2010.

JAN O. GOLDSMITH, City Attorney

By: _____

SCOPE OF SERVICES

Evaluation of Anthropogenic Impacts on the San Diego Coastal Ecosystem (2010-2014)

INTRODUCTION

San Diego may be the most “ocean oriented” large city in the world. In addition to its beaches and ocean, the City is closely identified with the large and dominant kelp forests of the region for good reason: i.e., these kelp forests are the habitat to hundreds of species of fishes and invertebrates, which have subsequently been the focus of millions of dollars of commercial and recreational fishing or harvesting activities. The coastal ocean off San Diego is exposed to many different types of anthropogenic and natural impacts, including wastewater discharge via the Point Loma Ocean Outfall (PLOO) and South Bay Ocean Outfall (SBOO). Although, the City conducts a comprehensive ocean monitoring program in support of its wastewater treatment and disposal operations, this program has historically been driven by state and federal regulatory requirements designed to answer questions related to compliance with discharge permit conditions. Consequently, and in response to public concerns, the City worked with the Scripps Institution of Oceanography (SIO) to convene a panel of scientific experts (Panel) that evaluated the outfall monitoring program to insure that it also provided information on ocean ecology in general as well as emerging issues of concern. This review, the Point Loma Outfall Project (concluded and submitted in 2004), was a public process that solicited input from the general public, local environmental community, state and federal regulatory agencies, the City, and external scientific peer reviewers. Throughout the process the Panel emphasized the necessity of evaluating and prioritizing the importance of all regional sources of pollutants and integrating them into a regional management program.

Examples of environmental risks to the coastal waters of San Diego recognized by the Panel include watershed pollutants that originate from several main sources. These include agricultural wastes that may consist of pesticides, herbicides, fertilizer and a great deal of animal wastes. Urban wastes that regularly find their way to the sea include similar pollutants as well as other chemical materials. Industrial wastes that have accumulated in the sediments or that are still released also include many toxic materials. The San Diego region includes several major and distinct watersheds, one of which is the notorious Tijuana River system that periodically dumps extremely serious pollutants into the immediate coastal waters. In addition to watershed runoff, treated sewage from the above two ocean outfalls (PLOO and SBOO) and materials associated with toxic waste dumpsites are also sources of anthropogenic input to the region. For example, the EPA’s LA-5 dredged materials disposal site is located surprisingly close to the present PLOO discharge area with evidence that barges have disposed of their loads in much shallower waters soon after leaving San Diego Bay.

Many of the above pollutants typically adhere to particles that eventually sink and move along the ocean bottom in the immediate near shore waters where they may also move onto local beaches by storms or transported into the bays with incoming tides. All sources of pollutants

and their transport systems need to be better integrated into San Diego's monitoring programs so that their impacts can be differentiated from those that might be associated with wastewater discharge from the two ocean outfalls.

The Panel concluded that the existing ocean monitoring program for the Point Loma region did an excellent job of evaluating the parameters it was designed to evaluate, but that it could not evaluate other impacts. Areas of special concern included natural resources most used by the public such as kelp forests and beaches. In accordance with the Panel's final report recommendations, the City has worked collaboratively with SIO scientists and other agencies to develop an enhanced ocean monitoring program for Point Loma and the San Diego region in general, a significant component of which is the kelp ecosystem monitoring project currently funded by the City (i.e., *Evaluation of Anthropogenic Impacts on the San Diego Coastal Ecosystem, 2006-2010*). Consequently, we propose to continue to augment the City's enhanced ocean monitoring programs by: (1) continuing a unique time-series study of the health and stability of the Point Loma and La Jolla kelp beds, as well as kelp forests off northern San Diego County; and (2) assessing the amount and constitution of sediment flux in areas where pollutants are expected to concentrate. This work will contribute to the regional approach emphasized by the Panel in their final report and contribute to integration of monitoring efforts along the entire San Diego coastline. It will also serve as critical link between the City's major monitoring efforts focused in offshore waters and potential changes and additional requirements for more nearshore habitats associated with the Marine Life Protection Act.

