THE CALIFORNIA CLEAN MARINA TOOLKIT

A RESOURCE FOR ENVIRONMENTALLY SOUND MARINA MANAGEMENT AND OPERATION

INTRODUCTION

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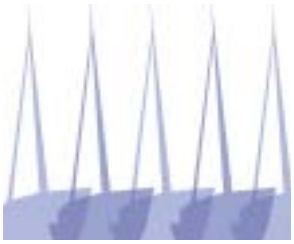

California Clean Marina Toolkit

A RESOURCE FOR ENVIRONMENTALLY SOUND MARINA MANAGEMENT AND OPERATION

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California Clean Marina Initiative Advisory Committee

This document was developed with significant input and assistance from members of the California clean marina Initiative Advisory Committee. All marinas in California were invited to nominate a representative to sit on the advisory committee. Half of the Committee members represent individual marinas (a mix of public and privately operated marinas), and half represent marina and boating associations in California.

The Commission is grateful to members of the Committee for the extensive time and effort they devoted to the development of this document. The following people participated in the Committee:

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Mick Kronman	Santa Barbara Harbor
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MaryLou LoPreste	Sun Harbor Marina
Javier Martinez	Emeryville Marina
Jay Mills	Tower Park Resort
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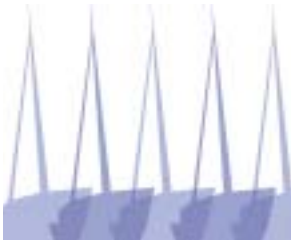
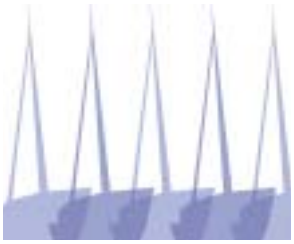
Kevin Thomas	Dana Point, Newport Dunes, and Sunset Marina
M'K Veloz	Northern California Marine Association
Ted Warburton	Brisbane Marina
Tom Welch	Westrec Marinas
Don Wetterstrom	Marina City Club

Toolkit



V. INFORMATION AND RESOURCES



Introduction

TO THE *CALIFORNIA CLEAN MARINA TOOLKIT*

The *California Clean Marinas Toolkit* is designed to help you, the marina operator, manage and operate your facility as a "clean marina." The *Toolkit* includes several components designed to assist you in identifying clean marina practices and resources that will help you to implement them. The first *Toolkit* section, The *California Clean Marinas Guidebook*, provides recommended practices for addressing particular pollution problems. These are practices that a marina may voluntarily choose to implement, not regulatory requirements. The *Checklist for California Clean Marinas* is included on the inside cover of the *Toolkit* as a companion to the *Guidebook* to help marina operators review their operations for opportunities to implement clean marina practices.

The second *Toolkit* section, *Educating Boaters at Your Marina*, is designed to assist you in educating your customers to be partners in your clean marina program. The third *Toolkit* component, *Environmental Strategies: Case Studies*, examines a series of diverse marinas in California and what they have done to operate as clean marinas. The last section, *Information and Resources*, identifies sources for additional information on topics addressed in the *Guidebook*. It also provides a list of government agencies with programs that pertain to marinas, a list of funding sources, and selected references for further reading about clean marina operations. The *Toolkit* includes a chart on the inside back cover entitled *Environmental Impacts of Boat Pollution.*

What is a "Clean Marina?"

At a minimum, a clean marina complies with environmental laws and regulations. However, a clean marina also strives to maintain a healthy, pollution-free environment by providing services that support clean boating, educating customers about clean boating practices, and training staff to be partners in the clean marina program. A marina that protects California's water resources helps ensure that future generations of Californians will enjoy recreational boating – with thriving fish populations, swimmable waters, and clean beaches and waterways.

Operating a clean marina is not only good for the environment and for boating, it is also good for business. Whether you manage a publicly operated coastal marina with thousands of slips, or a small privately operated inland marina with little in-water boat storage, improvements that make a marina more environmentally friendly can attract more customers. A clean marina can also save money by reducing costs associated with spill response or waste-disposal, and reduce potential liability associated with environmental incidents.

Clean Marinas in California – No "One Size Fits All" Approach

There are many marinas in California. Each is unique in terms of its design, operation, the types of boaters that it serves, and the pollution problems that it may experience. Since California marinas are so diverse, there can be no "one size fits all" approach to operating a clean marina.

This toolkit is intended to be a resource – one that provides you, the marina operator, with options to consider implementing in order to solve the pollution problems that may exist at your facility. It is up to you to choose the options and financing strategies that are workable and most likely to result in the maximum environmental benefits.

THE CALIFORNIA CLEAN MARINA TOOLKIT

THE CALIFORNIA CLEAN MARINA GUIDEBOOK

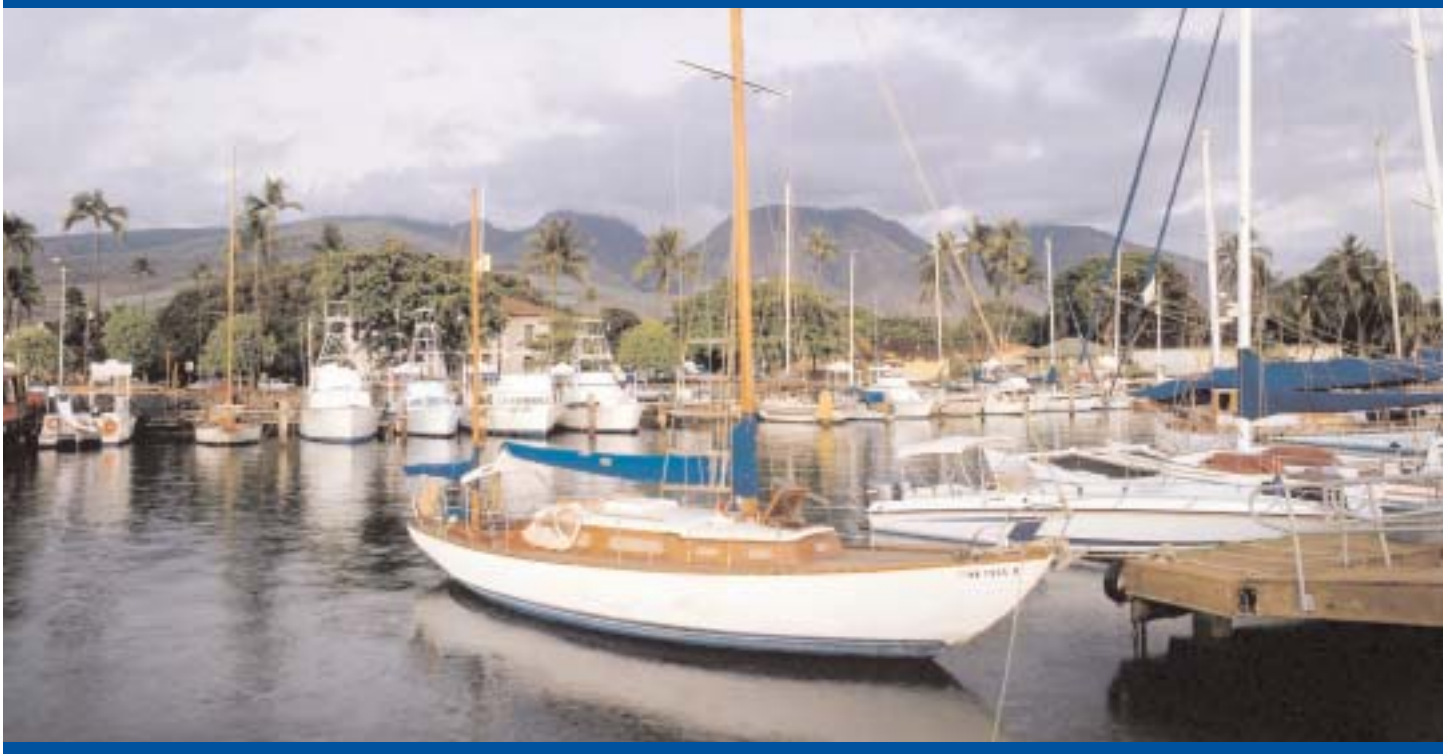
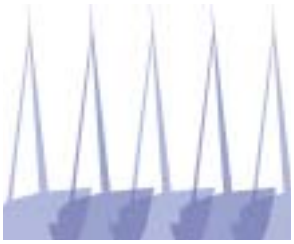


PHOTO: Department of Boating and Waterways



How to Use this Guidebook

The *Guidebook* suggests strategies that you can choose to implement in order to reduce or prevent pollution problems at your marina. The strategies are divided into two broad sub-topics: Clean Marina Management and Marina Operation and Maintenance. Suggested management strategies consist of:

- Developing and implementing environmental policies
- Creating a clean marina plan
- Providing staff training
- Preparing for emergency response

Suggested operation and maintenance strategies are provided for the following topics:

- Vessel Cleaning and Maintenance
- Boat Sewage
- Oil and Fuel
- Hazardous Waste
- Trash and Marine Debris
- Gray Water
- Fish Waste
- Boat Operation
- Storm Water and Polluted Runoff

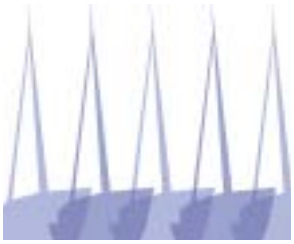
Not all suggestions made in the *Guidebook* are either necessary or economically feasible at all marinas in California. Factors such as the marina's size, location, other physical aspects, and local regulations may help to define what is reasonable and appropriate for a specific facility. The fact that a marina does not implement a practice suggested in the *Guidebook* does not mean that the marina is environmentally unsound.

Financing Suggested Strategies

The *Guidebook* provides information about grant and loan programs for funding environmental improvements in the margins near the suggested practices. Other strategies for financing environmental services and improvements include charging fees to boaters for environmental services, or increasing slip rental costs to cover the costs of environmental improvements. You may find it helpful to consider how other marinas in California have financed and implemented environmental improvements in the *Environmental Strategies: Case Studies* section of this toolkit.The *Information and Resources* section includes grant and loan programs.

Other Related Resources in the *Toolkit*

The *California Clean Marina Checklist* is included in the *Toolkit* to help you assess your operations. If you are interested in obtaining more information about any of the topics addressed in the *Guidebook*, consult the *Information and Resources* section of the *Toolkit*. For additional reading on clean marina and boat pollution issues, a selected bibliography is also provided.



Clean Marina Management

You can minimize pollution generated at your facility by enlisting employees, tenants, contractors, and other users of the facility in your clean marina efforts, through the following actions:

- ✔ Develop, communicate, and enforce marina environmental policies
- ✔ Develop and implement a clean marina plan
- ✔ Properly train staff to assist in clean marina operation
- ✔ Educate boaters that use the facility

This section addresses the first three elements of clean marina management listed above. *Educating Boaters at Your Marina*, a separate section of the *Toolkit*, contains strategies for educating marina users.

