City of Newport Beach

Coastal/Bay Water Quality Citizens Advisory Committee Minutes

DATE: 2/11/10 **TIME:** 3:00 P.M. **LOCATION:** Fire Conference Room

1. Welcome/Self Introductions

Committee Members present:
Chairwoman/Council Member Nancy Gardner
Council Member Selich
George Drayton
Tom Houston
Jim Miller
Janet Rappaport
Randy Seton

Guests present:
Monica Mazur, Newport Beach resident
Ray Heimstra, Orange County Coastkeeper
Jack and Nancy Skinner, SPON

City or County Staff present:
John Kappeler, Code & Water Quality Enforcement Division Manager
Chris Miller, Harbor Resources Manager
Dan Sereno, Park and Tree Superintendant
Greg Lewis, Pest Control Technician
Shirley Oborny, Administrative Assistant

2. Approval of Previous Meeting's Minutes

The minutes from the November 12, 2009, meeting were approved.

3. Old Business

(a) Bay and Ocean Bacteriological Test Results

Mr. Kappeler and Ms. Mazur reviewed the latest bacti reports. Mr. Kappeler talked about a recent sewage spill at Pavilions on Bayside Drive and the steps that were taken to resolve the issue.

4. New Business

(a) Newport Bay Copper Reduction Project

Mr. Heimstra distributed educational materials to the committee (attached). He said he's the project manager and Linda Candelaria from the Santa Ana Regional Water Quality Control Board is the contract manager. He gave a PowerPoint presentation (attached). He explained that a toxic TMDL is in the process of being developed for the

Newport Harbor.

In response to Mr. Seton, Mr. Heimstra explained that the six pounds of copper per boat per year is based on an estimate of 10,000 boats in the bay. In response to Chairwoman Gardner's inquiry about how they come up with six pounds, Mr. Heimstra said there was a leaching study done by the Southern California Coastal Water Research Project (SCCWRP) and that's their number per square foot. He said Trinidad brand paint contains about 80% copper oxide mixed with solvents.

In response to Mr. Drayton, Mr. Heimstra said copper is toxic to aquatic life. It affects the ability of the mussels to reproduce and grow, and the fish feed off them so it affects the fish population. Mr. Houston asked what the negatives/tradeoffs are. Mr. Heimstra said it depends on whether a boat needs to be scraped or not. If the boat is new and coated with epoxy, it should last about 10 to 15 years. If the boat needs to be scraped or painted, it turns out to be a break-even or slightly cheaper scenario with an epoxy, non-toxic type paint. In the beginning it can cost more; therefore, a $1K incentive is being offered per boat. This may cover the cost of removing the old paint from a smaller boat.

Mr. Heimstra distributed a draft city resolution (attached). He said it's nonbinding but instead is intended to get more people involved in the program. He's already given a presentation to the Harbor Commission and now to this committee. It's up to these committees to advise the City Council on what to do. He encouraged the committee to help get the resolution adopted in order to raise awareness about the financial incentives.

Mr. Selich suggested offering an incentive adjusted according to the size of the boat. He said there is a disincentive for boat owners with larger sized boats. Mr. Heimstra said there has been talk about offering to pay for the cost to scrape the bottom of the boats. He appreciates that kind of feedback. Mr. Seton suggested that boat yards could mention the program to the boat owners who are looking to have their boats painted.

In response to Chairwoman Gardner's question about how will it be determined whether the program is a success or not, Mr. Heimstra explained that the Balboa Yacht Basin has been chosen for the program because it's a fairly enclosed basin and its water's copper level is not too far above the California toxic rule numbers. If he were to get 10% of the boats to participate and subsequently the copper level falls below the limit, he would consider the program a success. That's the real goal. Testing is being done on the water right before the program starts.

Mr. Houston inquired about whether copper could flow in from tidal circulation and skew the results of the study. Mr. Heimstra explained that the Balboa Yacht Basin has been chosen specifically for this study because it doesn't have as much circulation as some of the other local marinas. After the study is completed, if the copper level has not dropped, then it would need to be addressed in the TMDL. There are unknowns

such as whether the copper could be released from the sediment to maintain the equilibrium, in the event the copper level drops from having more boats without copper paint on them. Chairwoman Gardner suggested a core study be done to see if that happens.

In response to Mr. Kappeler, Mr. Heimstra didn't know if the copper TMDL would be adopted for both the upper and lower bay.

Mr. Houston asked about whether there would be opportunity for public input. Mr. Heimstra said there would be ample opportunity for that. Chairwoman Gardner expressed her concern about how many requirements the City is being hit with and the costs associated with them. She feels it's important to have as much science early on, such as the core study mentioned. She said there might come a point when the municipalities can't afford to comply anymore. They simply don't have the funds. She did; however, like that it's a voluntary pilot program.

(b) <u>City of Newport Beach's Integrated Pest Management (IPM) Program</u>

Mr. Sereno gave a PowerPoint presentation (attached).

Ms. Skinner asked if staff situates plants together that require similar amounts of water. Mr. Sereno said they do. They work with Public Works' landscape artists as well.

Mr. Drayton asked about killer bees. Mr. Sereno said they are still here. If a hive is in the public right-a-way or City park, staff will take care of it. He advised not to approach them. Mr. Lewis said the company the City uses for bee issues (Bee Busters), tries not to kill all the bees. Bee Busters make their own honey and in doing so they attempt to find a middle ground.

Mr. Skinner asked about animal fertilizers. Mr. Lewis said staff usually uses slow-released manmade fertilizers.

(c) <u>Big Canyon Creek Restoration Project</u>

Mr. Stein said the Big Canyon project has moved on to Plan B because the first attempt had so many conditions placed on it by the governing agencies, it became not feasible. He referred to a handout (attached) and said the pond area near Back Bay Drive is a hot spot for selenium. It's owned by the Department of Fish and Game and the City will now defer back to them to take the lead on the selenium issue.

The City's plan (Plan B) is to go back to the original plan; selectively improve the trails, remove some exotic plants and make it more of an amenity for the community. The parking lot by Back Bay Drive can be improved to better accommodate buses, etc. as well as improving the loop. He said due to the economic times, they will identify places where the Boy Scouts, Naturalists and Friends, or other volunteer groups could participate.

Referring to page 2, Mr. Stein talked about the selenium issue. The selenium was created by development. It was housed in the Monterey formation and released during

the terracing for the homes. Overwatering and leaky pipes have helped it to leach out. It has gone from neutral selenium to selenite which is toxic to birds, fish and amphibians. He thinks that although it probably will never get reduced to 1%, maybe the existing percentages could be cut in half. Discussion ensued. Mr. Stein said the Irvine Ranch Water District is building a large rock filter; however, many more would be needed to clear the entire watershed in order to comply with the Regional Board's requirements. He thinks the City can fix the leaky pipes, stop the over-irrigation practices, and provide training residents along that watershed with regards to pesticides, etc.