PURPOSE & SIGNIFICANCE

The City requires professional services for additional scientific research and expertise that will clearly define the impacts of the treated wastewater discharge on the health and stability of the local kelp forest ecosystem off Point Loma, La Jolla and in North County relative to other environmental parameters, both natural and anthropogenic. In addition, the SIO panel of experts highlighted other regional environmental concerns for the existing monitoring program and the evaluation of different environmental stresses that may impact the entire region from Imperial Beach and to the north county. Such work will help address a number of issues of significance to the City and the region.

- A. Protection of the coastal marine environment is the main objective of the City's Ocean Monitoring Program and is of great importance to the City and its citizens.
- B. The San Diego kelp forest ecosystem monitoring project represents an important and significant component necessary to meet these needs.
- C. The project represents a unique, ongoing, long-term program assessing the health of the kelp ecosystem and the quality of the region's coastal recreational waters.
- D. Continued City support of the project is critical to its continuation.
- E. The project provides important scientific documentation in support of the City's 301(h) waiver from secondary treatment for the Point Loma Wastewater Treatment Plant.
- F. The project addresses the special study component of the NPDES monitoring requirements for Point Loma.
- G. The project provides important information to address the SIO panel's recommendations regarding enhanced monitoring from a regional perspective.
- H. Continuation of the project as planned will help the City address important issues relevant to the Marine Life Protection Act.

SCOPE OF WORK

Our continuing research focuses on the definition of processes that control the health and stability of the giant kelp (*Macrocystis pyrifera*) forests of the San Diego region, especially those located off Point Loma and La Jolla. Expanding the project further into the North County is necessary to evaluate the condition of those kelp forests because they are exposed to different types of anthropogenic stress. Furthermore, the amount and composition of sediment flux in areas identified as being "hot spots" by the SIO panel of experts is a critically important environmental parameter that also needs study.

A. Kelp habitats

Kelp populations will continue to be monitored regularly at 11 sites in the Point Loma kelp forest. These include three sites adjacent to the shipping channel (18, 15, and 12m depths), two sites in the south (18 and 15m), five sites in the center (21, 18, 15, 12, and 8m), and one site in the north end of the forest (18m). Because of continued anthropomorphic stressors that include overfishing and non-point source pollution, as well as potential new requirements associated with the Marine Life Protection Act (MLPA), we also need to better define the forcing functions

and dynamics of the kelp forest. Thus, we established 18, 15, and 12m reference sites in the northern part of the La Jolla kelp bed as well as sites bracketing the existing site in the southern part of the Point Loma kelp forest.

Additionally, it is becoming increasingly important to monitor the health of kelp in other parts of San Diego County; therefore we also propose quarterly monitoring of selected kelp forests in North County for the 2010-2014 project. These data will complement and ground-truth the photographic (aerial) data provided by SANDAG. Absence of giant kelp (*Macrocystis pyrifera*) on the surface doesn't necessarily imply an unhealthy ecosystem. In the southern part of the Point Loma forest, for example, there are large healthy stands of understory kelps such as *Pterygophora* and *Laminaria* that have excluded recruitment of giant kelp. Aerial surveys alone could not differentiate this natural and healthy situation from areas of bare seafloor due to urchin grazing (i.e., urchin barrens) or excessive sedimentation.

The North County kelp forests are also ephemeral and are exposed to sediment and pollutant runoff from lagoons and various watersheds. A recent effort to replenish sand in the coast zone has also resulted in very high sediment loads in the North County kelp habitats. These situations call out for regular monitoring and simple experimental hypothesis testing in order to better understand the highly dynamic kelp ecosystem.