Marina Environmental Policies

Marina environmental policies help a marina set standards for tenants, visitors, contractors, and staff for acceptable environmental practices at the facility.

Develop marina environmental policies.
Establish a set of environmental policies that are tailored to the practices and boating habits of the marina's boating community. A sample set of marina environmental policies for boat maintenance is provided in *Appendix #1* of this guidebook.

Include the marina environmental policies in the Clean Marina Plan.
The marina's environmental policies form the basis of clean marina planning and should be included in the Plan.

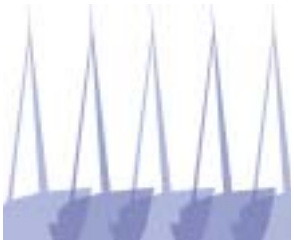
Communicate marina environmental policies to tenants, visitors, and contractors.

1. Incorporate environmental policies into contracts:
   - Include language that requires adherence to these policies in contracts for slip-holders, live-aboards, transients, charters, boat maintenance contractors, and others who might contract with the marina.
   - Clearly state consequences for failure to adhere to such policies (for example, request to cease work, penalties, or in severe cases, eviction).
   - Review and update these policies periodically and distribute revised policies to tenants and contractors.
   - Have tenants and contractors sign and date the policies acknowledging receipt.

2. Post signs to convey environmental policies in conspicuous places (fuel docks, pumpout stations, recycling stations, marina office). Consult *Educating Boaters at Your Marina* for information about developing signs.

3. Provide marina users with educational information that supports the marina's environmental policies. See *Educating Boaters at Your Marina.*

4. Advise workers who are provided access to the marina, but may not be under contract or lease, about the marina's environmental policies. This can be accomplished with handouts, conditions of access, or by written agreement.



✲ Identify violators of marina policies.

It is often difficult to identify the source of a discharge after it has occurred, which makes responding to the problem even more difficult. Consider establishing a daily inspection routine with staff for materials management, maintenance, and repair work in the slip (have staff investigate the source(s) of any pollutant or debris discharges).

✲ Keep lines of communication open.

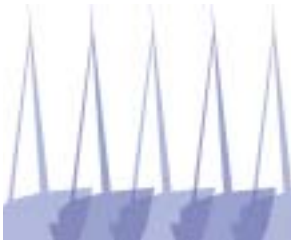
Some examples include:

1. Providing suggestion boxes
2. Being involved in the tenant association
3. Ensuring confidentiality when tenants report
4. Responding immediately when tenants report

✲ Respond to polluting customers and boat maintenance workers.

Marinas differ in their approach to those who violate marina policies. Examples of responses used by marinas in California include:

1. Providing educational materials
2. Issuing warnings
3. Issuing orders to cease work
4. Requesting enforcement actions by public agencies
5. Performing evictions



Clean Marina Plan

Developing an overall plan can make implementing clean marina practices easier and more effective. Maintaining one plan that: 1) identifies all clean marina-related programs (both required and voluntary), 2) describes how each program operates, and 3) identifies who is responsible for each required task, will be useful both to management and staff in keeping things running smoothly. The following steps are recommended for developing a Clean Marina Plan.

1. Decide who has responsibility for developing and implementing the Clean Marina Plan.

Management's firm endorsement and implementation of the Plan will ensure that staff take clean marina efforts seriously. Give the person chosen both the authority and the responsibility for the Plan's implementation.

2. Conduct an on-site clean marina assessment.

Use the *California Clean Marina Checklist*, provided in the front pocket of this binder, to assess operations and identify opportunities for reducing the environmental impact of the marina. Some marina operators hire technical consultants to conduct on-site environmental assessments.

3. Assess and implement environmental regulatory compliance.

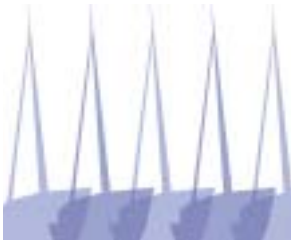
Marinas in California may be regulated by a number of different programs, depending on the existing facilities and operations. A marina can contact the regulatory agencies listed in the *Information and Resources* section of the *Toolkit* to assess whether appropriate steps have been taken to comply with applicable regulations.

4. Develop a Clean Marina Plan.

The Plan should have sections that address marina environmental policies, staff training and emergency response, and the various sources of boat pollution.

Before completing the Plan, a marina should complete the following tasks:

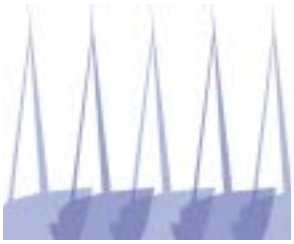
- Solicit ideas and input from marina staff and personnel.
- For each action, identify the key personnel who will be involved.
- Identify key questions or issues that need to be addressed before action can be taken.
- Determine costs and develop a budget for items that have costs associated with them.
- Develop a timetable for implementation of each action.



5. Communicate the Plan to marina staff.
Train the staff on plan implementation and make the plan available where the staff has easy access to it.

6. Foster a "clean marina attitude" among staff, tenants and visitors.
This will benefit the appearance of your marina and attract business.

7. Frequently evaluate and update the plan.
Periodically, conduct a review of the Plan to analyze its overall effectiveness and consider any changes or improvements to the Plan. Maintain records of actions taken to implement the Plan and be sure to monitor both the progress and improvements realized as a result of the actions taken.



Staff Training and Emergency Response

Well-trained staff who know the protocol for responses to emergencies and discharges can help prevent small problems from becoming big ones.

Develop an emergency response binder.
The binder should contain written procedures for action addressing potential emergency situations, including: health emergencies; earthquakes; fires; and oil, fuel, and chemical spills. Keep a copy of the binder with the Clean Marina Plan and another copy of the binder in a location that is easily accessible to staff, and train staff on the elements of the emergency response procedures. The binder should include:

A Site Plan. Include a site plan of the facility showing valves, pipes, tanks, structures, roads, hydrants, docks, power and fuel shutoffs, locations where hazardous materials are stored, telephones, and the location of emergency response materials.

Personnel Assignments. Identify which staff member will take what action in the event of an emergency. Designate one person as spokesperson for the marina (scheduling shifts, if necessary).

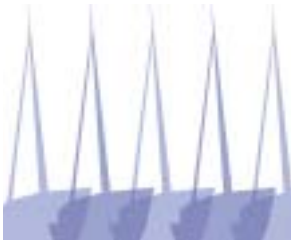
Phone Numbers. Include (prominently on the front of the plan) a list of emergency response phone numbers:

1. National Response Center (800)424-8802 and the state reporting number (800)OILS –911
2. Local fire and police
3. Local hospital
4. The facility owner
5. Spill response contractors
6. Neighboring marinas that have emergency response equipment

Actions. List and describe actions to be taken during a specific type of emergency, what equipment should be deployed, who is trained in its use, where it is located, and how to use and dispose of it properly.

Follow-Up. Describe how to properly record the incident, and periodically review and update the plans.

Develop an oil and fuel spill response or contingency plan.
Some marinas may be required by law to develop a Spill Prevention Contingency and Countermeasures Plan (SPCC Plan), or an Oil Spill Contingency Plan (OSC Plan). Consult the appropriate regulatory agencies listed in the *Information and Resources* section to determine whether you need to have an SPCC Plan or OSC Plan and for more information about these programs.



It's always a good idea to have plans for response to incidents involving oil, fuel, and hazardous materials if you have oil or fuel storage tanks on site, boats that can cause an oil or fuel spill, or if you store hazardous materials on-site. The plans should be short, clearly labeled, and should identify the following:

Who is responsible for taking what action.

What action should be taken.

1. Stop the flow or spill.
2. Contain the spill (including what equipment should be deployed).
3. Notify marina owner/manager.
4. Contact spill response company (provide the contact information of the company of your choice).
5. Report to local fire department or Certified Unified Program Agency (see *Information and Resources*)
6. Contact the Regional Water Quality Control Board (see *Information and Resources*)
7. Contact state response authorities at (800) OILS-911, and federal response authorities at (800) 424-8802.

When additional resources should be called for assistance. Emergency response companies can help with both the response planning and the actual response. Determine when the emergency response materials will be inspected and, when necessary, replaced. Establish a schedule for maintenance of equipment.

Where hazardous materials, oil and fuel are stored on-site. Also, include locations and inventory of response materials stored on-site and lists of sources for additional material.

How equipment should be used and disposed of. It is advisable to conduct training for emergency response in order to be adequately prepared.

☼ **Train marina staff in proper oil and chemical spill reporting procedures.** Anyone who sees or causes a spill of oil or chemicals must report it using both the state and federal reporting phone numbers. The federal spill reporting hotline is (800) 424-8802; the state's is (800) OILS-911. Post the reporting phone numbers prominently around the marina, especially in areas where chemicals, oil, and fuel are stored.

☼ **Maintain an adequate supply of oil spill response materials on-site.** Store a quantity of oil spill retention and containment materials (booms and absorbents) adequate to isolate a spill within marina waters and prevent oil migration beyond the marina.

1. As a standard rule, for every foot of boat, expect to use three feet of absorbent boom. A marina should have at least enough boom material to adequately encircle the largest boat in the marina.
2. Materials should be stored in an enclosed shed, container, or bin, in an area where they can be quickly and easily deployed.
3. Some marinas choose not to lock the storage area for oil spill response materials, allowing easy access and promoting a quick response for anyone addressing an oil spill.

✲ Oil and chemical spill response training.

At a minimum, provide regular staff training regarding:

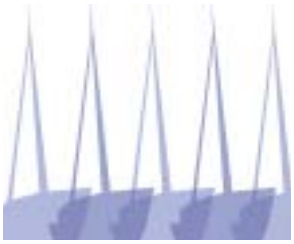
1. The contents and location of the emergency response plan (including a plan for oil and chemical spill response)
2. Their duties and responsibilities under the plan and in the event of an emergency
3. How to properly use and dispose of spill response materials and equipment
4. Any updates of the plan

The most common hazardous materials and oil spill response training is called a HAZWOPER training. For information about different types of training available, refer to the *Information and Resources* section.

✲ Responding to customers, workers, and visiting boaters who cause pollution.

