

**CITY OF SANTA BARBARA WATERFRONT DEPARTMENT**

**MEMORANDUM**

**Date:** April 18, 2013  
**To:** Harbor Commission  
**From:** Scott Riedman, Waterfront Director  
**Subject:** **Annual Review—Clean Marina Program**

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**RECOMMENDATION:**

That Harbor Commission review and consider an annual report on the Department's Clean Marina Program.

**BACKGROUND:**

City Council adopted a Clean Marina Program in 2002, the goal of which is to achieve and maintain, via feasible means and alternatives, best management practices and a clean harbor environment for people, aquatic life and seabirds. It includes six elements:

- 1. Facilities for Boaters
- 2. Water Quality
- 3. Best Management Practices
- 4. Pollution Prevention and Abatement Projects
- 5. Education
- 6. Compliance and Enforcement

At inception of the Clean Marina Program, the Harbor Commission requested that staff measure and track its effectiveness and report back annually.

**DISCUSSION:**

**1. Facilities For Boaters**

**A. Sewage Pump-Outs**

The harbor's five sewage pump-out stations accommodate boaters and reduce the likelihood of sewage spills. Pump-out use in FY '12 (7,742 minutes) was close to the 10-year average. The Department of Boating and Waterways (DBW) has approved a \$21,000 grant to replace pumps at the two Marina One east pump-outs. DBW inspected all harbor pumpout stations in January, 2013 and found them in excellent working order.

Sewage Pump-Out Use (In Minutes)

<u>Fiscal Year</u>	<u>Marina 1 East*</u>	<u>Marina 1 West</u>	<u>Fuel Dock</u>	<u>Launch Ramp</u>	<u>Annual Total</u>
FY '03	5,165	1,253	1,421	73	7,912
FY '04	4,957	1,069	1,310	135	7,471
FY '05	4,758	758	2,183	3	7,764
FY '06	4,384	1,657	2,608	362	9,011
FY '07	3,796	1,269	1,666	27	6,785
FY '08	3,834	1,172	2,207	15	7,228

FY '09	3,690	976	1,464	252	6,382
FY '10	3,876	896	1,336	179	6,287
FY '11	4,128	884	1,204	217	6,433
FY '12	3,652	1,807	2,085	198	7,742

\* Two stations, P/Q finger and R/S finger

### B. Bilge-Water Pump-Out

A bilge-water pump-out at the Fuel Dock accepts straight bilge water, bilge water with diesel or bilge water with oil. It cannot accept gasoline, which must be disposed of at a Household Hazardous Waste Facility, or “hot loads” with contaminants like soap. The facility separates oil from water, storing oil in a waste-oil container while sending residual water into the City’s sewer system. Pumping at about five gallons per minute, the facility removed 4,475 gallons of bilge water in 2012, 78% of its nine-year average.

#### Bilge-Water Pump-Out Use (In Minutes)

<u>Year</u>	<u>Minutes</u>	<u>Gallons</u>
2003	1,086	5,430
2004	1,602	8,010
2005	1,416	7,080
2006	1,353	6,765
2007	1,546	7,730
2008	N/A	N/A
2009	629	3,145
2010	948	4,740
2011	813	4,065
2012	895	4,475

### C. Debris Nets

Over 40 debris scoop nets—found on each finger dock—help boaters remove light debris from the harbor. Some nets disappear or rot out each year. In 2012, staff replaced parts equivalent to 11 nets, two above the five-year average.

<u>Year</u>	<u>Nets</u>
2008	15
2009	7
2010	8
2011	6
2012	11

### D. Waste-Oil Disposal

The Department operates waste-oil disposal stations at the Fuel Dock, Marina 2 and Marina 4. These free facilities, which also accept oil filters, anti-freeze and oil-absorbent bilge pads, received 6,675 gallons of waste oil in FY '12, 88% of what was collected in FY '11, the first year the Department tracked this measure.

### **E. Marine Battery Collection**

The Department provides a marine battery collection bin on the City Pier near the Fuel Dock. Interstate Batteries hauls away the batteries for free. The number of batteries recycled in FY '12 (290) was nearly identical to the previous year and 84% of the four-year average, dating to when the Department started tracking this measure.