Mr. Kappeler inquired about the $1.5 million The Irvine Company contributed towards the project. Mr. Stein said the money is still there and can be used for the little projects mentioned above.

Mr. Skinner made suggestions about redirecting the flow of the water past the pond.

5. Public Comments on Non-Agenda Items

Mr. Kappeler announced the WaterMiser Workshop that will take place on March 11, 2010, at 6:00 p.m. at the Central Library. There will be vendors and key note speakers.

Mr. Drayton commented on how much debris is in the bay due to the recent storms. Mr. Kappeler said the focus is on beach cleanup and there are debris catchers at the Delhi Channel, San Diego Creek and the Newport Aquatic Center. He said sometimes during a heavy storm they can get blown out.

6. Topics for Future Agendas

(a) Update on Integrated Watershed Planning Efforts
(b) Bacteriological Dry – Weather Runoff Gutter Study (Phase III)
(c) Committee Field Trips 2010
(d) NBTV – Waterwise
(e) OCHCA & OCSD Water Quality Monitoring Program
(f) Adopt a Beach Program

Chairwoman Gardner asked staff to come back and discuss Item 4(a) at a future meeting.

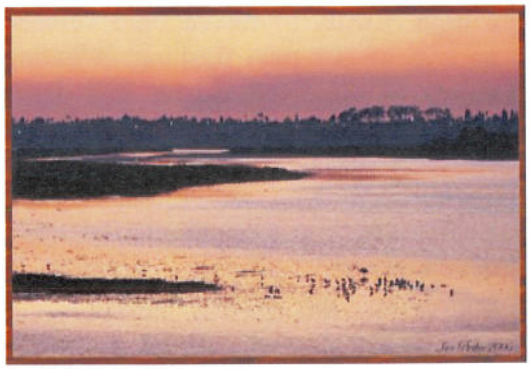
7. Set Next Meeting Date

The next meeting was set for March 11, 2010.

8. Adjournment

The meeting was adjourned at 4:43 pm.

Newport Bay provides many beneficial uses that justify efforts to protect its health. The Upper Bay is an ecological reserve and a sensitive habitat which supports a variety of marine and terrestrial organisms. Copper has been found to be toxic to aquatic organisms such as fish, mussels, and crustaceans at relatively low concentration levels. These organisms are especially vulnerable during the development stages of their lifecycles. Newport Bay also offers recreational benefits to residents and visitors. Swimming and boating are popular activities in the highly developed Lower Bay. Commercial fishing and recreational fishing also provide economic incentives for ensuring good water quality throughout the ecosystem. A commitment to a healthy Newport Bay can allow for proper protection and management of this unique environment. Responsibility for looking after the well being of the bay is shared by all stakeholders.



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For more information regarding the Newport Bay Copper Reduction Program, contact Ray Hiemstra of Orange County Coastkeeper.

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Newport Bay Copper Reduction Program

Recent studies have shown that metals are present in Newport Bay at levels that raise concerns for the health of the bay ecosystem. A significant portion of the copper found in the bay originates from copper-based antifouling paints used on recreational vessels. Boat owners, with support from the city of Newport Beach and OC Coastkeeper, are encouraged to explore alternative antifouling strategies to help decrease the copper load in the bay.

Copper

Copper is an essential micronutrient necessary for life and it occurs naturally in all waters across the world. The metal has been used for centuries to prevent buildup of marine biota on the hulls of vessels. However, higher concentrations are known to be toxic and can harm marine life.

CTR Non-Compliance

The California Toxics Rule (CTR) was established by the EPA to set water quality standards for toxic pollutants to protect human health and the environment. Water samples collected by OC Coastkeeper from Newport Bay contained copper levels that exceeded both short-term and long-term exposure limits.

Sources

Copper does occur naturally in the environment, but a large percentage of the load in Newport Bay is produced by humans. Sources include:

- Antifouling Paints
- Urban runoff
- Freshwater rivers and channels
- Air deposition
- Ambient Seawater

Marinas Are Most Toxic

Analysis of water and sediment samples has revealed that marina sites contain higher concentrations of copper than their neighboring channel sites. Copper leaching off boats with antifouling paints contribute the bulk of the pollutant copper within the bay. It is estimated that more than 80% of the copper within the bay can be attributed to copper-based antifouling paints on recreational vessels.

Case Study: Shelter Island, San Diego Bay

Shelter Island Yacht Basin in the north end of San Diego Bay experiences high concentrations of dissolved copper due to a large number of vessels with copper-based antifouling paints. Studies revealed that 98% of the copper present in the basin originated from vessel paints. An amendment was made to the Water Quality Control Plan for the San Diego region to incorporate a Total Maximum Daily Load for dissolved copper. The amendment calls for a 76% reduction of copper input over a 17 year period, with antifouling paints targeted for the majority of the reduction. Boat owners are required to find alternative strategies to comply with the new water quality standards.

Similarities With Newport Bay

Newport Bay has much in common with Shelter Island Yacht Basin. Both support a high density of recreational vessels in an area of low tidal flushing. Continued inputs of dissolved copper may lead to similar regulations in the Newport area. Newport Bay has already been placed on California's List of Impaired Water Bodies and a Copper TMDL is in development, placing priority on improving its water quality. OC Coastkeeper is coordinating a voluntary program to address the copper problem.

Benefits of a Healthy Newport Bay

Getting the Copper Out of Newport Bay

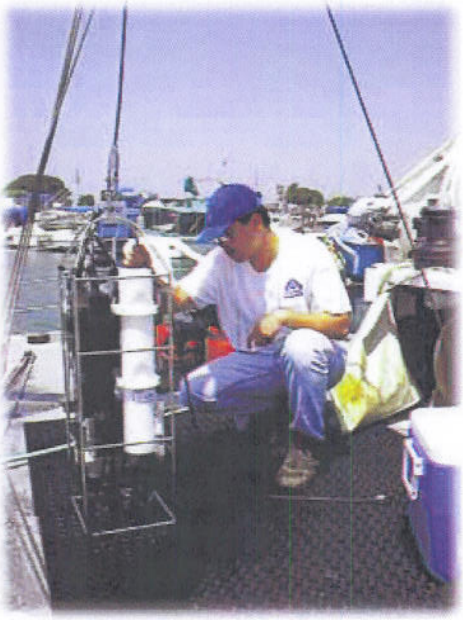
Coastkeeper and its partners have proved it's there, where it's coming from and they know how to reduce it, so let's get together and do it!