Staff training should prepare employees to respond to boaters or workers who cause harmful spills or discharges. To prepare your staff, provide training on the following topics:

1. The marina's environmental policies (included in the Clean Marina Plan)
2. The location of environmental services available at or near the marina
3. How to operate on-site environmental services
4. The location and hours of operation of city or county solid and hazardous waste recycling and disposal facilities
5. How to notice and address the following:
   - Colored plumes in the water where underwater hull cleaning is being conducted
   - Bilge water discharge that causes an oily sheen
   - Fuel spills at the fuel dock
   - Uncontained sanding, painting, varnishing, cleaning, or refinishing that causes release of liquids or debris
   - The use of environmentally harmful cleaning products
6. How to engage to customers and workers that cause pollution
7. What authority they have to deal with these situations



Marina Operation and Maintenance for Pollution Prevention and Control

Marinas can provide boaters with 1) convenient places to dispose of or recycle waste, 2) inexpensive pollution prevention services, and 3) guidance on how to minimize or prevent pollution. This section provides suggestions for providing the services and programs that help boaters to prevent and reduce the impacts of the following:

- In-water vessel cleaning and maintenance
- Sewage
- Oil and fuel
- Hazardous waste
- Trash and marine debris
- Gray water
- Fish waste
- Boat operation
- Storm water and polluted runoff

In-water Vessel Cleaning and Maintenance Operations

If you suspect that in-water boat cleaning and maintenance practices are adversely affecting your marina waters, the following suggestions may help you find ways to improve the situation.

- **Adopt a policy regarding the amount and type of work that can be performed over the water.**
  Some marinas require that boaters and contractors limit sanding, refinishing, and painting on the topside to work where debris can be contained on the vessel and removed for disposal. Others completely prohibit any kind of topside boat maintenance in the water. Sample marina environmental policies for boat maintenance are provided in *Appendix #1*.

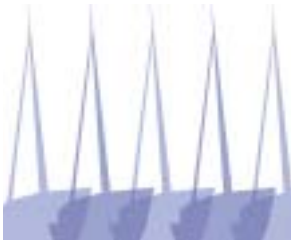
- **Limit the permissible in-water boat maintenance activities to those that have no or minimal impact to waterways.**
  Projects where debris cannot be contained and larger renovation projects should be conducted in boat yards with adequate waste collection and treatment systems.

- **Limit large-scale boat maintenance activities to shoreside boat maintenance area designed to minimize discharges of pollutants to the environment.**

PHOTO: Miriam Gordon

Large-scale boat maintenance should only be permitted in an enclosed or indoor shoreside boat maintenance areas away from the water's edge to prevent debris from being transported to adjacent waterways. Such facilities should comply with state and local regulations for hazardous waste management.

- **Establish a lending program for pollution prevention equipment.**
  Purchase and make available to your tenants equipment that helps to prevent discharge of debris associated with boat cleaning and maintenance, such as:
  1. Vacuum sanders with bag attachment
  2. Vacuums for cleaning various types of debris
  3. Portable oil change equipment that effectively contains and prevents oily discharge from the crankcase



✲ Require that all boat workers and independent contractors register with and receive approval from the manager before conducting work on the marina premises.

1. Distribute a copy of the marina's environmental policies to all contractors who work on the premises.
2. Keep a list of "approved" contractors and self-employed boat workers who have demonstrated compliance with the marina environmental policies and who have provided copies of insurance and a business license to the marina office.
3. Make the list available to tenants.

✲ Use a no-discharge approach to maintaining marina structures.

Scrape, sand, and paint in-water and shoreside structures according to the same management practices used for boat cleaning and maintenance. To the greatest extent possible, avoid in-water maintenance that causes discharges by performing the work shoreside.

✲ Encourage the use of less-toxic cleaning and repair products.

Encourage the use of phosphate-free and biodegradable soaps, and household alternatives to traditional cleaning products.

1. Encourage any on-site marine supply shops to make less-toxic products available.
2. Educate boaters and contractors about these alternatives through the distribution of educational materials.
3. Encourage or require boaters and contractors to use less toxic cleaners.

✲ Encourage boaters to limit the accumulation of leftover products that pose an environmental hazard (e.g. paints, solvents, cleaning products).

PHOTO: Miriam Gordon

1. Create a notice board for boaters to offer leftover products to others.
2. Coordinate a materials exchange program for your boaters to exchange or donate leftover products. This can be as simple as a "give-away" shelf or center at the marina where boaters can bring or obtain leftover products.
3. Inform boaters and contractors of the location of the closest hazardous waste disposal facility or that they can call (800) CLEANUP to find the location.
4. Use marina environmental policies and boater education to encourage boaters and workers to reduce waste.

Each year the California Department of Boating and Waterways (DBW) provides grants to public entities throughout the state for construction of launch ramps, boarding floats, shoreside or floating restrooms, shore protection, vehicle/trailer parking, and other boating related items. The facilities constructed with DBW grants must be in environmentally acceptable areas, meet or exceed their design criteria, be economically feasible, and remain open to all boaters at reasonable prices. In return for this funding, grant recipients are responsible for operating and maintaining the project for a minimum of 20 years at no additional cost to the state. These funds have been used for boat wash down areas and other services at boat launch areas. For more information, contact DBW at (916) 263-4326 or visit www.dbw.ca.gov.

✲ Encourage the minimization of discharges of hull coatings caused by underwater hull cleaning.

1. Allow only divers who are familiar with environmentally sound hull cleaning practices to conduct work at your facility or make a list of these divers available to your tenants. For a list of these practices, contact University of California Sea Grant (858) 694-2854 http://seagrant.ucdavis.edu/hullclean.htm/.

PHOTO: Santa Monica Bay Restoration Commission

2. Use marina environmental policies and boater and contractor education strategies to encourage environmentally sound hull cleaning practices.

✲ Install a soapless boat wash system or wash water recycling system at the boat launch ramp.

Soapless wash systems and systems that filter and/or recycle wash water can prevent the discharge of soaps and other pollutants associated with boat washing.

Sewage Management

The following strategies can help reduce overboard discharges of raw or poorly treated sewage.

☼ **Select appropriate sewage disposal systems for the types of boaters at your facility (tenants and guests).**

Sewage management options include:

1. Public restrooms
2. Sewage pumpouts permanently fixed to the dock
3. Pumpouts installed at each berth
4. Mobile systems mounted on a boat or a hand truck; or
5. Dump stations for port-a-potties

PHOTO: Kevin Atkinson

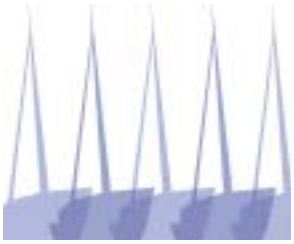
☼ **Select a convenient and accessible location for sewage pumpouts and dump stations.**

End ties at guest docks are good locations. Make pumpout stations available to customers at times that encourage their use.

☼ **Have an attendant available for the sewage pumpout to encourage usage and to educate boaters about proper use of the equipment.**

1. Train your staff on correct usage so they may assist boaters as necessary.

Marinas can obtain grants for installation of sewage pumpouts and other sewage management systems through the Clean Vessel Act grant program. The grant will reimburse recipients for up to 75% of the installed cost of pumpout and dump stations. For more information, contact the Department of Boating and Waterways at (916) 263-1331, toll-free (888) 326-2822



2. Install an intercom at the pumpout so boaters can call for an attendant if necessary.
3. If your sewage pumpout is located near the fuel dock, train the fueling attendant to assist with pumpouts.

✲ Regularly maintain and inspect the pumpout system to keep it in good working order.

1. Create a daily inspection schedule.
2. Arrange for a qualified contractor to provide service and repair in a timely manner.
3. Assign staff to conduct inspections.
4. Use signage to indicate the phone number to call when the system is disabled.
5. Keep a variety of nozzles in stock to replace broken ones.

✲ Decide whether or not a fee will be assessed.

Providing pumpouts for free is best for encouraging boaters to use it. Facilities installed with Clean Vessel Act (CVA) grant funds may not charge more than $5 per pumpout for sewage pumpout services. If your facility currently charges a fee, consider these options:

1. Provide free-pumpouts with refueling.
2. Provide free pumpouts for tenants only.
3. Cover costs by raising slip fees.
4. Assess a monthly sewage pumpout service fee to all vessel owners/tenants who have an on-board holding tank. Some marinas provide the service either with built-in slip sewage pumpout services, or by hiring a mobile sewage pumpout operator to service vessels in the marina on a regular basis.

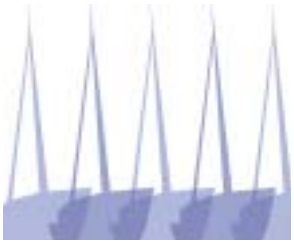
✲ Provide adequate, convenient, and comfortable shower and restroom facilities.

Providing convenient, accessible (24 hours), clean, functioning restrooms helps boaters to reduce the use of on-board systems. In busier marinas, some toilets should be open to the public.

✲ Provide adequate sewage management services for liveaboards.

Options for providing such services include:

1. Direct sewage hookups
2. Portable sewage pumpout services
3. Encouraging liveaboards to contract with a mobile pumpout service
4. Charging liveaboards a monthly fee and arranging for pumpout service on a regular basis
5. Encouraging liveaboards to use shoreside toilet and shower facilities.
6. Offering to demonstrate the proper way to secure the Y-valve



☼ **When you offer public sewage pumpout services, make sure they are identified in maps, boating publications, and other boating resources.**
(see *Information and Resources*).

☼ **Educate boaters about sound sewage management practices.**

1. Recommend that boaters service their MSDs annually to ensure they are functioning well.
2. Encourage boaters to use Type III systems and to ensure that the "Y" valve is locked and secured while in port and within the navigational waters of the state.
3. Post signs prohibiting the discharge of sewage in the marina and identify the location of the nearest sewage pumpout facilities or services.
4. If you have a sewage pumpout facility on-site:
   - Post signs that identify the facility using the national sewage pumpout logo. Signs with these logos are available from the Department of Boating and Waterways (see *Information and Resources*).
   - Be careful how signs are worded. “Sewage Pumpout” or “Sewage Dump Station” are recommended identifiers, to avoid confusion with a bilge pumpout, or with the fuel pump.
   - Provide clear instructions on how to operate the pumpout.
   - Provide existing and new tenants a demonstration of how to operate the system properly.

☼ **If boat sewage discharge is severely affecting water quality in and around your marina, consider working with government agencies to declare your harbor a No-Discharge Area (once adequate sewage pumpout facilities are in place).**
It is illegal to discharge treated or untreated sewage in a No-Discharge Area. For more information, check *Information and Resources*.

Local government agencies receive grant funds from the California Integrated Waste Management Board (CIWMB) to collect used oil for recycling. These agencies may distribute funds to marinas for used oil recycling services, bilge pumpout facilities, absorbent pad distribution and collection services, and oil change services. Check with the CIWMB to determine which local agency official you should contact to determine whether such funds might be available to your facility. Call (916) 341-6457, or visit www.ciwmb.ca.gov/usedoil/grants

Oil and Fuel

The following suggested practices are provided to help marinas A) control oily discharges from boats, B) encourage proper disposal of oily waste, C) prevent fuel spills, and D) remove sunken and abandoned vessels.