<u>Year</u>	<u>Batteries Recycled</u>
FY '09	450
FY '10	350
FY '11	300
FY '12	290

### **F. Fishing Line Recycling**

The Department operates three fishing-line recycling stations--one at Stearns Wharf Bait and Tackle, one on the shoreward finger west of the Sea Center and one at Sea Landing. In FY '12, the first year staff recorded the amount of fishing line collected, the stations received 24 pounds of line, which were mailed out for recycling.

## **2. Water Quality**

### **A. Monthly “Dry Season” Harbor Water Quality Monitoring**

In FY '12, seven stations were tested for three bacterial indicators between May and October. No samples exceeded state standards for body contact (Attachment 1). A map of harbor sampling sites is included as Attachment 2.

### **B. East Beach Water Quality Monitoring**

Coastal Commission permit conditions for the East Beach Mooring Program require water quality testing in the vicinity of the moorings twice a year for heavy metals and three times a year for bacteria. Results remain consistent with baseline results from 2006, indicating good water quality in the project area (Attachment 3). A map of the sampling sites is included as Attachment 4.

### **C. Dissolved Oxygen Tests**

The Department tests dissolved oxygen (D/O) levels in the harbor to predict and report low-oxygen events that cause fish and invertebrate die-offs. Twelve D/O tests were conducted in 2012. Results (Attachment 5) indicate mostly good levels (five milligrams of oxygen per liter of water) except for poor levels in April and September. This is a typical pattern and corresponds to the presence of seasonal algae blooms. When D/O levels are dramatically or chronically low, the Department posts notices on marina gates so crab and lobster fishermen who store their catch in receivers can move them outside the harbor to avoid “dead loss.” Fishermen are encouraged to alert the Department if they experience high dead-loss rates, so staff can test D/O levels immediately.

### **D. Fish Die-Off Response Plan**

Building on lessons learned from a massive fish die-off in King Harbor (Redondo Beach) in March 2011, Department staff drafted a Fish Die-Off Response Plan and presented it to the Harbor Commission in April, 2012. The Plan utilizes the Incident Command Structure for operational response, planning, logistics and public information, and is now included in the Department's Emergency Response Plan manual.

#### **E. Marina One East Restroom Improvements**

The Marina One East Restroom, constructed in 1998 as part of the Marina One Expansion project, included a submerged plastic sump tank that showed signs of failure, allowing sea water to seep into the tank. In November 2012, a contractor built a slightly narrower and deeper fiberglass sump tank capable of withstanding water forces that caused the original tank to warp. Removing the old tank and installing the new tank was one of the most complicated projects ever completed at the Waterfront.

#### **F. Dry Dock Case Closure**

On December 6, 2012, at a meeting in Santa Barbara, Regional Water Quality Control Board (RWQCB) staff informed the California State Water Resources Board that it had closed its investigative case on the Dry Dock in Santa Barbara Harbor. The case stemmed from a 2002 complaint by a local boater regarding illegal dumping of marine batteries and sediment contamination beneath the over-water haul-out facility, which was removed from the harbor in late 2010.

In 2002, California Department of Fish and Game, Office of Spill Prevention and Response (CDFG-OSPR) divers surveyed the Harbor bottom below the Dry Dock, as well as below the City Pier and fuel dock. Divers did not observe batteries below the dry dock, but did remove six batteries from below the City Pier and fuel dock in 2003.

During the 2002 Harbor bottom survey, CDFG-OSPR staff also collected ten bulk sediment samples from the surface of the Harbor bottom beneath the Dry Dock, as well as from a background location in the Harbor. RWQCB staff then directed the City to further characterize the magnitude and distribution of heavy metals in sediment below the Dry Dock and other potential "hot spots" within the Harbor. Between 2004 and 2006, City contractors collected sediment samples from the Harbor bottom below the Dry Dock, a former Dry Dock location, two storm drain outlets, and in the vicinity of the City Pier and fuel dock.