The general kelp monitoring protocol is as follows. Four 25m transect lines are permanently installed at each site in an onshore-offshore direction, with the exception of South Del Mar where the lines are oriented parallel to the shoreline. Adult giant kelp plants are mapped to 2m on either side of each transect (total of 400m² per site), and the number of stipes per plant are counted as an index of growth. Understory kelps and seaweeds are also mapped, counted or assessed to determine percent cover. Juvenile kelps are also mapped and counted as density permits. Mapping is done on waterproof paper to facilitate tracing individuals onto permanent records. Records are kept for the recruitment, growth, and death of each plant. The summary of these records describes the variation in density and age distribution of the populations at each site. Such a level of understanding of the population dynamics, while labor intensive, offer a much more sensitive assessment of kelp forest health than snapshot methods such as aerial photographs or single assessments of standing crop. The results are and will be evaluated in the context of similar data extending back to 1983 for five sites in the Point Loma kelp forest, and as far back as 1971 for the central region.

B. Population dynamics of sea urchins

Sea urchins, especially red and purple urchins (*Strongylocentrotus franciscanus* and *S. purpuratus*, respectively), are potentially important grazers on kelps in terms of the frequency and magnitude of impact. Consequently, these and other macroinvertebrates are censused annually along fixed transect lines (400m² per site) as part of the project. Additional surveys will focus on increases in urchin activity levels. Data are collected in 1m² quadrates. We also monitor recruitment rates of urchins with haphazard samples (minimum of 100 individuals per species) twice per year from rock piles at each site. These two different types of data allow us to evaluate the relative impacts of urchin migration vs. recruitment of new individuals on kelp stands. Urchin grazing pressure reflects food availability, and we assess the availability of food for urchins as well as their reproductive index as indicators of nutritional status. Because urchin populations can be decimated by local disease outbreaks, we also monitor for any evidence of such events.

The importance of understanding sea urchin dynamics has become obvious. For example, the lack of kelp in the southern end of the Point Loma forest in the early 1990s figured prominently in the 1991 waiver trial where the Judge expressed concerns about the role of sewage discharged from the original 60m outfall site. However, data from our research at the time documented that the sea urchin barren actually developed following the severe storms of 1988, and that this event was independent of the ocean outfall. We were also able to document a disease episode starting in 1991 that virtually eliminated sea urchin populations over a large area with a subsequent recovery of the kelp forest in 1994. These data were able to focus the kelp recovery on sea urchin dynamics rather than events such as the extension of the Point Loma outfall in late 1993, which supports the contention that urchins rather than wastewater effects were driving the kelp dynamics in the southern part of the kelp forest.

C. Populations of selected predators

Due to intensive but selective fishing along the Point Loma kelp forest, populations of sheephead, bass, cabezon, morays, and other fishes will be monitored semi-annually at a subset of the kelp monitoring stations as well as at a few new stations. Two methods will be used to count fishes at all sites due to the presence of two habitat types common to most kelp

beds in Southern California. The first habitat type is flat hard rock (i.e., pavement), which provides little relief for most bottom dwelling fishes that are not typically observed in these areas. Replicate 25x2 meter transects will be used to count fish in these habitats. The second type of habitat includes reefs composed of boulders or broken pavement. This habitat provides refuges for urchins, lobsters, and fish such as rockfish, cabezon, morays, and sheephead. All of these fishes are predators of urchins and are commonly associated with boulder reefs. Fishes in boulder reef areas will be counted using standard stationary visual counts in which fish are counted in a circular area of known dimension for standardized periods.

D. Physical measurements

The goal of these efforts is twofold: 1) to understand the regional variation within the Point Loma kelp forest of physical parameters that affect kelp biology, especially recruitment, and 2) to evaluate inter-annual and long-term temperature variability. Temperature, as a surrogate for nutrient availability or stress, is a critical variable for all stages of kelp life histories, but particularly for microscopic stages and total productivity. These studies were emphasized as being critical by the SIO scientific panel.