A. CONTROLLING OILY DISCHARGES FROM BOATS

- **Inform marina tenants of practices that minimize oily discharges.** (See *Educating Boaters at Your Marina)*

- **Develop marina environmental policies that will help to minimize oily discharges.**

  For example, institute a policy that prohibits the release of oil or fuel in any quantity that will either cause a sheen or emulsion, and that prohibits the application of detergents or emulsifiers to disperse an oil or fuel spill on the water's surface or in a boat's bilge (these activities are illegal. See *Appendix #1* for sample policies.

- **Provide a method for preventing overboard disposal of oily bilge-water. Consider the following options:**

PHOTO: Vivian Matuk

1. **Bilge pump with oil-water separation systems.** A bilge-water pump attached to an oil-water separation system captures used oil for recycling and removes oil and/or fuel from the water before it is discharged either to the sanitary sewer, the nearby waterway, or a holding tank. This type of system is recommended where there are significant numbers of inboard motor boats, where contaminated

PHOTO: Miriam Gordon

bilges occur at least occasionally, or in marinas with commercial fishing boats. While installation costs can be high, the cost to a marina to contain and clean up a single discharge from an unidentified bilge can equal or exceed the cost of installing a bilge pumpout system. Consider these recommendations for installing bilge pumpout systems.

- Check with local government (the city or county used oil program) to determine whether they will provide funding for equipment purchase, installation, and on-going maintenance.
- Determine where the system will discharge waste water. Options include discharge to the sanitary sewer and to the nearby waterway. Determining where to discharge will determine what permits will be required for discharge, and what quantity of oil will be permitted in the discharge. Sanitary sewer discharge must be permitted by the local sanitary sewer system. Discharge to the nearby waterway is regulated by the Regional Water Quality Control Board of the State Water Resources Control Board.
- Determine which bilge pump and oil-water separation systems will be used, and where segregated oil will be collected. Develop plans for plumbing, electrical, and other installation needs – some marinas hire engineers or consultants to develop these plans.
- Determine how the bilge pump will be operated. In most cases, marina or fuel dock staff operates the system due to the need to prevent soaps and emulsifiers from entering the system. Some marinas allow boaters to operate the system once they have had a demonstration.
- Determine who will maintain the system and develop a maintenance schedule.

2. Absorbent pad distribution and collection programs. When starting an absorbent pad program, consider:

- Providing collection for saturated or spent absorbents. Since oil-saturated absorbents can be flammable and toxic, boaters need access to legal and safe absorbent disposal facilities. Saturated

PHOTO: Steve Kim

oil-absorbents must be disposed of as hazardous waste in California, unless they are collected for recycling. To learn more about providing safe and proper collection of spent absorbent pads, consult your local Certified Unified Program Agency (CUPA) and the Department of Toxic Substances Control (DTSC), (see the *Information and Resources* section).

- Making it an "exchange" program—that is, to receive a free new pad, boaters are encouraged to bring in old spent pad for disposal (this encourages proper disposal).

3. Mobile bilge pumpout services. Contract with a mobile service operator to provide regular service to customers who request it. Regular service fees can be included in the rent or charged separately.

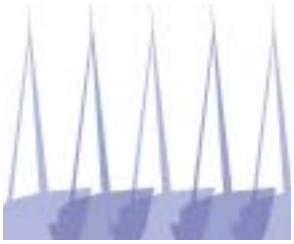
✲ Inform boaters about the location and availability of the closest bilge pumpout and absorbent pad distribution and collection services.

PHOTO: Steve Kim

Remember to include information about mobile bilge pumpout, steam cleaning and related services.

✲ Offer spill-proof oil changes.

1. Install an oil-change system at your marina. Consider offering this as a free service and charging only for the new oil, or charging only a nominal



fee. Purchase and use re-refined oil in the system. For more information about re-refined oil, see *Information and Resources.*

2. **Contract with a mobile boat-to-boat oil change service to provide regular service for boats in your marina.**

3. **Offer the use of portable spill-proof oil change equipment.** To minimize the spills caused by do-it-yourself oil changers, purchase inexpensive, portable oil change equipment and make the equipment available on a loan basis to your tenants.
   - Advertise the oil evacuation equipment loan program using boater education strategies .
   - Use a sign-out system for lending the equipment.

☼ **Implement a "no-soap" policy for cleaning oil and fuel.**
Educate boaters about the importance of using preventive engine maintenance and soap-less bilge cleaning techniques and encourage these practices through marina environmental policies.

B. ENCOURAGING PROPER DISPOSAL OF OILY WASTE

☼ **If your marina does not provide used oil collection services, inform boaters of the location of local hazardous waste and used oil collection facilities.**
Provide the (800) CLEANUP hotline and local waste recycling information numbers. Inform boaters about city or county oil and hazardous waste collection programs or events.

☼ **If boat oil changes are common in your marina, consider providing used oil recycling.**
Providing convenient used oil collection facilities helps boaters to properly dispose of (i.e. recycle) used oil. Used oil includes used vessel crankcase oils, engine lubricating oils, transmission fluids, gearbox and differential oils, hydraulic oils, and gear oils, among others. Check with the used oil recycler to determine which of these wastes can be combined in the collection tank.

1. **Before accepting any oil or other hazardous waste, contact your local CUPA to determine how local hazardous waste generator regulations will apply to your operations.** For a list of CUPAs and fact sheets for hazardous waste generators, check the DTSC website, www.dtsc.ca.gov.

Become a "certified" used oil collection center and receive up to $5,000 per year for one load of contaminated waste disposal from the CIWMB. For more information about becoming a "Certified Center" contact the CIWMB at (916) 341-6457 or visit www.ciwmb.ca.gov/usedoil/grants

2. **Investigate grant and funding opportunities available for used oil recycling, and programs that result in used oil collection.** See note in the margin.

PHOTO: Connie Cloak

3. **Find a used oil recycler.** For a list of hazardous waste haulers and recyclers, visit the Department of Toxic Substances Control (DTSC) Registry at: www.dtsc.ca.gov/HazardousWaste/Trans000.cfm


PHOTO: Bruce Medoff

4. **Follow the regulations of your local CUPA for accumulation, storage, transportation and labeling of oil and other hazardous waste.**

5. **Make storage and disposal areas for used oil and oil filters easily accessible for boaters.** To increase accessibility:
   - Have marina staff available for collection of used oil from boaters.
   - Give tenants a key or code to a locked container or shed containing the oil tank.


PHOTO: Santa Monica Bay Restoration Commission

C. PREVENTING FUEL SPILLS

☼ **Promote the installation and use of fuel spill prevention devices by boaters.** Such devices include:

1. Fuel/air separator installed in the air vent on a built-in fuel tank
2. Fuel gauges with audible alarm to let the boater know the tank is nearly full
3. Absorbent collars or "doughnuts" encircling fuel nozzle to catch "splash back" spills (saturated absorbents must be disposed of as hazardous waste)
4. Spill containers attached to the outside of the air vent to catch spills caused by back-pressure build-up
5. For outboard tanks, spill-proof nozzles on portable fuel cans

Use education (see *Educating Boaters at Your Marina*) and/or marina environmental policies (sample provided in *Appendix# 1*). Make these devices available at the marina's boat supply shop.

The following suggestions apply if you operate a fuel dock:

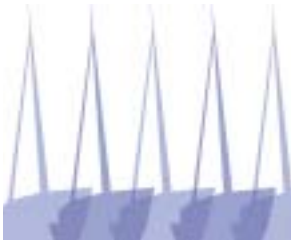
☼ **Oversee fueling and educate fuel dock users about fuel spill prevention methods.**

1. Have a trained attendant at the fuel dock to oversee or assist with fueling.
2. If boaters self-fuel, train fuel dock attendants to observe fueling practices carefully and to instruct boaters in spill prevention.
3. Place fueling instruction signage nearby.

☼ **Provide oil absorbents to boaters for catching fuel drips and spills and provide for the collection of saturated absorbent materials.**

1. Due to the flammable nature of fuel-soaked absorbents, a facility that distributes absorbents should also provide secure collection for used absorbents.
2. Alternatively, provide boaters with information about the closest disposal facilities.

PHOTO: Santa Monica Bay Restoration Commission



The California Department of Boating and Waterways (DBW) makes the Abandoned Watercraft Abatement Fund grant program available to public local agencies for the removal of abandoned watercraft from California navigable waterways. The funds can be used for the removal, storage and/or disposal of these navigational hazards. The grant recipient must be a local public agency that has jurisdiction over the waterway and is required to provide a 10-percent match contribution of local funds. For more information, visit DBW's Website at www.dbw.ca.gov/aw_grants.

- **Maintain fuel transfer equipment.**
  Regularly inspect transfer equipment and hoses for deterioration and fix or replace all deteriorated parts.

- **Leak detection equipment and secondary containment must be used to minimize releases from fuel storage and transfer systems.**
  For more information about these systems, contact the State Water Resources Control Board.

- **If you operate a small craft refueling facility, check with the California Department of Fish and Game about its certification program.**

D. REMOVING ABANDONED AND DERELICT VESSELS

- **Remove abandoned and derelict vessels before they begin to discharge fuel or oil.**
  Although abandoned vessels are costly to remove, they can result in navigational and environmental hazards.

Hazardous Waste

Consider the following options for addressing the need for proper disposal of hazardous waste.

- **Ask local government (the CUPA) to provide hazardous waste collection for your facility.** Contact your local CUPA (listed at www.calepa.ca.gov/CUPA/) to determine whether special boater hazardous waste collection programs can be established at your facility by the CUPA.

- **Install hazardous waste collection facilities at your marina.** For detailed information about compliance with hazardous waste management regulations, consult the DTSC fact sheets at www.dtsc.ca.gov and contact your local CUPA (or if none available, the DTSC).

- **If your marina does not collect hazardous waste on site, inform tenants, visitors, and staff about the local hazardous waste disposal facilities and locations.** Contact the local CUPA or (800) CLEANUP for the locations of local hazardous waste disposal facilities.

PHOTO: Miriam Gordon

PHOTO: Laura Wright

- **For information about the collection of spent lead-acid batteries, refer to the DTSC fact sheet provided at www.dtsc.ca.gov.**

- **Educate boaters to avoid using products likely to generate hazardous waste.**

- **Limit use of materials that can become hazardous waste during marina maintenance.** Check the Material Safety Data Sheet (MSDS) provided by the product manufacturer to determine whether the products you are using are corrosive, reactive, toxic, or flammable. Seek less-toxic alternative products.

Funding for California Refund Value (CRV) beverage container recycling can be obtained from the Department of Conservation (DOC) through the Community Outreach Grant Program. Anyone is eligible to apply for this annual, competitive grant (local government, businesses, community groups, non-profits, etc.). For more information, visit DOC's Website at: www.consrv.ca.gov/DOR/grants/index.htm or write to: Department of Conservation, Division of Recycling, 801 K Street, MS 17-01 (17th Floor) Sacramento, CA 95814-3533 Attention: Community Outreach Branch

Trash and Marine Debris

Consider the following strategies for helping boaters to recycle and properly dispose of trash and fishing line.