The collective 2002–2006 data indicated that the majority of "sediment of concern" is localized below the Dry Dock and is virtually immobile due to static Harbor bottom conditions at this location. RWQCB staff concluded that the metals and organotin compounds entered the Harbor via typical boat maintenance activities resulting from dry-dock operations (buffing, sanding, and scraping of boat bottoms).

Citing "relatively low risk" associated with the site, combined with removal of the pollution source (the Dry Dock), RWQCB staff claimed the case warranted no further action. They also pointed to removal of batteries beneath the Dry Dock and City Pier, the City's (certified) Clean Marina Program, Operation Clean Sweep and water-quality testing programs as evidence of overall environmental compliance.

## **G. Anti-Fouling Paints (AFPs)**

In response to studies indicating elevated copper levels in many Southern California harbors, testing alternative AFPs has increased in recent years. In an effort to advance applied knowledge, Harbor Patrol has applied several new AFPs:

- In June 2009, a zinc-based biocide was applied to Patrol Boat #3. Staff monitored its performance monthly with a diver and hauled out the vessel quarterly to visually inspect the bottom paint. The bottom was repainted in January 2011, November 2011, and September 2012. The zinc-based AFP has so far proved a suitable substitute for copper-based paint.
- In September 2011, an AFP that combines additives of zinc and Ecomea, a non-copper biocide, was applied to Patrol Boat #2. During subsequent haul-outs, hull sections experiencing high turbidity repeatedly wore off, exposing fiberglass. Paint re-applied to these areas also wore off. This product does not appear suitable for Harbor Patrol boats that experience constant use in a variety of conditions. Staff will review recent research on non-copper AFPs more suitable for work boats with application of another alternative planned in early fall.

Meanwhile, new “environmentally friendly” copper-free AFPs are appearing on the market. For example, “Eco-Clad,” a product of Luritek, contains nutrients that feed its own thin “biofilm,” which in turn, provides excellent antifouling resistance. This “bio-mimicry” is said to resemble the way fish create slime to prevent growth on their skin.

On the legislative front, Senate Bill 623, which would have banned copper-based paints by 2015, has been pulled by its author, in light of new scientific models that assess the bio-availability of copper and an ongoing Department of Pesticides study of copper paint formulations and “leach rates” of copper into the water column.

Assembly Bill 425 (Atkins), introduced in February 2013, would require the Department of Pesticide Regulation (DPR) to determine no later than February 1, 2014, whether copper-based antifouling paint should be registered as a pesticide and to identify what measures may be implemented to protect aquatic environments from the effects of exposure to that paint if it is registered as a pesticide. The bill would also require DPR to determine a leach rate for copper-based antifouling paint used on recreational vessels.

## **H. Clean Marina Program**

The Clean Marina Program is a multi-state, industry-sponsored certification program designed to reflect compliance with strict environmental and best-management practices to prevent ocean pollution. The Program has certified 116 marinas since 2004. Santa Barbara Harbor was certified in July 2006 and recertified in June 2011.

### **3. Best Management Practices (BMPs)**

#### **A. Storm Water Pollution Prevention Plan**

The Department complies with federal Clean Water Act standards through its Stormwater Pollution Prevention Plan (SWPPP), whose goal is to prevent pollution discharges into the harbor. The SWPPP includes a description of the entire Waterfront

and potential sources of stormwater discharge, plus BMPs to maintain the area such that stormwater does not become contaminated as it flows off Waterfront property.

Visual observations are made quarterly and storm runoff water samples (mostly from parking lots) are captured by Science Application International Corporation (SAIC) during two storm events per year. Results are reported annually to the RWQCB. No significant illicit discharges in were observed FY '12.

### **B. Storm Water Management Plan**

In 2009, the City completed a state-mandated Stormwater Management Plan (SWMP), which includes several Minimum Control Measures (MCMs—like public outreach, illicit discharge detection and BMPs) to help maintain good water quality in our harbor. As part of the City's overall SWMP, the Waterfront developed MCMs specific to its operations. To date, the Waterfront is compliant and current with the SWMP and will continue to work closely with the RWQCB to modify the document as appropriate.