Newport Bay is one of the jewels of the California Coast and a valuable resource for 4 million Orange County residents. There is a great contrast between the upper and lower bays, defined as the areas above and below the Pacific Coast Highway bridge. The majority of Upper Newport Bay is an undeveloped ecological reserve—one of the last remaining large wetland areas in Southern California, and home to several endangered species and a wide variety of wildlife. The Lower Bay (also known as Newport Harbor) is fully developed, and serves as an economic engine for the community through tourist attractions, recreational boating and fishing activities.

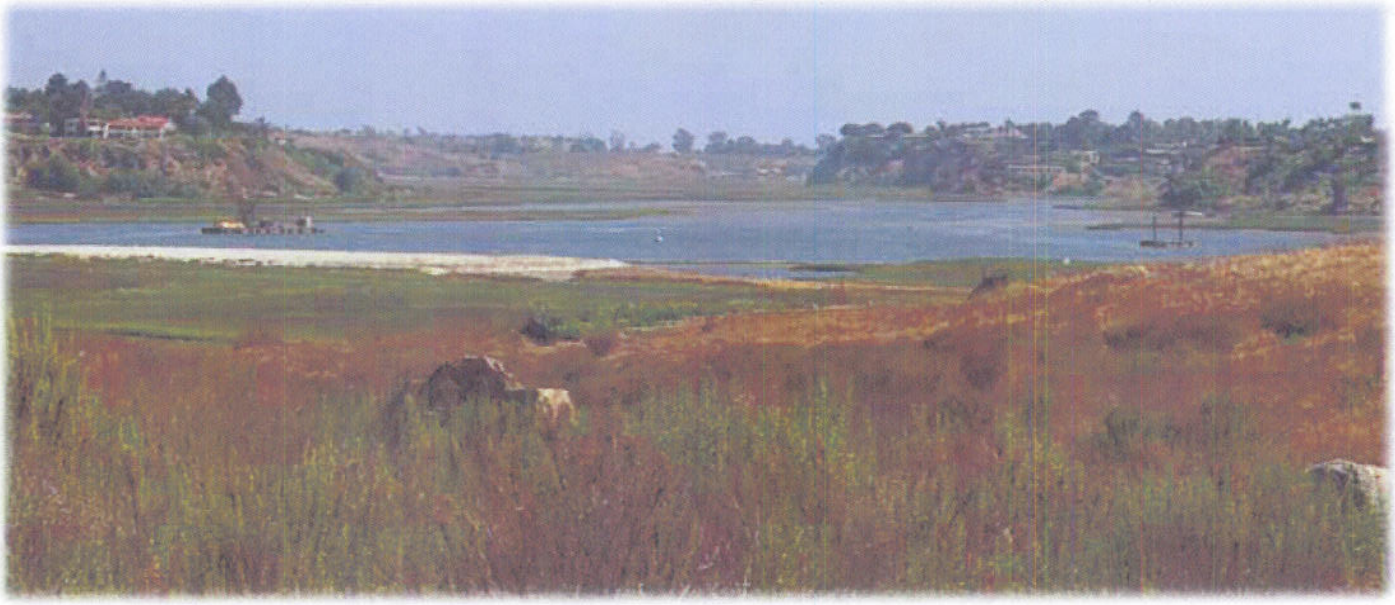
Although the upper and lower bays are very different, both are magnets for tourists and vital areas for wildlife. As such, it is important to maintain and restore these areas to support both wildlife and economic activity at Newport Bay. The most vital resource both parts of the bay have in common is water, and good water quality is fundamental to ensuring that the bay remains an asset to the community.

Orange County Coastkeeper has been working to improve water quality in Newport Bay for 10 years, in partnership with the City of Newport Beach, the Santa Ana Regional Water Quality Control Board and the U.S. Environmental Protection Agency (USEPA). During that time, the emphasis has been on conducting research to identify specific water quality and sediment problems in the bay and its tributaries, and developing plans and TMDLs to solve those problems. The next step is to implement these plans as soon as possible to improve the water and sediment quality in the bay.

This next step is occurring at all levels of government. Building on previous success in obtaining partial funding for dredging in Upper Newport Bay, the City has recently obtained new funding to complete the dredging of the upper bay and start necessary dredging in the lower bay to improve navigation and remove contaminated sediment. The Santa Ana Regional Water Quality Control Board has already adopted, and USEPA approved, the Total Maximum Daily Loads (TMDLs) for fecal coliform, nutrients and organophosphates. Included in these TMDLs is an implementation plan. Other key water quality issues in the bay are metals and pesticides, The USEPA promulgated a Toxics TMDL in 2002 that includes copper as a pollutant and the Regional Board staff are in the process of developing a Copper TMDL for Newport Bay that will contain a implementation plan for reducing copper concentrations in the bay. Coastkeeper is taking a major step in addressing this problem with our Newport Bay Copper Reduction Program.



This project, funded by the USEPA and the City of Newport Beach and managed by the Regional Board staff, aims to decrease the amount of copper discharged into the bay from boat paints through a voluntary program to reduce copper from boat bottom paints; boat paints are the largest source of copper to the bay. Boat bottom paints are designed to leach copper (or other biocides) to reduce the growth of algae, barnacles, and other marine organisms on the underwater hulls of boats, which limits the damage these organisms can cause to boat hulls. The paints also improve performance and fuel efficiency. Pesticides such as copper are embedded in the bottom paint and slowly leach out over a number of years. Boat bottom cleaning activities (which are necessary on a regular basis) also can result in the release of copper into the water and sediment. Since the elimination of the use of tributyl tin in boat bottom paints in the 1980s, copper has become the pesticide of choice in boat bottom paints throughout the United States. However, since copper is toxic to aquatic life, new water quality criteria (the California Toxics Rule) have been developed in the last decade, resulting in lower allowable pollutant concentrations and more waterbody listings on USEPA's 303d list.



Getting the Copper Out of Newport Bay *continued...*

The three-year Newport Bay Copper Reduction Program is intended to reduce copper concentrations in bay waters through a voluntary education program that will encourage boaters throughout the bay to switch to non-toxic bottom paints.

Since Newport Bay is listed for copper, there is a new focus on the use of this metal in marine applications such as bottom paint.

In the 2002 Toxics TMDL for San Diego Creek and Newport Bay, the EPA estimated that bottom boat paints discharge more than 50,000 pounds of copper a year into Newport Bay, by far the largest source. Additionally, studies in San Diego Bay showed that copper from boat bottom paints in Shelter Island Marina made up 98 percent of the copper load that created elevated copper concentrations in the water. As a result, the San Diego Regional Water Quality Control Board issued the Shelter Island TMDL in 2005 that mandated a 76-percent reduction in copper levels.