✲ Encourage boaters to stow goods securely on-board to prevent accidental overboard discharge of debris.

✲ Provide adequate and convenient garbage collection facilities.

1. Make trash disposal easy and accessible by placing receptacles near areas of heavy use, such as parking lots, restrooms, laundry facilities, docks, picnic areas, and restaurants and shops.
2. Have garbage collected frequently enough so that collection receptacles do not get overloaded, and pick up debris shoreside and on the docks.
3. Make sure the trash receptacles are covered.

PHOTO: Laura Wright

4. If you decide not to provide trash and recycling collection, post signs that ask people to "Pack it out!"
5. Direct staff to remove debris from grounds and docks.

✲ Provide convenient recycling facilities for solid waste (fishing line, plastic, glass, aluminum, paper).

Options include:

1. Arrange with your city or county solid waste coordinator to collect recyclables at your marina. Locate your local solid waste program coordinators at: http://www.ciwmb.ca.gov/Profiles/Juris.
2. Collect and consolidate recyclables at the marina and transport them to a buy-back center where you can gain revenue from the return of beverage containers with California Refund Value (CRV). Sell other materials to scrap recyclers. Find out more about recycling from the California Integrated Waste Management Board (CIWMB) at: www.ciwmb.ca.gov.
3. Arrange for on-site collection services provided by your local disposal/recycling company. You may need to pay for the pick-up of recyclables, but it may reduce your trash removal fees overall.

More tips for operating a recycling program at your marina:

1. Make sure the pick-up of collection containers occurs often.
2. Maintain recycling bins with lids.

3. Place recycling bins next to trash disposal areas and post signs that clearly identify what materials go into the bins for recycling.

☼ **Promote recycling through boater education.**

☼ **Inform boaters that hazardous wastes (oil, paint, batteries, etc.) should not be disposed of in trash receptacles.** Post signs on dumpsters to inform users about the location of the most convenient household hazardous waste disposal facilities.

PHOTO: Laura Wright

☼ **Provide trash receptacles and recycling facilities at boat launch ramps.**

☼ **Establish recycling for plastic shrink wrap, if this is a significant source of waste at your facility.**
The use of shrink wrap is becoming increasingly popular in boating. It is used to winterize boats in colder areas of California, and by boat dealers to protect new boats. For information on shrink wrap recycling, contact Dr. Shrink, Inc. at (800) 968-5147, or www.dr-shrink.com.

☼ **Establish recycling for fishing line and netting.**
Pure Fishing, the parent company of Berkley Fishing, sells nylon monofilament fishing line and collects used fishing line for recycling at no charge. Marinas can obtain cardboard recycling containers at no cost from Pure Fishing (see *Information and Resources*). When full, the containers are shipped back to Pure Fishing for recycling, postage paid.

☼ **Encourage the use of non-disposable products, rather than plastic and polystyrene cups, and food containers, utensils, and other disposable goods.**

1. Use non-disposables at marina-based food vending locations, if possible.

2. If you use or sell disposable products, choose those made from biodegradable and recycled materials.

☼ Encourage waste reduction in the marina office.

1. Use recycled paper, and recycle office paper.
2. Make double-sided copies.
3. Use non-disposable utensils and cups to serve food, coffee, and beverages.

Gray Water

The following are suggestions for the type of shoreside facilities and boater education that can help you minimize the impacts of gray water in your marina.

- **Make shower, dishwashing, and laundry facilities available shoreside.**
  1. Site these facilities for ease of access, comfort, and convenience.
  2. Make sure the facilities are safe for tenants.
  3. Maintain them so they are clean and functional.
  4. Post signs at the facilities that stress the importance of using shoreside facilities to limit the environmental impacts of gray water discharge from boats.

- **If sinks, showers, and laundry facilities are not available in the marina, encourage boaters to save showers, laundry, and dishwashing for home.**

- **Use education to minimize the amount of gray water generated by topside boat cleaning and maintenance.**

Fish Waste

If fish waste is causing a problem at your marina, the following suggestions can help you address the issue.

- **Marinas with significant fishing activities and fish waste should consider installing fish cleaning stations at marina and boat launch ramps.**

- **Inform boaters and fishers of the location of the fish cleaning station.** Use signs, newsletters, and other methods suggested in *Educating Boaters at Your Marina* to inform boaters about the location and rules for use of the fish cleaning station.

- **Disposal of fish waste into marina waters should be discouraged where tidal flushing is limited, where a concentration of fish waste is likely to cause oxygen depletion, or where the activity may result in unsightly floating fish waste.**

- **Provide proper fish waste disposal.**
  1. Fish waste can be discharged through the sanitary sewer in some jurisdictions. If the marina is on a sewer line, and if the local sanitary sewer district approves the discharge, install a heavy duty garbage disposal (a grinder) at the fish cleaning station.
  2. Fish waste can be composted.
     - Implement fish composting where appropriate.
     - Investigate whether your local landfill has composting operations and will accept fish waste, or whether local composting services will collect fish waste from your facility.
  3. Small volumes of fish waste can be disposed of in the trash. Keep the waste in separate closed containers to control odors, rodents, and flies.

Boat Operation

This section addresses safety or environmental impacts related to boat speed and the transport of aquatic nuisance species.

- **If boat speed is a problem at your marina, consider establishing reduced speed areas or no-wake zones.**
  Section 660(a) of the Harbors and Navigation Code allows public agencies to establish speed limits within marinas. Private marinas can request that the local city council or board of supervisors set speed limits.

PHOTO: David Ranalli

- **Prohibit the dipping or dumping of bait buckets from other waterways into your marina waters.**
  This helps prevent the spread of aquatic nuisance species.

- **Find out what types of invasive species may be a threat to the waterways where your marina is located and report sightings of invasive species.**
  Check the *Information and Resources* section for where to obtain information about invasive species.

Storm Water and Polluted Runoff

Launch ramp filtration, Lake Casitas
PHOTO: Carole Iles.

Storm water runoff is rainfall that washes over the surface of the land picking up pollutants as it travels. Polluted runoff is contaminated runoff that occurs during non-rain events. Marinas that have not been specifically designed for the minimization of pollutant loading caused by runoff should consider post-design solutions involving landscaping, shoreside boat maintenance areas, parking lots, roads, and paved areas.

POLLUTANTS IN PARKING LOT AND PAVED AREA RUN-OFF

✲ Place absorbents or filters in drain inlets.

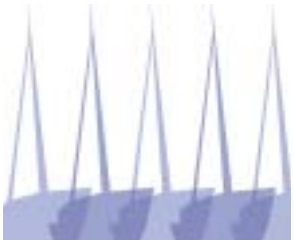
1. Place absorbent material or filters in drains to remove oil and grease from storm water.
2. Clean or replace absorbent or filtering materials regularly for optimum results.
3. Petroleum-saturated or coated absorbents and filters are considered hazardous waste and need to be disposed of properly.

✲ Install oil/grit separators.

1. Install oil/grit separators in parking areas and other areas where there are motor vehicles. They can be particularly useful in areas where the work performed contributes large loads of grease, oils, mud, or sand to runoff. Application is limited to highly impervious catchments that are two acres or smaller.
2. Pollutant removal occurs effectively only when the separator's chambers are regularly cleaned out, preventing the resuspension of pollutants.
3. Periodic inspections and maintenance of the structure should be done according to manufacturer's instructions.

✲ Incorporate vegetated areas and filter strips.

Vegetation filters slow the flow of surface water runoff, stabilizes shorelines, and provide wildlife habitat, flood protection, and visual diversity. A vegetated filter strip is a densely vegetated strip of land (either natural or planted) that is engineered to accept runoff from



upstream development as overland sheet flow.

☼ **Conduct regular sweeping or vacuum sweeping of parking lots.**

POLLUTANTS FROM LANDSCAPED AREAS

☼ **Adopt Integrated Pest Management practices.**

Integrated Pest Management (IPM) is a sustainable approach to managing pests by combining biological, cultural, physical, and chemical tools in a way that minimizes economic, health, and environmental risks.

1. Check with the state or county agricultural extension office for the latest IPM program information for a particular pest.
2. Select native plants that are disease and insect resistant, will outcompete common weeds, and can thrive on your property. Refer to the California list of native plants (California Native Plant Society (916) 447-2677), or in San Francisco Bay area, contact the San Francisco Bay Conservation and Development Commission at (415) 352-3600 to obtain a copy of the Bay Shoreline Landscape Guide.

☼ **Use pesticides only after all other options have been exhausted.**

☼ **Limit fertilization.**

☼ **Practice water-wise landscaping.**

Reducing watering protects water quality by reducing polluted runoff. Water-wise landscaping can also save money by reducing your water bill and minimizing maintenance activities.

1. Choose efficient irrigation delivery systems that water deep and deliver water efficiently to reduce water needs.
2. Select plants that are suited to the existing conditions, and use natives when practicable. Select perennial plants instead of annuals.
3. Group plants with similar water needs together.
4. Mulch.
5. Build healthy soils.

☼ **Encourage tenants and visitors to clean up pet waste and provide methods to make controlling pet waste easier.**

1. Provide dispensers stocked with plastic bags for collecting pet waste. Include signage that instructs pet owners to collect pet waste in plastic bags and throw it in the garbage.
2. Require that dog owners clean up after their pets.
3. Inform boaters about the need to minimize pet waste problems.

POLLUTANTS FROM SHORESIDE BOAT MAINTENANCE AREAS

☼ **Facilities that allow pressure wash-type bottom cleaning are required to control pollution discharges to storm drains pursuant to a National Pollution Discharge Elimination System (NPDES).**
(To find out more about the NPDES permit, contact your local Regional Water Quality Control Board, listed in the *Information and Resources* section.) There are several ways to control pollutant discharges from hull cleaning.

PHOTO: Miriam Gordon

1. **Settling** – pressure-wash waste water is collected in a holding or settling tank which allows large particles to settle to the bottom.

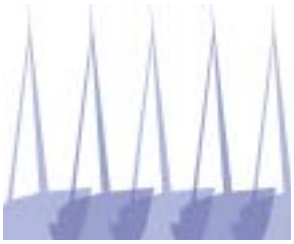
To remove smaller particles, use one or both of the following:

2. **Filtration** – wastewater passed through one or more filters to screen out particles. Each phase of filtration relies on smaller mesh sizes to gain additional filtration in each phase.

3. **Chemical treatment** – it may be necessary to use chemical treatment to remove metals, oil and grease, and other contaminants. Chemical treatment usually involves the addition of chemicals (flocculants) that cause small solid particles to adhere together to form larger particles, which are then filtered from the water. The chemical additives and solid pollutants removed from the wastewater are, in most cases, regulated as hazardous waste in California.

