

CITY OF SANTA BARBARA WATERFRONT DEPARTMENT

MEMORANDUM

Date: April 21, 2011
To: Harbor Commissioners
From: John N. Bridley, Waterfront Director
Subject: **Annual Review—Clean Marina Program**

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

To track its effectiveness, the Harbor Commission annually reviews the Clean Marina Program.

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. Their average pump rate is 15 gallons per minute. Sewage pump-out use in FY '10 (6,287 minutes) was close to the FY '09 total (6,382 minutes). This was a bit below the eight-year average of 7,355 minutes, but more consistent with this average considering the 7,000 gallons (466 minutes) pumped by a Mobius Rigging's mobile pump-out service. Begun in 2009, Mobius primarily serves customers on Monday mornings. Boaters can schedule service through a Mobius PayPal account at <http://www.mobiusrigging.com/Site/paypal.html>. In total, all pump-outs removed approximately 100,000 gallons of vessel sewage in FY '10.

Note: Another factor contributing to modest pump-out use in FY '10 (and FY '09) was the economic down-turn and commensurate reduction in coastal cruises. This directly correlates to total visitor-boat occupancy days, which were down 14% from annual projections in both FY '09 and FY '10, compared to FY '08, when visitor days actually exceeded that projection by 14%. Not surprisingly, In FY '08 there was also higher pump-out use.

Note: Use of the launch ramp pump-out remains minimal. Staff keeps this facility operational, but also uses it for emergency spare parts in high-use pump-outs.

Annual Summary: Sewage Pump-out Use (In Minutes)

Fiscal Year	Marina 1 East*	Marina 1 West	Fuel Dock	Launch Ramp	Annual Total
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

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

b. Bilge-Water Pump-Out

A bilge-water pump-out has operated at the Fuel Dock since 2003. It can accept 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 Center, 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.

Note: The pump-out operates at about five gallons per minute. Thus, 948 minutes of use in 2010 equals about 4,740 gallons of oily bilge water removed. Excluding 2009, when a meter malfunction caused erroneous data, and considering the 14% reduction of visitor days noted above, staff believes this figure is on par with an average year’s use of the bilge pump-out facility.

Annual Summary: Bilge-Water Pump-Out Use (In Minutes)

<u>Year</u>	<u>Minutes</u>
2003	1,086
2004	1,602
2005	1,416
2006	1,353
2007	1,546
2008	N/A
2009	629
2010	948

c. Debris Nets

Installed in 2005, 40+ debris scoop nets (available on each finger in all marinas), continue to serve boaters wishing to remove light debris from the harbor. Some nets disappear or rot out each year. In 2010, staff replaced eight complete nets with poles at a cost of \$984. A majority of nets replaced in 2010 simply disappeared.

<u>Year</u>	<u>Nets</u>
2008	15
2009	7
2010	8

d. Waste-Oil Disposal

The Department operates waste-oil disposal stations at the Fuel Dock, Marina 2 and Marina 4. These free, key-card-operated facilities also collect oil filters, anti-freeze and oil-absorbent pads. In 2010 the stations received 3,540 gallons of waste oil.

<u>Year</u>	<u>Gallons</u>
2008	3,300
2009	3,315
2010	3,540

Note: In July 2008, the Department inherited preferential access to a \$23,000 (annual) Oil Prevention Program grant from the state Department of Resources Recycling and Recovery (CalRecycle). It helps pay for waste-oil disposal, absorbent bilge pads and hosting a hazmat turn-in event that receives petroleum-based products.

e. Marine Battery Collection

The Department provides a marine battery collection bin on the City Pier near the fuel dock. In 2009, staff began estimating the number of used batteries deposited at the station, which Interstate Batteries hauls away for free. The estimate (300 batteries in 2009) derived from the assumption that for every battery sold by the fuel dock (150), a battery is placed at the recycle center that was not sold by the fuel dock. Fuel dock staff has since informed the Department that the number of batteries collected by Interstate is probably now twice the number sold, as word spread about the availability of this service. Using this recalculated formula and the fact that the fuel dock sold 117 marine batteries in 2010, staff estimates 350 batteries were recycled via this facility. Staff believes this service discourages boaters from discarding batteries in the trash or, worse yet, in the ocean.

f. Fishing Line Recycling

Two fishing-line (and fishing-hook) recycle containers remain in use at Stearns Wharf. Sea Landing commingles fishing line with other plastics. Keeping fishing line and hooks out of the ocean helps protect mammals and birds from injury or entanglement. Two new recycling stations (including educational signs) will arrive soon, replacing the existing stations. Provided free of cost by a consortium of state and non-profit clean-marina groups, the new stations will be installed this summer.