Following up on this work, Orange County Coastkeeper partnered with the Regional Board staff and conducted the Lower Newport Bay Cu-Metals Marina Study in 2007, under a contract from the city of Newport Beach and using funding from the Santa Ana Regional Board. The goal of this research was to determine whether copper and other metal concentrations were elevated in Newport Bay marina waters and sediments compared to channel concentrations . The study found that copper concentrations in water were above USEPA criteria in all marinas tested, and in three-quarters of the marina samples and half of the channel samples tested; copper concentrations were noticeably higher in marinas than in the channel areas of the bay These results demonstrated the need to reduce the discharge of copper from boats into Newport Bay to improve water quality, especially in the marinas.

It is important to note that while boat bottom paint is the largest source of copper to Newport Bay, it is not the only source. The County closely monitors copper discharged into the bay from San Diego Creek, which provides 90 percent of the fresh water to the bay, and copper loading from San Diego Creek and Santa Ana Delhi is estimated to be approximately 7,000 pounds per year. The other source of metals to Newport Bay are the >200 storm drains. In fall 2009, Coastkeeper will complete a study of metals inputs to the bay from storm drains. Coastkeeper, with support from Regional Board staff, is conducting this study under a contract from the city of Newport Beach with funds from the Regional Board. In addition to the marina and storm drain studies, Coastkeeper has received a grant to reduce the copper from boats in a target marina and baywide.

The three-year Newport Bay Copper Reduction program is intended to reduce copper concentra-

tions in bay waters through a voluntary education program that will encourage boaters throughout the bay to switch to non-toxic bottom paints. Additionally, the program will feature a focused education and financial incentive program for the Balboa Yacht Basin Marina by the City of Newport Beach, Coastkeeper and other partners, with a goal of encouraging 50 percent of the boats in that marina to switch to non-toxic bottom paints. To document the improvement in water quality resulting from the conversions to non-toxic bottom paints in the marina, Coastkeeper will monitor the water of Balboa Yacht Basin twice a year for the term of the project. By the end of this three-year program, we will be able to document the actual reduction in dissolved copper concentrations that can be achieved through the reduced use of copper bottom paint in Balboa Yacht Basin Marina, and will demonstrate a reduction in the overall load of copper to Newport Bay.

This project is an example of the type of voluntary initiative that Orange County Coastkeeper views as a logical first step in decreasing copper loads (and other pollutants) in Newport Bay and other waters. Through this program, Coastkeeper, the City of Newport Beach, Regional Board staff and our other partners will provide boaters with information explaining why a switch from copper bottom paints is necessary, and what types of non-copper and non-toxic bottom paint are available. We will also assist boaters in making the switch by working with local boat yards to develop non-toxic bottom paint services. The result of these efforts will be a reduction in copper loading to the target marina (Balboa Yacht Basin) and an overall copper loading reduction to the bay, which will yield a healthier bay that will better support the activities that make Newport Bay an attraction today and far into the future.

Volunteers like Julie Brelaxer? help Coastkeeper in a number of projects to measure water quality in the bay.

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Alternatives To Copper-Based Paints

As concerns continue to spread about the risks of elevated concentrations of copper in aquatic environments, safer options are being explored and tested. Many are receiving strong reviews and support within the boating community. The following details a few alternatives that provide commercially available products that are copper free.

Zinc

Similar to copper in many ways, zinc paints contain many of the same qualities and characteristics as traditional copper paints. Booster biocides are often added to combat fouling growth. Concerns do exist about the potential toxic effects of increased zinc concentrations in aquatic environments. Zinc is an even heavier metal than copper and may be subject to future regulations.

Epoxy

A non-toxic option with excellent foul-release characteristics. Provides a slippery surface that allows growth to be easily cleared with proper cleaning habits. Frequency of cleanings does increase and application and maintenance costs are initially more expensive. Does not need to be reapplied as often so cost savings are usually realized in the long-term.

Silicone

Slippery coating that can improve vessel speed and reduce fuel consumption. Coatings generally damage more easily than other options. Proper cleaning and maintenance are important for ensuring longevity of the product. Most fouling can be removed by operating the vessel at high speeds. Available in various compositions including silicone-rubber, silicone-epoxy, and siloxane. All have water-repellant properties.

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CURRENT REGULATIONS/STUDIES CONCERNING COPPER

International:

The Netherlands: Copper-based antifouling paints have been banned for recreational boats since 1999.

Sweden: Copper-based bottom paints have been banned for pleasure craft on the east coast and regulated depending on cuprous oxide leach rate and vessel size on the west coast.

Denmark: Copper-based bottom paints have been regulated depending on cuprous oxide leach rate and vessel size.

Statewide/Regional:

The State Board Copper Antifouling Paint Workgroup: Investigating the contribution of copper from antifouling boat paints to marinas.
http://www.cdpr.ca.gov/docs/emon/surfwtr/caps.htm

Statewide Marina Permit: The State Water Resources Control Board along with the Regional Water Boards are proposing the development of Waste Discharge Requirements for marinas. The State Water Board will set minimum statewide requirements but Regional Boards will have the option to implement more specific requirements for impaired marinas.
http://www.waterboards.ca.gov/water_issues/programs/nps/docs/reg_solutions/coastalmarinapermit_purpose.pdf

Port of San Diego Antifouling Paint Project: Evaluating the effectiveness of various alternatives to traditional copper-based paints. Currently finishing up testing phase and will begin analysis and evaluation of products.
http://www.portofsandiego.org/environment/alternative-hull-paints.html

Shelter Island TMDL: Amendment made to the Water Quality Control Plan for the San Diego Region to include a Total Maximum Daily Load for dissolved copper in Shelter Island Yacht Basin. 98% of copper originated from antifouling paints.
http://www.swrcb.ca.gov/rwqcb9/water_issues/programs/watershed/souwatershed.shtml

Local:

Newport Bay Toxics TMDL: Includes a Total Maximum Daily Load for metals including Copper in San Diego Creek, Upper Newport Bay, and Lower Newport Bay.
http://www.swrcb.ca.gov/rwqcb8/water_issues/programs/tmdl/tmdl_toxics.shtml

Lower Newport Bay Copper/Metals Marina Study: Comprehensive study detailing levels of copper and other metals in the marinas and channels in Lower Newport Bay. Results showed copper at concentrations above water quality standards.
http://www.coastkeeper.org/content/documents/FinalCu_Report_0408.pdf

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Biocide Basics

Paint manufacturers understand that biological growth on boat bottoms can have serious impacts on vessel performance. To prevent buildup, booster biocides are added and aid in the effort to keep boat bottoms clean. Various biocides exist and it is important for boat owners to understand what is going on their boats, and eventually into the water. These biocides have the potential to cause serious harm to the aquatic environment if found at elevated concentrations. The following biocides are commonly used in commercially available antifouling paints.