Many wastewater collection and treatment systems rely on a combination of these strategies. Some systems in place in California rely on closed loop recycling of pressure-wash water. That is, all wastewater collected by the treatment system runs through a filtration system and is again collected into the settling tank and recirculated through the filtration system.

☼ **Perform boat cleaning, maintenance, and repair work in enclosed areas.**
1. Perform repair work indoors.



2. Where enclosed buildings or structures are not available, provide spray booths, temporary plastic enclosures, or tarp enclosures for painting and sandblasting activities. Boat hull maintenance areas can be designed so that all maintenance activities that are significant potential sources of pollution can be accomplished over dry land allowing the collection and proper disposal of debris, residues, solvents, spills, and polluted runoff. Use tarps to prevent the emissions of paint overspray, sandblasting media, and debris from boat bottoms and sanding and refinishing.

The following recommendations apply to marina boat maintenance staff.

- **Clean hull maintenance areas immediately after any maintenance to remove and dispose of debris.**

- **Use vacuum sanders to remove paint from hulls and to collect debris during sanding on the topside.**
  They protect the user from potential respiratory impacts associated with sanding operations and prevent wood, paint, dust, and other debris from entering the water. Vacuum sanders reduce the time necessary for cleanup and increase the speed at which a boat bottom can be completely sanded.

- **Sweep or vacuum around hull maintenance areas, roads, parking lots, and driveways frequently.**
  Frequent cleanup of impervious areas can minimize polluted runoff. Schedule vacuuming on a regular basis (e.g., once daily or every other day during boating season).

- **Capture pollutants from boat cleaning and maintenance activities using tarps and filter cloths.**

- **Store chemicals or materials that may cause pollutant runoff in covered enclosed areas and provide secondary containment around the storage area.**
  Storage sheds or lockers are generally considered the most secure choices.

Sample Marina Environmental Policies for Boat Maintenance

GENERAL

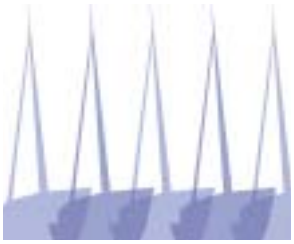
1. All self-employed boat workers and independent contractors will register with and receive approval from the manager before conducting work on the marina premises.
2. All work conducted on marina premises will conform to the policies specified herein.
3. Boat owners, and contractors they hire, are required to make all major repairs in boat yards or other appropriate facilities.
4. Boat owners and their contractors may undertake boat projects as needed to maintain their vessel's safety, appearance, and performance, provided they are conducted in a debris and pollution-free manner.

BOAT CLEANING

1. Use less-toxic phosphate-free and biodegradable boat cleaning products.
2. Reduce the amount of product needed to clean the topside by cleaning more frequently with freshwater, or by covering the boat.

SURFACE PREPARATION

1. Do not perform this work in the water unless precautions are taken to prevent any discharge of paint or sanding debris into the water. If performing work outdoors, there will be no sanding or painting on windy days.
2. Use vacuum sanders with attached collection bags.
3. Use tarps or visquine sheets to catch and control falling debris, and vacuum sweep frequently to prevent discharge of debris into the water.
4. Use water-based solvents.



PAINTING AND VARNISHING

1. Painting, varnishing, and other finishing work shall be limited to touch-ups and repairs.
2. Limit the amount of open solvents, paints, or varnish.
3. Open containers are not allowed on the docks. If a material is in use, the open container may be permitted topside on the boat, as long as it is in secondary containment and all scuppers are plugged.
4. Always mix paints, varnish, epoxy, and other products over a tarp in a drip pan.
5. Spray painting is not permitted in the marina.
6. Dispose of leftover paints, solvents, or varnishes at a hazardous waste disposal facility. Call (800)CLEANUP for locations.
7. Use less-toxic paints and varnishes, including water-based products. Choose paints with low volatile organic compound (VOC) content.

HULL MAINTENANCE

1. The use of tributyltin (TBT)–based paints is prohibited by law. No cleaning of bottom paints containing TBT is permitted within the marina.
2. Perform hull cleaning in accordance with the correct procedure for type of hull coating.
3. Traditional soft-sloughing paints are designed to release more paint when new. No cleaning shall be performed on such paints within 90 days of paint application.
4. Clean boat bottoms with non-abrasive methods, before marine grass or hard fouling growths become established on painted surfaces. Use soft carpet, or for rotary cleaning, a long bristled soft brush passed quickly and lightly over the surface.
5. When marine growth is significant and cannot be removed without abrasive cleaning methods, assess whether such cleaning can be performed without paint removal occurring. If cleaning may lead to paint removal, refrain from cleaning in the slip.
6. Collect spent zinc anodes for recycling. Contact local scrap metal recyclers for disposal.

HAZARDOUS WASTE

1. Segregated and recycle spent antifreeze.
2. Recycle all used lead-acid batteries.
3. To locate hazardous waste disposal facilities contact marina management or call (800) CLEANUP.

ENGINES, BILGES, AND OIL DISCHARGE

1. Oily bilge water shall not be pumped overboard.
2. No discharges shall be permitted that cause an oily sheen.

3. It is illegal to use soaps or detergents to disperse an oil sheen.
4. If oil or fuel inadvertently reaches the water, oil absorbent booms or other absorbent materials must be placed around the spill and appropriate clean-up actions taken. If the oil spill is large, an oil spill response company must be called to clean up the spill.
5. Spills of oil or chemicals into the water shall be reported to the federal reporting number (800) 424-8802, and the state reporting number (800) OILS-911.
6. Conduct all oil changes, and oil or fuel transfers using spill-saving devices, such as funnels, drip pans, or oil pumps that transfer used oil to a closed container for transfer to a recycling facility.
7. Used oil and oil filters must be separated from other waste and recycled.
8. Diesel and gasoline must be disposed of as hazardous waste
9. Used oil absorbents must be disposed of as hazardous waste.

SOLID WASTE DISPOSAL

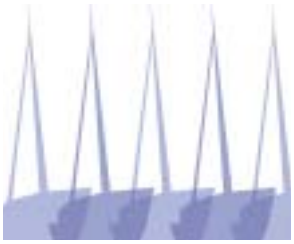
1. Dispose of all garbage in proper shoreside receptacles.
2. Never leave trash or fishing gear in the water.
3. Keep cigarette butts out of the water. Don't leave them on the grounds of the marina or they will enter the waterway via wind or storm water runoff.
4. Recycle all glass, plastic, paper, and aluminum to the maximum extent possible, based on your home or marina recycling program.
5. Minimize the amount of trash you bring on board. Reduce the amount of disposable paper, plastic, and other types of goods you use on board.

CHEMICAL STORAGE

1. Purchase only the amount of chemicals/products you need for a project.
2. Review storage of products every six months and properly dispose of old or unnecessary products.
3. Do not store flammable or combustible liquids, or other hazardous materials in dock boxes.
4. All dock boxes may be subject to inspection by the marina supervisor at all reasonable times.
5. All materials must be stored indoors or in covered containers.
6. Secure watertight containers must be used when storing materials and waste outside and in the open.

SEWAGE

1. It is illegal to discharge untreated sewage overboard. Store sewage in holding tanks or port-a-potties and discharge at pumpouts or dumpstations.
2. Do not discharge Type I or II Marine Sanitation Devices (MSDs)



while in marina waters.

3. Holding tank deodorants and disinfectants often contain toxic chemicals. If you must use a holding tank additive, use enzyme-based products.
4. Use shoreside facilities whenever possible.

FISH WASTE

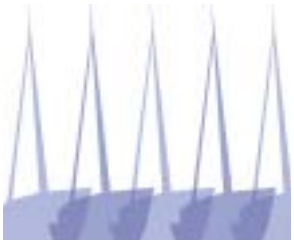
1. Do not discharge fish cleaning waste in marina waters.
2. Follow marina policies for disposal of fish cleaning waste.

STORM WATER POLLUTION

Pet waste must be cleaned up and disposed of in the garbage.

EDUCATING BOATERS AT YOUR MARINA

PHOTO: Paul Lawrence



Educating Boaters at your Marina

Boaters who are educated about environmentally sound boating practices and have access to convenient environmental services are more likely to employ clean boating habits. In this section of the *California Clean Marina Toolkit*, you will find suggested strategies and resources for increasing boater awareness about clean boating practices.

There is no one sure-fire method for educating boaters. Changing behavior through education depends on getting the message out in more ways than one. Three of the most popular sources of information for boaters are the marine supply shop, boat shows, and word of mouth.

Word of mouth has been found to have a particularly strong influence on boater behavior. The more information you post, the more you talk about it, and the more you get others talking about it, the greater the likelihood that your customers will support and aid your efforts to operate a clean marina.

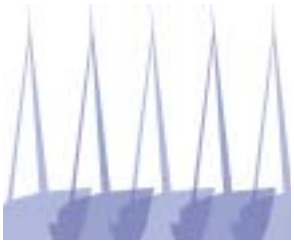
The following pages contain a list of strategies and resources to help you implement a boater education program, or augment the one you already have. The list of resources shows sample educational materials you can obtain. You can also use the boater fact sheets provided in this Toolkit, and the artwork provided on the enclosed CD Rom.*

*** ADAPTING ARTWORK PROVIDED ON THE CD-ROM**
You are invited to adapt the materials provided on the CD-ROM for your own use provided that you credit the original funders and producers for their contribution. Take out the logos of the organizations that developed the original and insert your own agency or company logos, but acknowledge the organization that funded or developed the original artwork by inserting text that states: "This *brochure/sign/poster* was adapted from original materials provided by *list the appropriate organization here.* "

Planning Boater Education and Outreach

- **Develop an education plan.** Although a formal written document is not essential to developing an education strategy, it is important to:
  1. Identify your audience (tenants, contractors, visiting boaters, the public);
  2. Decide what messages need to be communicated
  3. Determine the delivery method most likely to reach the selected audience

- **Tailor your communication to your boating community.** Each marina services a different type of boating population. There are educational materials for all different types of boats and boaters.
  1. Remember to include bilingual materials if your boating community includes non-English speakers.
  2. Provide educational materials that relate to the type of boats used at your facility.
  3. Provide information about the types of environmental services that boaters in your marina are most likely to need.



Boater Education Strategies

- **Boater fact sheets provided in this Toolkit.**
  The boater fact sheets address the sources of pollution described in this *Toolkit*. Use these fact sheets to develop your own brochures, newsletter articles, signs, invoice inserts, or other materials, or reproduce them as is and distribute them to your boaters.

- **Educational materials provided on the CD Rom in this Toolkit.**
  You can produce the materials provided on the CD Rom, as is, or adapt them for your own use (see note above about adapting artwork).

- **Existing boater education materials and programs.** The good news is that there is no need to start from scratch. Check the *Boater Education Resources* section below to identify materials that could be helpful to your efforts.