2. Water Quality

a. Monthly “Dry Season” Harbor Water Quality Monitoring

In FY 2010, seven stations tested for three bacterial indicators over six months (May through October), none of which exceeded state standards for body contact (Attachment 1)—two fewer than the number exceeding standards in FY 2009. A map of harbor sampling sites is included as Attachment 2.

In 2009, the Department, working with the Regional Water Quality Control Board (RWQCB), added to its Marina Rules and Regulations and Business Activity Permits a prohibition against the use of non-biodegradable soaps and disinfectants in vessel wash-down water. The RWQCB-required, twice-yearly testing for nutrients resulted in no detections. Those results for FY 2010 are also contained in Attachment 1.

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 primary pollutants like heavy metals and three times a year for bacteria. Baseline samples were taken in 2006 to establish a pre-project water quality profile. Subsequent tests have been consistent with the baseline tests, indicating good water quality in the project area. Results of FY 2010 bacteria sampling for the East Beach Mooring Area are included as 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 mitigate low-oxygen events that can cause fish and invertebrate die-offs. Twelve D/O tests were conducted in FY 2010. Results (Attachment 5) indicate good levels nearly year-round, except for the 4/30/10 test, which followed an algal bloom and corresponding fish die-off in the harbor. During that event, schools of anchovies, sardines and small mackerel unexpectedly entered the harbor in large numbers then died in the oxygen-poor environment. When the die-off event in Santa Barbara Harbor occurred, a similar phenomenon was recorded in other harbors, including Ventura.

Although D/O levels at times fell below the optimal base for maintaining healthy marine life (five milligrams per liter), this is typical for enclosed harbors and bays and according to fish and wildlife experts, poses no risk to marine life. Staff will continue testing D/O

levels. If levels are dramatically or chronically low, notices are posted on marina gates so crab and lobster fishermen who store their catch in receivers in the harbor can move them outside the harbor to avoid “dead loss.” Fishermen are encouraged to alert the Department if they experience unusually high dead-loss rates, so staff can test D/O levels immediately.

d. **Alternative Hull Paints**

In response to studies indicating elevated copper levels in many Southern California harbors, statewide research and testing of alternative hull paints has increased in recent years. In Santa Barbara Harbor, three tests are underway:

- i. **Santa Barbara Harbor Patrol** applied non-copper ceramic epoxy paint to the aluminum hull of Patrol Boat #3 in June 2008. Designed to allow marine growth to slough off a slick hull surface, the test proved unsuccessful at deterring marine growth, even with specified hull cleanings (every three weeks). In June 2009, the Department switched to a non-copper hull coating, one that contains a zinc-based biocide that its manufacturer claims “dissipates in seconds without bioaccumulation into the environment.” . Staff monitored its performance monthly with a diver and hauled out the vessel quarterly to visually inspect condition of the bottom paint. On January 31, 2011 a quarterly haul out indicated it was time to repaint the bottom. Having lasted 17 months, the zinc-based biocide paint has so far proved a suitable substitute for copper-based paint.
- ii. **California Sea Grant**, in partnership with UCSB, placed narrow, fiberglass panels (“tiles”) painted with various bottom-paint coatings at several harbor locations in 2008 to help evaluate hull surface fouling and assess the efficacy of various frequencies of hull cleaning. They also explored the influence of environmental factors on fouling growth, such as current, water temperature and salinity, to help inform best management practices for boaters and harbor managers—especially as they relate to the spread of aquatic invasive species. They anticipate the results of their study to be available this summer.
- iii. **Santa Barbara Channelkeeper** continues to study the efficacy of less toxic alternatives to traditional copper-based anti-fouling bottom paint. In 2008, Channelkeeper’s boat (the *Channelkeeper*) was painted with bands of four test paints and one traditional copper-based control. Performance of the paints has been evaluated bi-annually. As of December, 2010 one experimental alternative paint exceeded performance expectations-- Janessen's new marine biocide, Econeal 28, which contain no metal. For proprietary reasons The manufacturer will not disclose formulations of the paint but says it has been federally approved and has nearly completed California’s approval process. It may be available as early as this summer.