Biolux Technology: Interlux Paint's slime blocking biocide. Inhibits photosynthesis to prevent slime buildup but will not stop hard-fouling. Often coupled with other biocides or copper compounds to provide more complete antifouling results. Used in multiple Interlux Paint products.

Econea: A metal-free antifouling agent. Effective at controlling a wide range of invertebrate fouling organisms. Has been coupled with other biocides that prevent soft-fouling. Believed to be less harmful to aquatic life than biocides containing metals, but no studies have been undertaken to prove this.

Irgarol: An algaecide that inhibits photosynthesis by blocking electron transport. Effective against the growth of algae and slime but does not prevent animal build up. Most commonly coupled with copper compounds in antifouling paints. Specifically designed for use in marine environments. Harmful to a variety of non-targeted aquatic organisms.

Zinc Pyrithione: An algaecide/fungicide that affects normal algal/fungal activity by disrupting membrane transport. Has many medical applications such as treating dandruff, ringworm, and athlete's foot. Effective against soft-fouling organisms only, so must be coupled with another biocide to prevent hard-fouling. Zinc Omadine is one brand of the biocide commonly used in antifouling paint. Concerns exist about zinc accumulation in sediments and potential water toxicity as the product becomes more widespread.

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Coatings Eligible For Incentive Program

A variety of hull coatings are available for boat owners. It is important for boaters to consult experienced professionals in order to select a paint that is most compatible for their specific boat type and usage. The following products are a list of available options but inclusion does not constitute a recommendation or endorsement.

Intersleek 900:

Fluoropolymer foul release coating designed for all vessel types operating above 10 knots. Smooth and slippery surface that prevents strong adhesion of fouling growth. Three part system containing an epoxy primer, a silicone tiecoat, and a silicone/fluor polymer finish coating.

CeRam-Kote 99M:

CERAM-KOTE COATINGS

Two part epoxy that forms a flexible ceramic shell around hull after curing. Hard and slick surface which enhances cleaning efficiency. Compatible with fiberglass, aluminum, and steel boat bottoms. Frequency of haul-outs reduced significantly. Foulant release at higher speeds. Long lasting up to 10 years.

Miracle Cover Marine:

Two coat silicone rubber solution. Produces a clear penetrating film which will not discolor or degrade. Protection from destruction from water, algae, barnacles, moss, and ultraviolet rays. Can be mixed with paints and epoxies.

Aquaply M:

SSCC

Epoxy barrier coating containing no herbicides, algaecides, or metals. Provides a lubricated surface to help prevent fouling adhesion while also enhancing cleaning efficiency. In-water cleaning by a diver reduces the frequency of haul-outs necessary. Made to last 15-20 years. Available in many colors and can be applied by boat owner.

Sea-Speed V4

SCT™

SeaCoat Technology's fluorinated siloxane foul release coating. Cures into a hard, abrasion resistant film. Extremely smooth surface maximizes speed and improves fuel efficiency. Fouling is minimized in slow and idle situations. Two products exist: GC for Gel coat, wood, or fiberglass surfaces and DTM for steel and aluminum surfaces.

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Non-Copper Paint Alternatives

Company/Paint	Type	Antifoulant
CeRam-Kote Contact: Bill Kraus 858-942-9611 bill.kraus@sbcglobal.net		
CeRam-Kote 99m	Ceramic Epoxy	None
CeRam-Kote 99m + B	Ceramic Epoxy	Zinc Pyrithione/Econea
Interlux Contact: Stan Stussman 714-501-9602 stanpfa@pacbell.net		
Intersleek 900	Epoxy	None
Pacifica	Ablative	Zinc Pyrithione
Pacifica Plus	Ablative	Zinc Pyrithione/Econea
VC Eco	Hard	None
Epaint Contact: Troy Tully 619-286-3300		
EP 21	Ablative	None
EP 2000	Hard	Zinc Pyrithione
EP ZO	Hard	Zinc Pyrithione
Petit Paint Contact: Harvey Wills 949-574-7494 harveywills@aol.com		

VividFree	Ablative	Zinc Pyrithione
VividEco	Ablative	Econea
Sea Hawk		
Mission Bay	Ablative	Zinc Pyrithione
Mission Bay CSF	Ablative	Zinc Pyrithione
Miracle Cover Contact:Jon Wilber 714-325-4484 Miracle Cover Marine	Silicone Rubber	None
Sound Specialty Coatings Contact: Nancy Pearson 206-517-2611 sales@soundspecialitycoatings.com Aquaply M	Epoxy	None
SeaCoat Technology Contact: John Bowlin 832-237-4400 jbowlin@seacoat.com SeaSpeed V4	Siloxane	None

Newport Bay Copper Reduction Project

(319h grant)

presentation by Ray Hiemstra, Linda Candelaria, PhD

Background-
Why are we doing this?

- Newport Bay Beneficial Uses
- Copper Criteria
- Statewide activities
- Newport Bay Activities

Newport Bay Beneficial Uses

- Navigation
- Commercial and Sportfishing
- Recreation (swimming)
- Spawning
- Marine Habitat
- Shellfish Harvest
- Rare species
- Wildlife Habitat

Copper CTR Criteria

- California Toxics Rule
- Monitoring
- Impaired Waterbody List –(303d list)
- CTR saltwater criteria (Protective)
  Cu -3.1 ug/L –chronic, 4.8 ug/L –acute
  Zn -81 ug/L –chronic, 90 ug/L –acute

Copper-A Water Quality Issue

- Statewide/Regional

  Shelter Island TMDL
  Statewide Marina Workgroup/ Cu workgroup
  Department of Pesticide Regulation
  –Marina studies
  -Cu boat paint reevaluation
  Statewide Marina Permit
  Port of San Diego Antifouling Paint Project

- Newport Bay

  Newport Bay Toxics TMDL
  City/Regional Board studies

Statewide/Regional Activities

- Shelter Island TMDL
- Statewide Marina Workgroup/Cu workgroup
- Department of Pesticide Regulation
  - –Marina studies statewide (SD Bay, Newport,)
  - -Cu boat paint reevaluation
- Statewide Marina Permit
- Port of San Diego Antifouling Paint Project

Newport Bay Activities

- Metals Monitoring/303d list
- Newport Bay Toxics TMDL

  http://www.waterboards.ca.gov/santaana/water_issues/programs/tmdl/tmdl_toxics.shtml
- Metals studies in Newport Bay