There is considerable spatial and temporal variation in benthic temperatures. In the central region of the kelp forest, for example, temperature decreases with depth with each permanent site being significantly different from its neighbors. There is a strong seasonal cycle with coldest bottom temperatures during spring/early summer, followed by rising bottom temperatures with strong stratification in the later summer/fall, with a breakdown in the stratification in the water column after mixing by winter storms. Our monitoring data has demonstrated an excellent correlation of sea surface temperature in the kelp forest with that recorded at the SIO pier, which offers more than 80 years of daily measurements. Inter-annual variability is seen in both surface and bottom temperatures, and in the presence and magnitude of spring upwelling. Surface temperature is the best predictor of kelp productivity as measured by kelp harvest of the forest as a whole. We have found, however, that bottom temperatures are better predictors of the degree to which plants die back below the surface, growth in stipe numbers, and survival itself. Thus, all such parameters will show strong depth related trends correlating to those temperature trends. The monthly kelp sampling across the center of the forest in combination with bottom and surface temperature data will continue to allow us to test these hypotheses, and to understand the depth and spatial ramifications of climate variability on the Point Loma kelp forest. This work is ongoing but will be expanded to interface

with the moored observation system that has also been implemented by the City in response to the SIO panel recommendations.

We have long known that internal tides and waves are other critical components of the physical processes structuring the kelp ecosystem. We demonstrated major differences in internal wave activity between the southern and northern regions of the kelp forest, which were probably very important to the observed kelp survival and recruitment differences at these sites. Strong El Niño events result in depression of isotherms such that the internal wave-induced thermocline motion is ineffective for kelps, while La Niña events are characterized by increased internal wave activity. We will continue our internal wave studies using strings of thermostats at four sites crossing the center of the forest for comparison with years of more normal oceanographic conditions. We will also continue to use the City's CTD data as the offshore boundary conditions to develop a predictive model for isotherm distribution in the forest. The above thermistor strings also complement those established by the City near the current and old Point Loma outfall discharge sites and offer a complete cross-shelf view of temperature structure. These data will yield good indications of water movement.

E. What structures the outer edge of the forest?

The outer edges of the kelp forests grow and recede naturally, although when they recede (or disappear completely as often at Imperial Beach and North County) many recreational users blame factors such as ocean outfalls. In fact, many potential explanations exist for such changes, and one cannot evaluate assertions without evaluating all the potential mechanisms. Some explanations include influx of sand over the substratum so that the young plants cannot become established, competition with other species, the nature of the substrata itself, and differences in light levels, temperature, and nutrients, etc. We will continue to analyze the outer edge of the kelp forests by characterizing both biotic and physical variables. For example, we previously found significantly higher sedimentation and scour inside the forest relative to the outside study site. The latter site has rocky substrate suitable for kelps, so sedimentation and scour do not seem to be an explanation. One unexpected factor that may sometimes control the outer edge of the forest is grazing by the white sea urchin, *Lytechinus pictus*. Although this species is normally found in deeper water, it may be moving into inshore kelp habitats in response to warmer waters.

F. What structures the southern part of the kelp forest?

The southern end of the Point Loma kelp forest is much more dynamic than the rest of the Point Loma or La Jolla kelp forests. Giant kelp in this area often appears stressed and disappears, after which it is replaced with understory kelps and/or sea urchin barrens. Often the water clarity is reduced and there is more sedimentation and flocculent material on the bottom. Although these patterns are well known, the public often incorrectly assumes that they are the result of the outfall. Consequently, there is a critical need for improved scientific understanding of the various processes that contribute to these patterns. We have several stations in that area and are monitoring the dynamics of sea urchins. Additionally, tidal flushing of San Diego Bay usually wraps northward around the tip of Point Loma and bathing this area with water from the Bay. This bay water often has pollutants and these currents probably also transport polluted sediments that have worked their way north from the Tijuana River when it floods. Finally, we have also found that PCBs from bay sediments have been short-dumped on their way to the offshore dump site leaving toxic sediments in shallow water in the southern area of the Point Loma kelp forest. It is important to continue the study of the sediment transport processes, and we recommend doing so as part of this project. Careful chemical analysis of the sediments will allow typing the localities of some of these pollutants, so we suggest collecting sediment samples at least twice a year. However, successful completion of this project component will depend on acquiring additional funding (or in-kind service support) for the chemical analyses.