- **Post clean boating information in the marina office.**
  The office is often the first point of contact with the marina. It is important that a clean marina attitude be exhibited here. Use the following methods to display clean boating information:
  1. **Bulletin Board.** Display waste disposal locations and information, the marina's environmental policies, copies of lease provisions that relate to clean boating, and other attractive materials that remind boaters about clean boating habits.
  2. **Display.** Create an eye-catching display of clean boating information that boaters can take with them. Brochures and pamphlets are more noticeable when displayed upright in a brochure holder.

- **Educate new tenants and visiting boaters about the marina's clean marina policies.**
  1. Provide a "welcome" packet that includes marina environmental policies and clean boating educational materials that inform boaters about on-site and nearby environmental services that support clean boating practices.
  2. Include clean boating policies in lease provisions.
  3. Send staff to meet and greet new tenants and provide clean boating educational materials.
- **Train your employees to pass information on to boaters.**
  1. Have marina staff attend a Dockwalker training (see *Boater Education Resources*, below).
  2. Host a clean boating practices training.
  3. Use the California Clean Boating video, "Our Playground, Their

World" from the Santa Monica Bay Restoration Commission as a teaching tool (see *Boater Education Resources*).

4. Make the boater fact sheets and other boater education materials available for staff to distribute to boaters.

✲ Invite Dockwalkers to your facility to educate marina tenants and visitors about environmentally sound boating.

"Dockwalkers" are volunteers, trained to teach boaters about environmentally sound boating practices.

PHOTO: Vivian Matuk

1. Host a Dockwalker training for staff and boaters interested in educating boaters about environmentally sound boating practices at your facility.
2. Arrange special opportunities for boaters to have free USCG Auxiliary vessel examinations and ask that the Auxiliary send Dockwalkers too. A vessel safety examination can be combined with a Dockwalker visit if your local Auxiliary flotilla has volunteers trained in both programs.

✲ If there is a marine supply shop on-site, request that it provide clean boating information.

1. Request that an on-site supply store display fact sheets, newsletters, etc.
2. Ask that the boater fact sheets be inserted as shopping bag stuffers.

✲ Develop clean boating inserts for your monthly billing.

1. Check the CD provided in this Toolkit for artwork in digital format that can be customized for your marina.
2. Use the boater fact sheets to develop your own messages and billing inserts.

✲ Inform boaters about where to find environmental services.

Boaters need to know the locations of sewage pumpouts, oil change facilities, used oil recycling centers, bilge pumpouts, absorbent pad distribution and spent pad collection, and boat-to-boat environmental services.

1. Advertise www.earths911.org or www.coastal.ca.gov/ccbn.ccbndx.html as Websites that provide the locations of environmental services for California boaters.
2. Provide a list of local services and their locations.
3. Distribute tide tables that contain clean boating information and charts showing the environmental services at California marinas (see *Boater Education Resources*).

4. Distribute regional maps and boater guides that show where environmental services are located. Examples can be obtained from the San Francisco Estuary Project and the California Coastal Commission (see *Boater Education Resources*).

✲ **Use signs to get the word out.** Signs can be posted on docks, at the marina office and near waste disposal receptacles. Signs at boat launch ramps and fuel docks can be effective means to educate all boaters who use the marina. For existing signs and artwork for signs, see *Boater Education Resources*.

PHOTO: Miriam Gordon

1. Signs should be easy to read, using large print and an eye-catching design.
2. Choose durable materials, such as aluminum, and select weatherproofing and anti-graffiti coatings.
3. Don't overcrowd a sign with text. The less text, the more readable the sign.
4. Signs for the sewage pumpout or dump station should include the sewage pumpout logo (available at www.dbw.ca.gov) and should clearly instruct boaters that the sewage pump is not for bilge evacuation.
5. Signs identifying an environmental service should clearly identify the restrictions on use of the service and include clearly written operation instructions.

✲ **Include clean marina services on maps of your marina.** Distribute free maps of the marina that show the location of fuel docks, sewage pumpouts, portable toilets, dump stations, used oil collection services, bilge pumpouts, oil absorbent pad distribution and collection services, oil change services, solid waste recycling services, and other environmental services for boaters.

✲ **Include clean boating information in periodic newsletters distributed to tenants.** Use the information provided in the boater fact sheets.

✲ **Provide clean boating information to tenant associations and yacht clubs.** Share the boater fact sheets and other educational materials with tenant associations, yacht clubs, and other boating groups that meet at or near your facility.

Boater Education Resources

Many organizations in the United States and around the world have developed educational materials for boaters about environmentally sound boating. The tools described below are designed primarily for outreach to California boaters. For more general information about clean boating and clean marinas, check *Information and Resources.*

DOCKWALKERS

Dockwalkers are volunteers trained in teaching boaters environmentally sound boating habits.* They walk the docks, visit boat launch ramps, staff booths at boat shows, and visit boaters in other popular boating venues. Dockwalkers distribute free educational materials to boaters and share information about clean boating practices and the location of services that support clean boating efforts.

The organizations listed below have established Dockwalker training programs in California. Each of these training programs instructs Dockwalkers to contact a marina and get permission to walk the docks and talk to the boaters there. If you are interested in having Dockwalkers come to your marina to help you educate your boaters, contact one of the organizations listed below.

Boating Clean and Green Campaign California Coastal Commission

45 Fremont Street, Suite 2000
San Francisco, CA 94105
(800) COAST4U
www.coastal4U.org

Santa Monica Bay Restoration Commission

320 West 4th Street, Suite 200
Los Angeles, CA 90013
Phone: (213) 576-6615
www.santamonicabay.org

Save Our Shores

345 Lake Avenue, Suite A
Santa Cruz, CA 95062
(831) 462-5660
www.saveourshores.org

U.S. Coast Guard Auxiliary, 11th District North

www.uscgaux-d11nr.org

* A clean boating education concept started in California by Save Our Shores, Santa Cruz.

SIGNS

Fuel Spill Prevention / Fuel Dock Sign

Produced By: California Coastal Commission
Material: aluminum, 18"x 24"
Copies available? Yes, and art included on enclosed CD Rom
Cost? None
Contact: (800) COAST4U

Marina Signs

- **Use of dispersants prohibited**
- **ABCs of Fueling**
- **Stash Your Trash**
- **Keep Your Bilges Clean**

Produced By: U.S. Coast Guard
Material: 8 1/2"x 11" flexible plastic signs
Copies available? Yes, limit 25
Cost? None
Contact: Linda Reid, lreid@comdt.uscg.mil
Commandant (G-MOR-1),
U.S. Coast Guard
2100 Second St. S.W.
Washington DC 20593-0001

BROCHURES AND BOOKLETS

Clean Green Boat Maintenance

Produced by: California Coastal Commission
Format: Glossy paper with tabs, 16 pages
Copies available? Yes, art also included on enclosed CD Rom
Cost? none
Contact: (800) COAST4U

Boating Clean and Green in California

Produced by: California Coastal Commission
Format: Laminated plastic, 3 hole punched, 2 sided 8 1/2" x 11" sheet
Copies available? No. Artwork included on enclosed CD Rom
Contact: (800) COAST4U

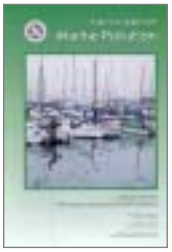
California Clean Boating Fact Sheets – CD-ROM and Sample

Produced by: California Coastal Commission
Format: Paper, 8 1/2"x 11" fact sheets
Copies available? No. Artwork included on enclosed CD Rom
Contact: (800) COAST4U

Clean Boating Habits

Produced by: California Department of Boating and Waterways
Format: Spiral bound booklet, 22 pages
Copies available? Yes
Cost? None
Contact: (888) 326-2822, www.dbw.ca.gov

Facts About Marine Pollution



Produced by: California Department of Boating and Waterways
Format: Paper booklet, 8 pages
Copies available? Yes, or download from website
Cost? None
Contact: (888) 326-2822
www.dbw.ca.gov

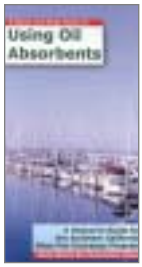
Ship Shape Sanitation, MSDs and Pumpouts

Produced by: California Department of Boating and Waterways
Format: Paper fact sheet, 6 pages
Copies available? Yes, or download from website
Cost? None
Contact: (888) 326-2822
www.dbw.ca.gov

Re-refined Oil for Your Marine Engine

Produced by: Santa Monica Bay Restoration Commission
Format: Paper brochure, 4 panel fold-up
Copies available? Yes
Cost? None
Contact: (213) 576-6615
www.santamonicabay.org

A Quick and Easy Guide to Using Absorbents



Produced by:	Santa Monica Bay Restoration Commission
Format:	Paper brochure, 4 panel fold-up
Copies available?	Yes
Cost?	None
Contact:	(213) 576-6615 www.santamonicabay.org

The OSPR Guide to Clean Green Boating

Produced by:	California Department of Fish and Game
Format:	Booklet, 5 tabs, 8 pages
Copies available?	Yes
Cost?	None
Contact:	(916) 323-6286

Clean Boating Tips / Used Oil and Filter Drop-off Sites

Produced by:	Contra Costa Clean Water Program
Format:	Leaflet, 1 page
Copies available?	Yes
Cost:	None
Contact:	(925) 646-2286

Boaters' Best Management Practices

Produced by:	Bill Dysart, San Diego Association of Yacht Clubs
Format:	Handbook, 55 pages
Copies available?	Yes
Cost:	None
Contact:	U.S. Coast Guard Marine Safety Office (619) 683-6500 Also downloadable at: www.portofsandiego.org (see the clean boating page)

- A Change is in the Wind for Antifouling Strategies and it's Blowing Your Way!
- Potti-Training for Boaters program
- Boating Pollution Economics & Impacts
- Clean Boating Guide
- Clean Boating Tips
- Selecting a Hull Paint for your Boat
- Selecting Underwater & Topside Maintenance Services for Your Boat
- Underwater Hull Cleaner's Best Management Practices
- Sewage Pumpout Stations in San Diego

Produced By: University of California, Cooperative Extension – San Diego Sea Grant
Format: Available online
Contact: (619) 694-2845, cesandiego@ucdavis.edu
http://commserv.ucdavis.edu/cesandiego/seagrant/marharboats.htm

- Our Water Planet (marine debris education)
- How's the Water (citizen pollution report form)
- Guide for a Cleaner Boating Environment (tips for boaters)

Produced by: U.S. Coast Guard
Format: pamphlets, booklets
Copies available? Yes
Cost: None
Contact: Linda Reid, lreid@comdt.uscg.mil
Commandant (G-MOR-1), U.S. Coast Guard,
2100 Second St., S.W.
Washington DC 20593-0001

- Stash Your Trash
- Help Stop the Drops
- Basics of Boat Heads
- Basics of Boat Pumpout
- Basics of No Discharge Areas

Produced by: Boat U.S. Foundation
Format: Brochures and fact sheets
Copies available? Yes
Cost: None
Contact: (800) BOAT-USA, www.boatus.com

POSTERS

Make Every Day a Clean Boating Day!