- *Newport Bay Toxics TMDL*

  -approx 6lbs Cu released per boat per year =approx 60,000lbs Cu per year

  -boats are #1 source of Cu to Newport Bay

  -next highest source –tributaries

  (approx 7000lbs Cu per year)

Summary of Metals inputs to Newport Bay

Table 5-11

	Cd	Cu	Pb	Zn
freshwater[1]	N/a	7020	13,812	33,245
Recreational Boats [2]	negligible	50,114	negligible	Unknown
Air deposition[3]	3.5	101	68.4	606
Ambient seawater[4]	389	777	233	9330
Porewater[5]	negligible	Unknown	negligible	negligible
Total	393	58,002	14,113	43,181

Cu/Metals TMDL Studies in Newport Bay

- Cu-Metals Marina study

  http://www.coastkeeper.org/content/documents/FinalCu_Report_0408.pdf
- Storm drain study
- 319h Cu Reduction study

319h Project Basics

- A four year voluntary program to assist boaters in Newport Bay to reduce the use of Copper and other toxic boat bottom paints.
- The purpose of the project is to reduce dissolved copper concentrations in Newport Bay.
- To proactively deal with copper (and other metals) that are included in the Newport Bay Toxics TMDL.

Who is involved

- Funded by USEPA 319h Grant
- Administered by Santa Ana Regional Water Quality Control Board
- Run by Orange County Coastkeeper with City of Newport Beach and SARWQB as partners

Project Outline

- Education program
- Incentive Program For Balboa Yacht Basin
- Water monitoring program to document progress in reducing copper levels.

Other Components

- Work with boatyards to provide nontoxic paint services
- Work with paint manufacturers to introduce nontoxic paints to Newport Bay Boaters
- Non binding city resolution to encourage the use of nontoxic paint.

Education Program

- Workshops, Educational Materials, personal contact
- Focused program at Balboa Yacht Basin
- Harbor wide component
- Newport Bay Specific

Incentive Program

- Focused program at Balboa Yacht Basin
- Combination of incentives based on input from stakeholders.
- Incentives applies to Nontoxic paints only.

Water Monitoring

- Will occur twice a year in Balboa Yacht Basin and two control marinas and channels
- At least eight sample sites
- Establish baseline conditions and track reductions in dissolved copper concentrations.

City Resolution

- Non Binding –i.e. voluntary
- Important incentive to boaters, highlights regulatory process in progress.
- Developed in cooperation with Harbor Bay Water Quality Committee/Harbor Commission

Summary

- Copper exceeds CTR criteria in Newport Bay
- 319 project proactively addresses a long term problem
- Project Participation is Voluntary
- USEPA Funded Project reduces city costs

- Contact information

Ray Hiemstra ray@coastkeeper.org 714-850-1965
Linda Candelaria lcandelaria@waterboards.ca.gov
951-782-4991

Resolution of the City of Newport Beach
Endorsing a program to reduce copper discharges
Into Newport Harbor

Whereas, copper concentrations have been identified to be at levels that impact beneficial uses throughout Newport Harbor, and

Whereas, copper concentrations have been proven to exceed USEPA mandated sediment and water criteria in many parts of the harbor, and

Whereas, the Santa Ana Regional Water Quality Control Board is in the process of developing a Total Maximum Daily Load for Newport Harbor focused on reductions of copper discharges into the harbor, and

Whereas, Aquatic life has been proven to be adversely impacted by copper concentration found in the harbor, and

Whereas, healthy marine habitats in the harbor contribute to a sustainable local economic vitality from recreational fishing and beneficial uses to citizens, and

Whereas, copper contained in vessel anti-fouling bottom paint has been proven to be the primary source of copper deposition to the harbor, and

Whereas, the city of Newport Beach is participating in an education program to inform boat owners of the viable and cost effective copper-free anti-fouling paint options available, and

Now, Be it Resolved: The Newport Beach City Council hereby adopts a resolution recommending that boat owners voluntary use non toxic vessel bottom paint for vessels moored and docked throughout Newport Harbor. The City Council hereby encourages boat owners to act proactively by taking advantage of educational and outreach opportunities available to identify non toxic alternative anti-fouling paint for future use.

Integrated Pest & Fertilizer Management

Coastal Bay/Water Quality Committee
February 11, 2010

Dan Sereno, Parks & Trees Superintendent
GENERAL SERVICES DEPARTMENT

Overview

Fertilizer Management	Integrated Pest Management
Definitions Reporting Usage Cultural Practices	Identification Prevention Monitoring Tactics

Definitions

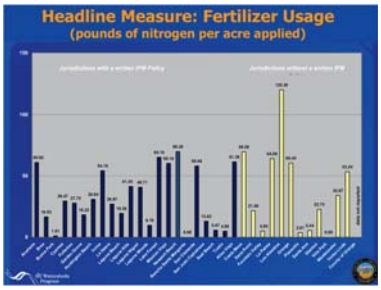
Fertilizer Management	Integrated Pest Management
The process of applying nutrients to the landscape based on plant needs, timing, type of fertilizer, application rate and method, and soil analysis to ensure healthy and viable plant material.	An approach that combines limited pesticide use with more environmentally friendly pest control techniques that focuses on long-term prevention of pests and their damage through a combination of techniques.

Reporting Requirements

Contractor	• Actual Daily Usage
City	• Monthly Total Usage
County	• Annual NPDES Report

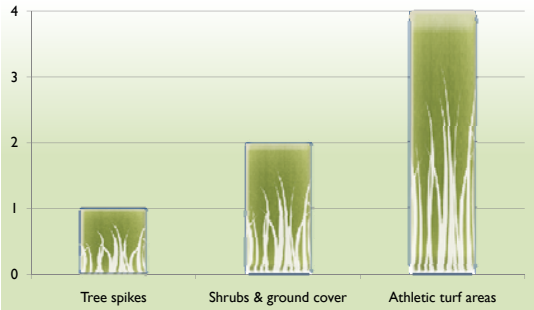
NPDES Permit
Fertilizer Management
Integrated Pest Management

NPDES Report FY 08-09



31,057 lbs / 455 acres = 68.26

Annual Application Frequency



Cultural Practices

Keeping Fertilizer On-site
- Not in use during rain
- Calibration of equipment
- Clean-off all hard surfaces & water immediately
- Aerate turf up to 4 times/year
- Dethatch/Vertical mow turf 1 time/year
- Soil analysis 1 time/year
- Top-dress 1 time/year

Follow UC Guidelines for Healthy Lawns

Healthy turf is more resistant to insects and disease and recovers more quickly from athletic use