G. What baseline information and monitoring is in place with regard to the marine reserves proposed as part of the Marine Life Protection Act (MLPA)?

As presently configured (i.e., January 2010), marine reserves will be established in the southern part of the La Jolla kelp forest as well as the area further north in Cardiff and Encinitas as part of the MLPA. We have anticipated possible locations for these new reserves and already have several transect sites in both La Jolla and the north county reserve. We also have monitoring sites in adjacent areas that are not being afforded such protection. Continuing these activities as part of this project could be very important and significant to the City in meeting possible MLPA requirements. It will also offer a unique opportunity to study any changes resulting from

the protection since we already have long-term monitoring data in both protected and unprotected areas.

H. Study period

Work for the proposed study will occur over a 4-year period beginning July 1, 2010 and continuing through June 30, 2014. Thus, the project represents continuation of the previous projects funded by the City from 2002-2006 and 2006-2010.

I. Reports and meetings

Short (1-2 page) summary lists of project activities will be prepared monthly (e.g., around the 15th of the following month), although several 'monthly' reports may be submitted together if necessary and approved by the City project manager. These status reports should include a list of any project-related activities (e.g., field work) attempted or completed during each month.

A draft narrative report summarizing each year's activities shall be produced within 60 days and a final report within 90 days after completion of each year's work for years 1-3 of the project. These 'annual' reports should be concise (e.g., 2-5 pages) narrative summaries geared toward City management, the general public and marine science community as a whole, and will address any significant observations or findings during the year. Approximate submittal dates for the above final annual reports are October 1 of 2011, 2012, and 2013.

A draft formal report describing all four years of the project shall be produced within 60 days and a final comprehensive report within 120 days after completion of year 4 of the project. This final report should also be geared toward a general audience, but will document all phases of the research, including observations, data, analyses, and conclusions. The approximate submittal date for the final project report is November 1, 2014.

SIO project staff will be available to meet with City staff at any time throughout the project to discuss results and interpretations. Raw data will be submitted as appropriate. Data from other components of the consultant's kelp work will also be made available to the City as appropriate. The consultants shall, if requested, present a final report to appropriate groups. Informal meetings between the City and consultants shall be scheduled as either desires at any time throughout the project.

(R-2006-965)

RESOLUTION NUMBER R-301549

DATE OF FINAL PASSAGE JUNE 22, 2006

RESOLUTION OF THE CITY COUNCIL AUTHORIZING AN AGREEMENT WITH THE REGENTS OF THE UNIVERSITY OF CALIFORNIA, SAN DIEGO, FOR THE EVALUATION OF ANTHROPOGENIC IMPACTS ON THE SAN DIEGO COASTAL ECOSYSTEM; AND AUTHORIZING THE EXPENDITURE OF FUNDS.

WHEREAS, two National Pollution Discharge Elimination Permits issued to the City of San Diego in conjunction with its wastewater treatment plants require the City to conduct comprehensive ocean monitoring; and

WHEREAS, the City requires professional services for on-going scientific assistance with the City's Ocean Monitoring Program; NOW, THEREFORE,

BE IT RESOLVED, by the Council of the City of San Diego, that the Mayor or his designee is hereby authorized to execute, for and on behalf of the City, a four-year phase funded agreement with the Regents of the University of California, San Diego, (Scripps Institution of Oceanography) for the evaluation of anthropogenic impacts on the San Diego coastal ecosystem, under the terms and conditions set forth in the Agreement, a copy of which is on file in the office of the City Clerk as Document No. RR-301549.