### **C. Diver BMPs**

- All hull-cleaning dive companies trained and certified in BMPs for minimizing paint sloughing into the harbor
- Harbor Patrol Officers similarly trained

### **D. Staff And Contractor BMPs**

City staff and City contractors observe BMPs during maintenance, repair and construction work at the Waterfront:

- Vacuuming debris on decks or roadways during work
- Power-washing and/or scrubbing roadways and parking lots for oil and stain removal (recovered and deposited into sewer system)
- Monthly trash-enclosure cleaning at Waterfront Center Building
- Monthly strip-drain cleaning in the 117 Building alley
- Placing booms around projects sites near the water
- Placing crew in skiffs in the water to scoop debris
- Monitoring beaches to ensure all debris is retrieved
- Removing any leaking equipment from service

### **E. Oil Absorbent Pad Distribution**

Funded by the CalRecycle grant noted earlier, the Department distributes recyclable absorbent bilge pads that boaters use to soak up oily bilges and prevent leaks while fueling. The number of pads distributed in FY '12 (17,000) is near the 10-year average.

<u>Year</u>	<u>Pads Distributed</u>
FY '03	15,000
FY '04	18,000
FY '05	20,000
FY '06	17,000
FY '07	14,400

FY '08	14,000
FY '09	17,500
FY '10	17,500
FY '11	21,000
FY '12	17,000

**F. Bird Protection**

Due to fisherman/bird interactions on Stearns Wharf, staff has:

- Placed bird-protection signs at the breakwater, rock groin and on Stearns Wharf
- Placed “Please Don’t Feed the Birds” sign at SB Shellfish takeout window
- Inlaid permanent signs on piling “camels,” asking anglers to not feed birds
- Inlaid permanent signs on picnic tables, asking patrons to not feed the birds
- Inlaid permanent restaurant signs on tables asking patrons to not feed birds
- Increased patrols on Stearns Wharf and worked with owner of Stearns Wharf Bait and Tackle educating fishermen
- Rescued 81 birds in FY '12, compared 29 in FY '11

**4. Pollution Prevention And Abatement Projects**

**A. “Salad Boat”**

A contractor working from the dock and, occasionally, from a 13’ skiff, extracts litter and debris from the harbor on alternate Saturdays and during storms or following harbor events. This effort augments maintenance staff’s routine efforts, improves the harbor’s appearance, encourages a clean-ocean environment and helps maintain access to and from boat slips. Docks on the north side of Marina One continue to be primary collecting spots for debris. Others include Areas “A” and “C” (see summary, Attachment 6, and map, Attachment 7) where a storm drain outlet and natural eddies create debris problems. The salad boat removed an unusually high number of dead birds (30) during the past year, while Waterfront staff removed another 100. Other debris included aluminum cans, newspaper, buckets, kelp, tree limbs, plastic bags, tennis balls, cigarettes, snack wrappers and Styrofoam cups.

**B. Abandoned Watercraft Abatement And Vessel Turn-In Grants**

The Department disposed of two beached boats in FY '12 through DBW’s Abandoned Watercraft Abatement Fund (AWAF) — far below the annual six-year average of 10 boats, due mostly to an unusually mild winter. The Department has exhausted its \$41,500 AWAF grant, which had been extended since November, 2010, and will apply for a new (annual) \$15,000 AWAF grant this spring.

<u>Year</u>	<u>Abandoned Boats</u>
FY '06	14
FY '07	10
FY '08	13
FY '09	6
FY '10	15
FY '11	10
FY '12	2

The City also participates in DBW’s three-year-old Vessel Turn-In Program (VTIP), allowing people to voluntarily surrender vessels that would potentially be abandoned. Operating with an \$8,000 grant, the Department disposed of two VTIP boats in FY ’12. Due to the program’s statewide success, the Department will apply for a \$10,000 VTIP grant to last through June 30, 2014. In February 2013, the mayor sent a letter to California legislators supporting SB 222, which would indefinitely extend the VTIP program, currently set to expire at the end of the year.