Integrated Pest Management

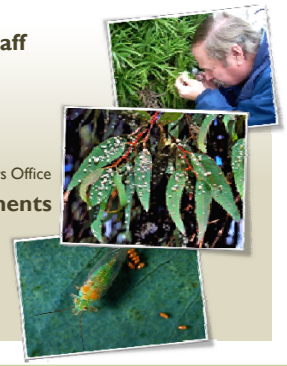
Identification
Prevention
Monitoring
Tactics

Pest Identification

Certifications of City Staff
- Pest Control Advisor (3)
- Qualified Applicator (7)

Licensing & Monitoring
- State Dept. of Pesticide Regulation
- County Agricultural Commissioners Office

City Contract Requirements
- Pest Control Recommendation
- Daily/Monthly Use Records
- Weekly Inspections
- Annual Training



Prevention

Drought-tolerant, Pest-resistant designs & varieties

Monitoring

Licensed Pest Control Advisor on-staff
- Field personnel also trained to identify pests

Visually inspect plants & landscape areas for:
- Insects
- Disease
- Vertebrae pests
- Weeds

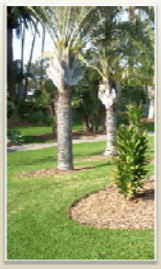
Tactics

Cultural (non-pesticide)
- Weather-based irrigation
- Soil moisture probes
- Higher mowing heights
- Removal of diseased wood
- Equipment calibration

Tactics

Mechanical/Physical Controls

- Manual weed abatement
- Mulch barrier



Tactics

Biological

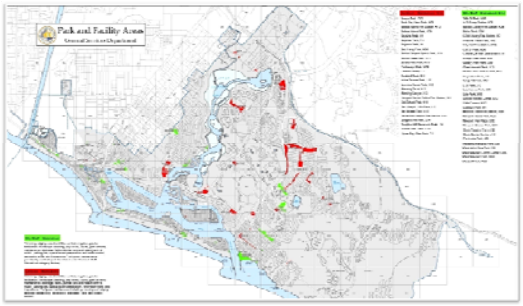
- Beneficial parasites

Tactics

Chemical (minimal usage)

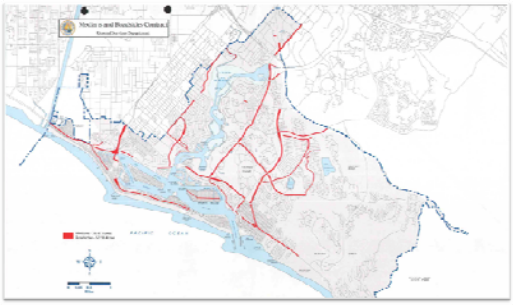
- Spot spraying
- Injections
- Bait boxes

Parks & Facilities



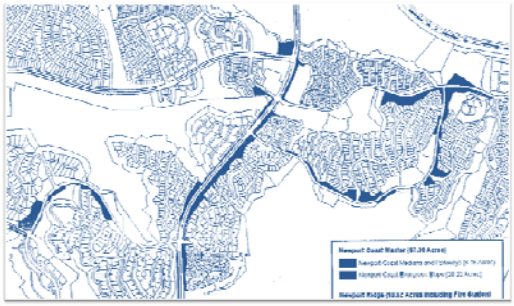
67 Locations

Medians & Roadsides



110 Locations

Newport Coast



95 Acres

Summary

The City's Integrated Pest & Fertilizer Management protocols are in full compliance with this year's & next year's NPDES permit.

GENERAL SERVICES DEPARTMENT

HABITATS AND SENSITIVE SPECIES OF BIG CANYON

Habitats of Big Canyon

A team of biologists conducted surveys in 2003 to record the many different plants and endangered and sensitive species living in Big Canyon. Big Canyon's 70 acres encompass the tidal area influenced by Big Canyon Creek and include mudflats, salt marsh and other wetlands habitats.

- **Diversity**

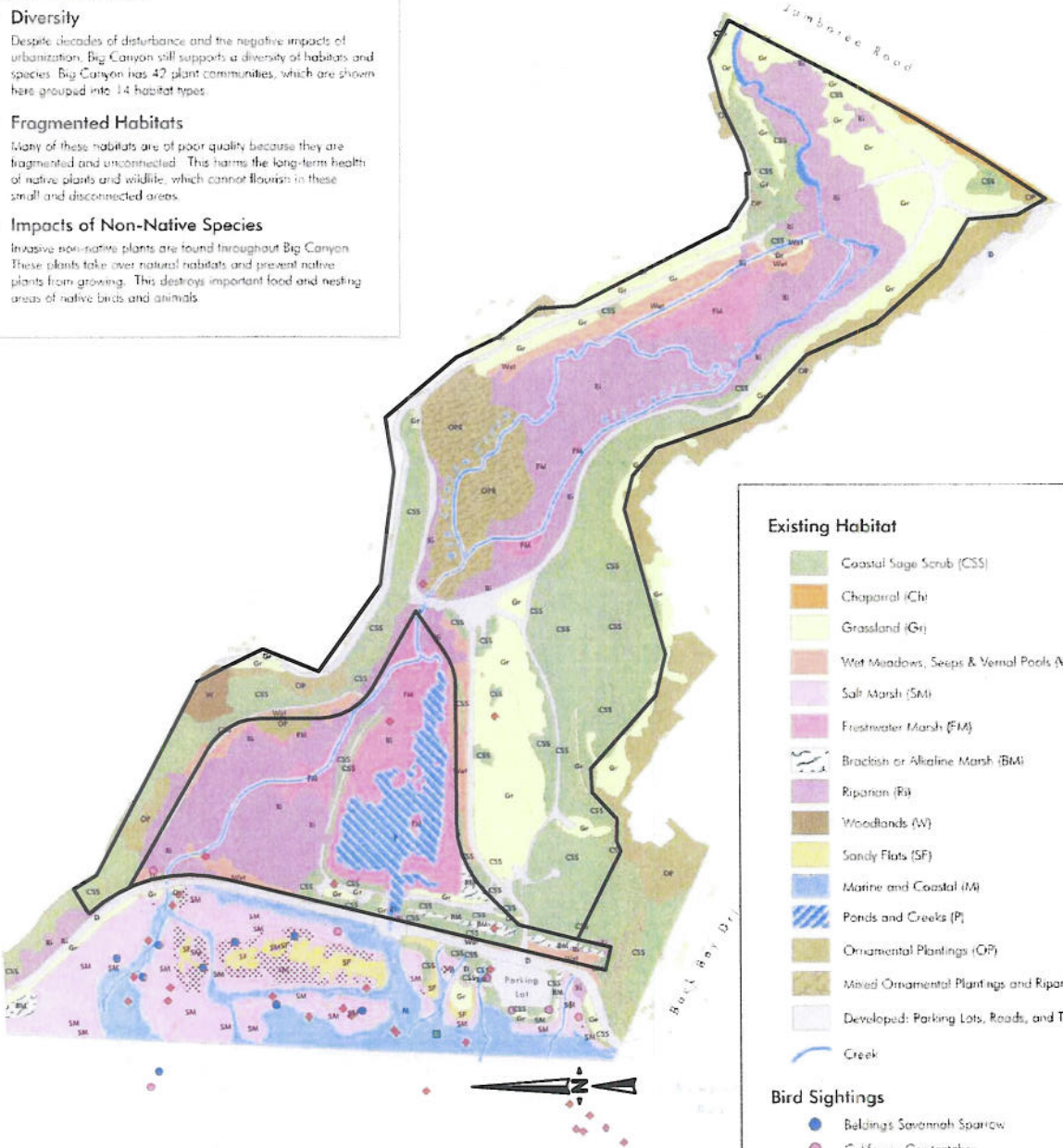
  Despite decades of disturbance and the negative impacts of urbanization, Big Canyon still supports a diversity of habitats and species. Big Canyon has 42 plant communities, which are shown here grouped into 14 habitat types.