BE IT FURTHER RESOLVED, that the expenditure of an amount not to exceed \$998,260 from Sewer Revenue Fund No. 41508 is hereby authorized, contingent on Council's approval of funding in each fiscal year's operating budget and provided that the City Auditor & Comptroller furnishes one or more certificates stating that the funds necessary for expenditure are, or will be, on deposit with the City Treasurer, to be expended as follows:

Phase 1: \$236,564 from Fiscal Year 2006 appropriations

Phase 2: \$245,959 from Fiscal Year 2007 appropriations

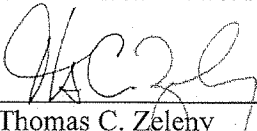
(R-2006-965)

Phase 3: \$252,858 from Fiscal Year 2008 appropriations

Phase 4: \$262,879 from Fiscal Year 2009 appropriations

BE IT FURTHER RESOLVED, that this activity is categorically exempt from the California Environmental Quality Act pursuant to CEQA guideline section 15306, because the agreement is for the purposes of information collection and other resource evaluation activities which do not result in a serious or major disturbance to an environmental resource.

APPROVED: MICHAEL J. AGUIRRE, City Attorney

By  _____
Thomas C. Zelehy
Deputy City Attorney

TCZ:mb
05/10/06
Aud.Cert:N/A
Or.Dept:MWWD
MWD-6099
R-2006-965

I hereby certify that the foregoing resolution was passed by the Council of the City of San Diego, at its meeting of June 20, 2006.

ELIZABETH S. MALAND, City Clerk

By _____
Deputy City Clerk

Approved: _____
(date)

JERRY SANDERS, Mayor

Vetoed: _____
(date)

JERRY SANDERS, Mayor

DUPLICATE

MWD-7024

DUPLICATE ORIGINAL

CITY OF SAN DIEGO
METROPOLITAN WASTEWATER DEPARTMENT

AGREEMENT BETWEEN
THE CITY OF SAN DIEGO
AND
THE REGENTS OF THE UNIVERSITY OF CALIFORNIA, SAN DIEGO
FOR THE EVALUATION OF ANTHROPOGENIC IMPACTS ON THE
SAN DIEGO COASTAL ECOSYSTEM

AMENDMENT NO. 1

WHEREAS, on July 13, 2006 the CITY entered into an AGREEMENT with the CONSULTANT, the original of which is on file in the Office of the City Clerk as Document No. RR-301549, to provide an Evaluation of Anthropogenic Impacts on the San Diego Coastal Ecosystem;

WHEREAS, the CITY and the CONSULTANT mutually desire to amend the AGREEMENT at "No Cost" to clarify the AGREEMENT duration;

NOW THEREFORE, the CITY and the CONSULTANT agree to amend the AGREEMENT thereto as follows:

1. ARTICLE II, DURATION OF AGREEMENT:

Paragraph 2.1, Term of Agreement:

From: This Agreement shall to effective on the date it is executed by the last Party to sign the Agreement, and it shall be effective for four (4) years or until all funds authorized under this Agreement have been expended, whichever occurs first.

DOCUMENT NO. 0-13927
FILED OCT 11 2006
OFFICE OF THE CITY CLERK
SAN DIEGO, CALIFORNIA

DUPLICATE ORIGINAL

To: This AGREEMENT shall be effective on the date it is executed by the last Party to sign the Agreement. The duration of the Agreement shall be from July 1, 2006 , and effective for four (4) consecutive years thereafter, or until all funds authorized under this Agreement have been expended, whichever occurs first.

THIS AMENDMENT NO. 1 to the AGREEMENT shall affect only the page(s), paragraph(s), and/or terms and conditions referred to herein. All other page(s), paragraph(s), and/or terms and conditions of the AGREEMENT shall remain in full force and effect.

IN WITNESS WHEREOF, the parties hereto each herewith subscribe the same in triplicate, and this AMENDMENT NO. 1 is executed by the City of San Diego, acting by and through its Mayor, or its designee, and by the CONSULTANT.

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA, SAN DIEGO
Consultant

THE CITY OF SAN DIEGO
a Municipal Corporation

By: Sandra Varond
Sandra Varond
Senior Contract and Grant Officer
Scripps Institution of Oceanography
UCSD

By: Rick Reynolds
RICK REYNOLDS
ASSISTANT CHIEF OPERATING OFFICER

Date: 8/23/06

Date: 10/6/06

I HEREBY APPROVE the form and legality of the foregoing AMENDMENT this 10th day of October, 2006.