### **C. Operation Clean Sweep**

Operation Clean Sweep, a volunteer seafloor cleanup program, has removed 10 tons of debris from the harbor during five annual one-day events. Typical debris includes barbecues, bicycles, plastic barrels, boat propellers, outboard engines and an occasional marine battery. This year’s event (May 4<sup>th</sup>) will target fingers “I” through “L” in Marina One. Staff expects 45 volunteer divers and dock workers to participate.

## **5. Education**

Staff disseminates Clean Marina information via *Docklines* and *The Log* newspaper, and distributes literature from California Sea Grant, the California Coastal Commission, DBW and the U.S. Coast Guard. Harbor Patrol educates boaters in the field, distributing “pollution packets” describing BMPs for clean boating and environmentally sound boat maintenance.

## **6. Compliance And Enforcement**

### **A. Marine Sanitation Device (MSD) Inspections**

Dye-tabling MSDs (“holding tanks”) is required for boats visiting Santa Barbara Harbor and for new slip and live-aboard assignments. The number of MSD inspections in FY ’12 (640—59% of the 10-year average) reflects a reduction in visiting boats, due to the economic downturn and a lack of slips during the Marina One reconstruction project.

<u>Year</u>	<u>MSD Inspections</u>
FY ’03	1,230
FY ’04	1,280
FY ’05	1,199
FY ’06	1,259
FY ’07	1,370
FY ’08	1,160
FY ’09	992
FY ’10	837
FY’ 11	770
FY’ 12	640

### **B. Discharge Violations**

There were 10 known pollution violations in FY ’12, the lowest number in eight years of tracking this measure. Patrol issued two citations, one for pumping oil overboard and

one for throwing rotten bait in the harbor. The ratio of warnings to citations continues to reflect the Department's emphasis on education as its primary enforcement tool.

<u>Year</u>	<u>Total</u>	<u>Warnings</u>	<u>Cites</u>
FY '05	32	29	3
FY '06	19	16	3
FY '07	22	19	3
FY '08	22	18	4
FY '09	14	13	1
FY '10	19	16	3
FY' 11	14	12	2
FY' 12	10	8	2

**COST SUMMARY:**

**FY 2012 PROGRAM COSTS**

Storm Water Pollution Prevention Plan	\$12,040
Dry Season Water Quality Testing	\$1,100
Salad Boat	\$12,760
* Oil-Absorbent Pads	\$9,780
* Abandoned Vessel Disposal (90% reimbursed)	\$17,740
East Beach Water Quality Testing	\$7,790
Replace Dockside Debris Nets	\$1,450
* Hazmat Turn-In Disposal	\$6,640
** Used-Oil Disposal	\$13,650
 Total Annualized Program Cost:	 \$82,950
 * Grant Funded/Reimbursed Costs	 \$47,810
 <b><u>FY '12 Adjusted Clean Marina Program Cost</u></b>	 <b><u>\$ 35,140</u></b>

**ANNUAL CLEAN MARINA PROGRAM COSTS**

FY 2003	\$ 40,647
FY 2004	\$ 25,476
FY 2005	\$ 27,627
FY 2006	\$ 32,400
FY 2007	\$ 33,770
FY 2008	\$ 25,900
FY 2009	\$ 25,163
FY 2010	\$ 21,792
FY 2011	\$ 21,543
FY 2012	\$ 35,140

## **CONCLUSION:**

The Clean Marina Program continues to be an important contribution to the Department's overall mission. It highlights the importance of maintaining a clean ocean environment for those who visit, recreate or work in Santa Barbara Harbor, as well as the marine and avian life that depend on it to thrive.

### Attachments:

1. Water Quality Sampling Results—Harbor
2. Water Quality Sampling Map—Harbor
3. Water Quality Sampling Results—East Beach Mooring Area
4. Water Quality Sampling Map— East Beach Mooring Area
5. Dissolved Oxygen Sampling Results—Harbor
6. Salad Boat Annual Report
7. Salad Boat Debris Cleanup Map

Prepared by: Mick Kronman, Harbor Operations Manager