- **Fragmented Habitats**

  Many of these habitats are of poor quality because they are fragmented and unconnected. This harms the long-term health of native plants and wildlife, which cannot flourish in these small and disconnected areas.

- **Impacts of Non-Native Species**

  Invasive non-native plants are found throughout Big Canyon. These plants take over natural habitats and prevent native plants from growing. This destroys important food and nesting areas of native birds and animals.



Existing Habitat

- Coastal Sage Scrub (CSS)
- Chaparral (Ch)
- Grassland (Gr)
- Wet Meadows, Seeps & Vernal Pools (Wet)
- Salt Marsh (SM)
- Freshwater Marsh (FM)
- Brackish or Alkaline Marsh (BM)
- Riparian (Ri)
- Woodlands (W)
- Sandy Flats (SF)
- Marine and Coastal (M)
- Ponds and Creeks (P)
- Ornamental Plantings (OP)
- Mixed Ornamental Plantings and Riparian (OPR)
- Developed: Parking Lots, Roads, and Trails (D)
- Creek

Bird Sightings

- Beldings Savannah Sparrow
- California Gnatcatcher
- Light-Footed Clapper Rail

Plant Species

- Salt Marsh Bird's Beak
- Other Sensitive Plant Species*

Insect Species

- Western Mudflat Tiger Beetle

Community Conservancy International

* Other sensitive plant species include: California Bow Thorn, Estuary Sea Blite, Leopold's Spiny Rush, Southern Spikeweed, Woolly Sea Blite

0 250 500 Feet

N

Imagery: October 6, 2003

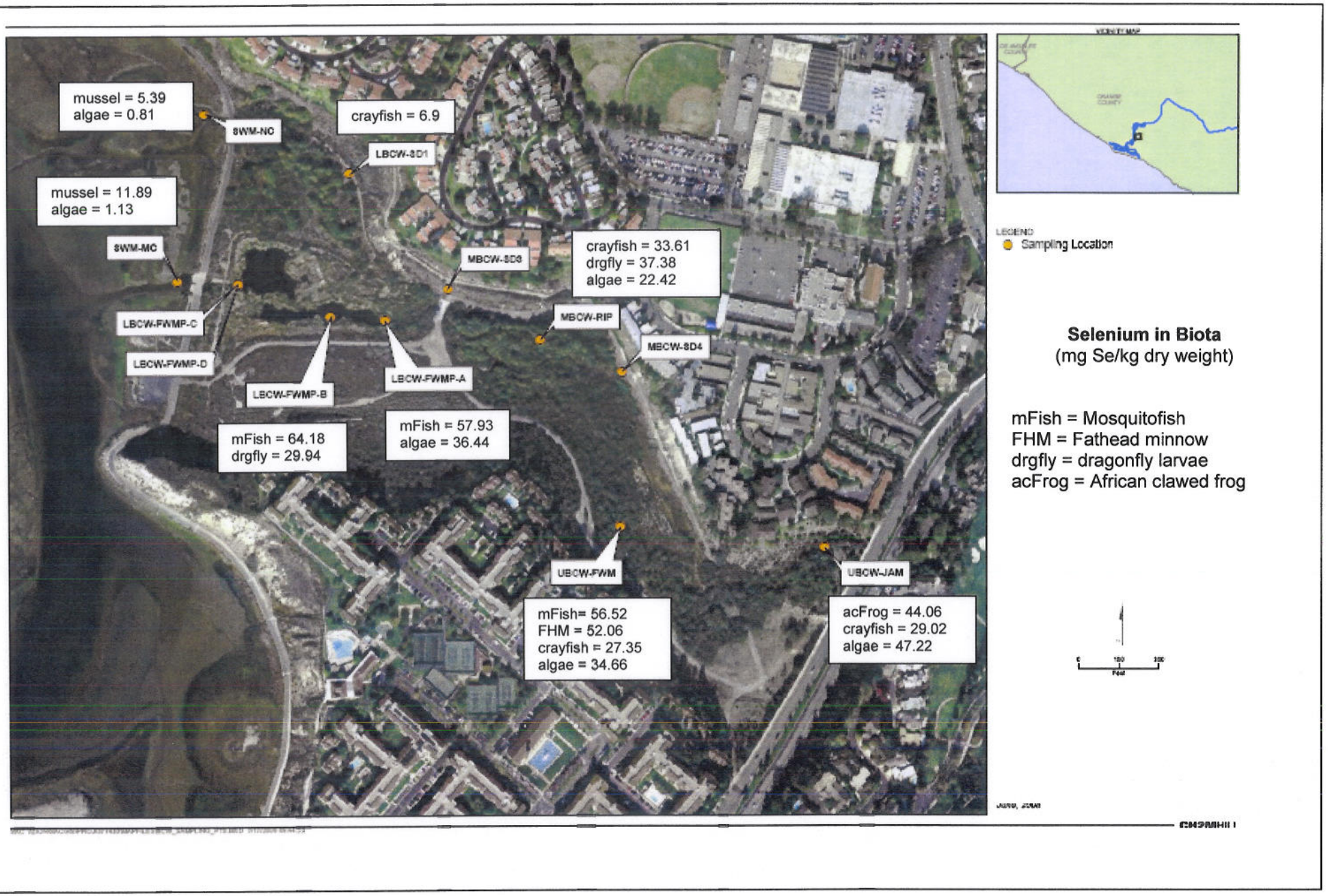


Figure 5. Baseline Monitoring Results, Selenium Concentrations in Tissue