Meanwhile, in 2008 the San Diego Port District was awarded a \$190,000 EPA grant to study “*Safer Alternatives to Copper Antifouling Paints for Marine Vessels*,” specifically designed to find viable alternatives to copper hull paints. A final report on the study recently concluded that viable alternatives to copper do exist and are available for use today. To encourage wider use of these products, boaters need to be more engaged when selecting hull paint for their boat. They should familiarize themselves with available paints, recognize coatings that are best suited for their style of boating, understand upfront and long-term costs and select hull cleaners familiar with cleaning their alternative coating. Educating the hull cleaning industry on the proper cleaning frequencies and appropriate cleaning tools for alternative hull coatings is also vital to successful conversion efforts. More involvement will lead to successful use of alternatives, which in turn will lessen reliance on copper hull paints and help improve water quality.

e. Clean Marina Program

The Clean Marina Program (formerly California Clean Marina Program) is an industry-sponsored certification program designed to reflect compliance with strict environmental and best-management practices in marinas to prevent ocean pollution. The Program has certified over 100 marinas since 2004. Certification requires demonstrated, on-site compliance in 13 categories ranging from hazardous materials and petroleum containment to boater education on topside and bottom maintenance and prevention of vessel sewage discharges. Santa Barbara Harbor was certified in July 2006. A five-year recertification is scheduled for 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 discharge of pollutants into the harbor. The SWPPP includes a description of the entire Waterfront and potential sources of stormwater discharge as well as BMPs to maintain the area such that stormwater does not become contaminated as it flows off Waterfront property. Scientific consultants take runoff-water samples (mostly from parking lots) during storm events, reporting results annually to the Regional Water Quality Control Board (RWQCB). They reported no illicit discharges in FY 2010, so no mitigation measures were recommended.

b. Storm Water Management Plan

Last year, the City completed a state-mandated Stormwater Management Plan (SWMP), which includes several Minimum Control Measures (e.g. public outreach, illicit discharge detection and BMPs) to help maintain good water quality in our harbor. As noted in 2 (a) above, the state required a prohibition on non-biodegradable soaps for vessel wash down as a condition of SWMP approval. Biodegradable soaps are readily available at chandleries, boating outlets, auto shops and grocery stores.

The plan received initial comments from the RWQCB and has been revised to address those comments. Waterfront staff has finalized the 2009 report and submitted it to the RWQCB. Distribution of the final 2009 report is pending.

c. 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 (recycled or deposited into sewer system)
- Monthly trash-enclosure cleaning at Waterfront Center Building
- 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

Also, Stearns Wharf maintenance staff has developed an Operation Plan/Checklist to monitor and document activities that prevent ocean pollution.

d. Oil Absorbent Pad Distribution

Funded via the CalRecycle grant noted earlier, the Department continues distributing recyclable absorbent bilge pads, which boaters use to soak up oily bilges and prevent leaks while fueling. The program remains popular and successful. The number of pads distributed in FY 2010 is consistent with previous years:

<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

e. Bird Protection

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

- Placed bird-protection information signs at the breakwater, rock groin and on Stearns Wharf. These were replaced in FY 2009;
- 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; and

- Increased patrols on Stearns Wharf Worked with owner of Stearns Wharf Bait and Tackle on educating fishermen
- Added “Bird Rescues” as a P3 tracking measure for FY 2011. Estimating a total of 25 for the year, Patrol rescued seven birds during the first half of FY 2011.

4. Pollution Prevention and Abatement Projects

a. “Salad Boat”

A contractor working from the dock and a 13' skiff extracts litter and debris from the harbor on alternate Saturdays and during storm or event-related cleanups. This effort, augmented by maintenance staff's routine efforts, improves the harbor's appearance, encourages a clean-ocean environment and helps maintain access to and from boat slips. Most west-facing docks continued to be primary collecting spots for debris. Others include Area A (see map, Attachment 6) in the harbor's northwest corner where a natural eddy and storm drain outlet create a problem area, plus Area B, where storm drains line the north side of the interior breakwater and Area C, another natural debris-collection point near the small-boat launch ramp. Debris typically includes aluminum cans, plastic bags, tennis balls, cigarettes, snack wrappers and Styrofoam cups.

b. Department of Boating and Waterways (DBW) Abandoned Watercraft Abatement and Vessel Turn-In Grant Programs

The Waterfront Department continues to obtain annual grants from DBW's Abandoned Watercraft Abatement Fund, which pays 90% of the cost to remove sunken, abandoned or beached boats while the City works to collect those expenditures from the vessels' owners. The fund helped the City remove 15 abandoned boats in FY 2010. A current \$41,500 AWAFF grant expires in July 2011. The Department will apply for additional funds this spring for FY 2012.