MICHAEL J. AGUIRRE, City Attorney

By: [Signature]



THE CITY OF SAN DIEGO

M E M O R A N D U M

DATE : February 16, 2010

TO : Hildred Pepper, Director, Purchasing & Contracting Department

FROM : Steve Meyer, Deputy Public Utilities Director,
Environmental Monitoring & Technical Services Division
via Jim Barrett, Director of Public Utilities *[Signature]* 2.23.10

SUBJECT: Sole Source Authorization for Regents of the University of California, San Diego

REFERENCE: San Diego Municipal Code Section 22.3212 and 22.3037

Your approval is requested to extend the existing sole source agreement with the Regents of the University of California, San Diego, (UCSD) for the Scripps Institution of Oceanography (SIO) to continue to conduct studies monitoring the status of the San Diego region's kelp forests as part of the City's enhanced ocean monitoring requirements for the Point Loma Wastewater Treatment Plant (PLWTP). This project will represent Amendment No. 2 to the present 4-year agreement with UCSD to provide an "Evaluation of Anthropogenic Impacts on the San Diego Coastal Ecosystem" (Document No. RR-301549, Office of the City Clerk). Specifically, SIO scientists will continue long-term monitoring studies to assess any effects of wastewater discharge on the health and stability of the local kelp forest ecosystem off Point Loma, La Jolla and in North County relative to other environmental parameters. The continued project will also be phase-funded over a four year period, which under the new agreement will comprise phases 5-8. The term and phase amounts of the new contract will be as follows: Phase 5 (May 1, 2010 through completion of agreement), \$344,516; Phase 6 (May 1, 2011 through completion of agreement), \$365,649; Phase 7 (May 1, 2012 through completion of agreement), \$382,897; Phase 8 (May 1, 2013 through completion of agreement), \$406,659. The total cost of the project over these four phases is \$1,499,721.

This project is an important component of the enhanced ocean monitoring activities in support of maintaining the City's 301(h) waiver from secondary treatment requirements for the PLWTP, and it will also help the City to address forthcoming issues relevant to the Marine Life Protection Act. The project builds upon the current 4-year project funded by the City for 2006-2010, as well as earlier work from about 1992-2006. Direction and management of all scientific aspects of the project will be performed by Drs. Paul Dayton and Ed Parnell of SIO's Integrative Oceanography Division, while City oversight will be provided by Dr. Tim Stebbins of the Public Utilities Department.

A sole source agreement with UCSD/SIO is needed because of the specific experience and expertise of their scientists in several areas critical to the project's success. For example, having conducted the time-series studies off Point Loma for many years (~1970 to present), having broad experience in

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Hildred Pepper
February 16, 2010

evaluating environmental impacts to the entire regional coastal ecosystem, and having long-demonstrated experience in successfully conducting ecological studies of this type, makes SIO uniquely qualified to conduct this study. The broad range of technical expertise that SIO continues to have available for this work is unmatched by any other single organization, and they are renowned worldwide for such expertise. Consequently, utilizing SIO to continue this project provides for the most cost effective and technically sound method to accomplish this work.

In view of the foregoing, it is requested that our purchase order with the Regents of the University California, San Diego be approved on a sole source basis under San Diego Municipal Code Sections 22.3212 and 22.3037, which read in part, "*The Contracts listed in Section 22.3212 (a)-(g) are not required to be competitively bid: (d) A contract that is available from a Sole Source only, if, in advance of the Contract, the City Manager certifies in writing in accordance with section 22.3037 the Sole Source status of the provider.*"



Steve Meyer

cc:

Downs Prior, Principal Contracts Specialist, MS 56P
John Dullaghan, Senior Contract Specialist, MS 901A
Tim Stebbins, Senior Marine Biologist, MS 45A
Jill Friedman, Senior Management Analyst, MS 45A