The City recently began participating in a new DBW grant-sponsored Vessel Turn-In Program (VTIP) that allows persons to voluntarily surrender vessels that would otherwise be abandoned. This helps remove derelict boats from the water before they wind up sunk or grounded. Operating with a modest \$8,000 grant, the Waterfront Department has successfully disposed of six vessels under this program to date.

c. East Beach Mooring Permit Program

In 2006, City Council approved a plan to establish 46 permitted moorings east of Stearns Wharf. Interest in the program, reflected by the number of permits issued, varies. There were several mooring failures in FY 2009, caused by chaffed pendants and elements associated with Seaflex moorings, new installations of which are no longer permitted in the mooring area. A general lottery drawing on March 17, 2011 ranked 45 mooring permit applicants, which will hopefully fill out the mooring area. Staff believes the mooring program continues to provide value to the boating public, though periodic reviews of and/or adjustments to the program are necessary.

d. Operation Clean Sweep

Operation Clean Sweep, a volunteer seafloor cleanup program, removed 15,000 pounds of junk from the harbor during four annual one-day events. Typical debris included barbecues, bicycles, plastic barrels, boat propellers, outboard engines and an occasional marine battery. This year's event (May 7th) will target westerly fingers in Marina One. Staff expects 45 volunteer divers and dock workers to participate.

5. Education

Staff disseminates Clean Marina information in *Docklines* ("Clean Marina Corner") and *The Log* newspaper. It also distributes Clean Marina literature from California Sea Grant, the California Coastal Commission, DBW and the U.S. Coast Guard. Harbor Patrol educates boaters in the field and distributes "pollution packets" describing BMPs for clean boating and boat maintenance. All Harbor Patrol Officers are trained in BMPs for underwater hull cleaning, with five-year certifications. This training helps them monitor hull-scrubbing operations in the field. The Harbor Operations Manager serves as examiner during California Clean Marina certifications in other harbors and is helping coordinate Santa Barbara Harbor's recertification in June 2011.

6. Compliance and Enforcement

a. Marine Sanitation Device (MSD) Inspections

Dye-tabling Marine Sanitation Devices (MSDs—"holding tanks") is required for vessels visiting Santa Barbara Harbor and for new slip assignments and new live-aboard assignments. MSD inspections remind boaters of the Department's commitment to preventing sewage discharges and help educate them about Clean Marina standards.

The number of MSD inspections in FY 2010 was 16% less than 2009, which, in turn, was 14% less than 2008. The discrepancy is due to a drop in total visitor-boat days in FY 2009 and FY 2010.

<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

b. Discharge Violations

There were 19 known pollution violations in FY 2010, ranging from copper plumes in the water due to poor hull-cleaning techniques to an accidental holding-tank discharge. Three citations were issued—for urinating in the harbor, a diesel fuel discharge and a

transmission oil discharge. The disproportionate ratio of warnings to citations reflects the Department's emphasis on education as a 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	23	19	3
FY '08	22	18	4
FY '09	14	13	1
FY '10	19	16	3

COST SUMMARY:

FY 2010 PROGRAM COSTS

Storm Water Pollution Prevention Plan	\$9,378
Dry Season Water Quality Testing	\$910
Salad Boat	\$6,820
** Oil-Absorbent Pads	\$9,900
** Abandoned Vessel Disposal (90% reimbursed)	\$27,000
** East Beach Water Quality Testing	\$8,662
Replace Dockside Debris Nets	\$984
** Hazmat Turn-In Disposal	\$8,300
** Used Oil Disposal	\$12,091
 Total Annualized Program Cost:	 \$84,045
 ** Grant Funded/Reimbursable Costs	 \$63,253
 <u>FY 2009 Adjusted Clean Marina Program Cost</u>	 <u>\$ 21,792</u>

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

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 Debris Cleanup Map
7. Salad Boat Annual Report

Prepared by: Mick Kronman, Harbor Operations Manager