Produced by: University of California, Cooperative Extension – San Diego Sea Grant
Format: 18" x 24" poster
Copies available? Yes
Cost: None
Contact: (858) 694-2845, cesandiego@ucdavis.edu

STICKERS

Clean Boater Pledge

Produced by: California Coastal Commission
Format: 4" x 5" sticker
Copies available? Yes. Artwork include on enclosed CD Rom
Cost: None
Contact: (800) COAST4U

Report Marine Pollution

Produced by: US Coast Guard
Format: varied sizes
Copies available? Yes, pack of 100
Cost? None
Contact: Linda Reid, lreid@comdt.uscg.mil
Commandant (G-MOR-1), U.S. Coast Guard, 2100 Second St., S.W., Washington DC 20593-0001

WALLET

Boat Clean and Green

Produced by: California Coastal Commission
Format: Plastic card, size of a credit card
Copies available? No. Artwork included on enclosed CD-Rom

POINT OF PURCHASE DISPLAY

Shop Clean and Green

Produced by: California Coastal Commission
Format: Pop-up cardboard display, with pocket for wallet cards
Copies available? No. Artwork included on enclosed CD-Rom

TIDE TABLES

Tides and Currents: Your Guide to Clean Green Boating

Produced by: California Coastal Commission and The Tidebook Company
Format: Tidebooks for northern and southern California, includes guide to locations of environmental services at marinas (oil and sewage)
Copies available? Can be customized with front and back covers for your marina
Cost: Yes, check with publisher
Contact: The Tidebook Company, (415) 777-9275

VIDEOS

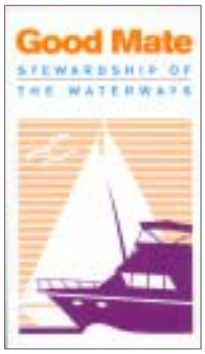
Our Playground, Their World

Produced by: Santa Monica Bay Restoration Commission
Format: 22 minute VHS video
Copies available? Yes
Cost? Free for educational purposes
Contact: (213) 576-6615, www.santamonicabay.org

Time for a Change: Alternatives to Copper-Based Boat Bottom Paint

Produced by: University of California, Cooperative Extension –San Diego Sea Grant Extension
Format: VHS video (29 minutes)
Streaming video on website
Copies available? Yes
Cost: Call for price
Contact: (858) 694-2845, cesandiego@ucdavis.edu

Good Mate: Stewardship of the Waterways



Produced by: The Ocean Conservancy
Format: VHS Video
Copies available? Yes
Cost: $12, plus shipping and handling
Contact: The Ocean Conservancy, GoodMate@ocean conservancyva.org
www.theoceanconservancy.org
(757) 496-0920

MAPS

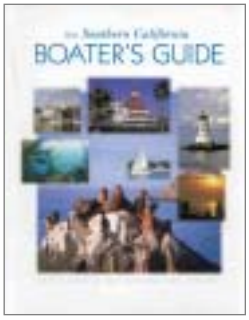
Clean Boating Maps (Marina Del Rey, Avalon Harbor, Redondo Beach, Big Bear Lake)

Produced by: Santa Monica Bay Restoration Commission
Format: Laminated maps with locations of environmental services
Copies available? Yes
Cost? None
Contact: (213) 576-6615, www.santamonicabay.org

Boater's Guide to Pumpouts – San Francisco Bay and Delta

Produced by: California Department of Boating and Waterways
Format: Fold up paper map with good boatkeeping tips
Copies available? Yes
Cost? None
Contact: (888) 576-6615
www.dbw.ca.gov

Southern California Boaters Guide



Produced by: Santa Monica Bay Restoration Commission
Format: Spiral bound manual, 108 pages
Copies available? Yes
Cost? Free to marinas, online at www.santamonicabay.org
Contact: (323) 266-7516

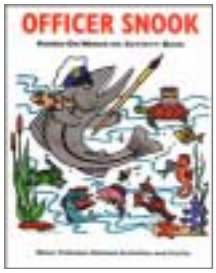
NEWSLETTERS

Changing Tides / California Clean Boating Network Newsletter

Produced by: California Clean Boating Network/ Santa Monica Bay Restoration Commission
Format: Quarterly newsletter on clean boating
Copies available? Yes
Cost? Single copies free
Check for cost of large quantities
Contact: (213) 576-6645, www.santamonicabay.org

MATERIALS FOR CHILDREN

Officer Snook Hands-On, Minds-On Activity Guide



Produced by:	US Coast Guard
Format:	Curriculum with an assortment of student activities on water pollution
Copies available?	Yes, limit 5
Cost?	None
Contact:	Linda Reid, lreid@comdt.uscg.mil Commandant (G-MOR-1), U.S. Coast Guard, 2100 Second St., S.W. Washington DC 20593-0001

Coloring Books: "Inky the Whale" and "The Adventures of Captain Cleanwater"

Produced by:	US Coast Guard
Format:	Coloring/activity books for kids about clean and safe boating
Copies available?	Yes
Cost?	None
Contact:	Linda Reid, lreid@comdt.uscg.mil Commandant (G-MOR-1), U.S. Coast Guard, 2100 Second St., S.W. Washington DC 20593-0001

BOATER FACT SHEET

VESSEL CLEANING AND MAINTENANCE

WHAT YOU CAN DO TO PREVENT DISCHARGE OF TOXIC BOAT MAINTENANCE PRODUCTS

Save major boat repairs and cleaning of the boat yard where toxic wastewater is collected for treatment and proper disposal.

Tips for the Topside

Reduce your use of toxic cleaning products

- Choose less toxic cleaning products, such as, non-phosphate, biodegradable cleaners.
- Use less product and more elbow grease.
- Reduce the need for boat soaps by scrubbing and rinsing with freshwater after each trip.
- Use canvas boat covers to keep boat clean between trips and reduce the amount of cleaning you need to do.
- Contain spills and debris using tarps.
- Collect debris using vacuums or brooms.

Spill-proof cleaning and maintenance activities

- Conduct maintenance work aboard your boat, not on the docks or over the water.
- Always mix paints, varnish, epoxy and other products over a tarp or in a drip pan to catch spills and drips. Keep absorbents nearby to wipe up spills.
- Tightly seal product containers when not in use to reduce spills.
- Plug scuppers to contain spills.

Minimize emissions from surface preparation

- Sand and paint large areas only in designated shoreside boat maintenance areas, using vacuum sanders with dust containment bags and high-density low-volume paint sprayers.
- If performing work outdoors, do not sand or paint on windy days.
- Use tarps or visquine (sheet plastic) to catch and control falling debris, and vacuum or sweep frequently to prevent discharge of debris into the water.
- For small jobs conducted in-water, attach tarps or visquine from boat to dock to catch debris. Reverse boat in the slip to work on the other side.
- Put sanding dust into the trash.
- Plug scuppers to contain dust, debris and spills.

BOATER FACT SHEET

VESSEL CLEANING AND MAINTENANCE

On the Bottomside...

Choose less toxic hull paints and antifouling strategies

- Choose an environmentally friendly anti-fouling strategy (i.e., combining the use of less toxic paints and bottom coatings with mechanical means to control growth). Less toxic bottom coatings provide alternatives to soft sloughing paints that release heavy metals. Talk to your boat yard or marine supply shop about the less toxic alternatives on the market.
- For more information on non-toxic antifouling strategies for boats, consult the University of California Sea Grant listed below.

Use environmentally sound underwater hull cleaning practices, or select a diver who uses them

- Don't clean hulls in the water that are so fouled that cleaning must be abrasive and is likely to result in paint removal and the discharge of toxic heavy metals.
- Perform regular hull maintenance to prevent hard marine growth and hull drag.
- Perform hull cleaning in accordance with the manufacturer's recommendations for the type of hull coating or bottom paint.
- Clean bottom paints using non-abrasive methods. Avoid creating a colored plume of paint in the water.
- Take zinc anodes back to shore and recycle or dispose of them properly.

Information about vessel cleaning and maintenance

California Coastal Commission
Educational materials for contractors and boaters about vessel maintenance
(800) COAST4U
www.coastal.ca.gov

California Department of Boating and Waterways
Information about clean boating habits
(888) 326-2822
www.dbw.ca.gov

California Professional Divers Association
Certifies divers in environmentally sound hull cleaning practices
www.prodivers.org
(619) 222-3483 Ext. 17

Earth's 911
Information about clean boating practices
www.earth911.org

National Clean Boating Campaign
Information about environmentally sound boating
www.cleanboating.org

University of California, Cooperative Extension
San Diego Sea Grant Extension
Information on non-toxic antifouling strategies for boats
(858) 694-2845
http://commserv.ucdavis.edu/cesandiego/seagrant/publications.htm

Funding provided by the California Integrated Waste Management Board

BOAT SEWAGE

WHAT YOU CAN DO TO KEEP BOAT SEWAGE OUT OF THE WATER

- Always use shoreside restrooms when docked and before casting off.
- Plan ahead for restroom stops.
- Do not discharge sewage, treated or untreated, in any lake or reservoir.
- Never discharge untreated sewage within 3 miles from shore and within the navigable waters of the U.S.
- Empty holding tanks at sewage pumpout facilities, or call a mobile pumpout service.
- To find the locations of sewage pumpout facilities in California, go to www.earth911.org, www.coastal.ca.gov, or www.dbw.ca.gov.
- All boats with installed toilets must have a Coast Guard-approved Marine Sanitation Device (MSD) if operating in U.S. navigational waters.
- Boats without toilets – use a portable toilet on-board and empty at a dump station.
- If you have a Y-valve with a through-hull fitting that allows direct overboard discharge, it must be secured in a closed position (using a padlock or non-releasable wire tie) when within the 3-mile limit.
- Never discharge any sewage, treated or untreated, in a Federally-designated “no-discharge area.”
- Avoid holding tank disinfectants and deodorizers that contain chlorine, formaldehyde, or other components that can be harmful to aquatic organisms. Whatever you use, follow instructions carefully and use the recommended amount for treatment.
- Choose MSDs that use a holding tank or use a portable toilet. When regularly emptied at a pumpout or dump-station, they offer the best environmental protection.

Information about Vessel Sewage Management

California Coastal Commission
Locate sewage pumpout facilities in California on the clean boating Website
(800) COAST4U
www.coastal.ca.gov/ccbn/ccbndx.html

California Department of Boating and Waterways
Locate sewage pumpout facilities in California on the Department’s Website
(888) 326-2822
www.dbw.ca.gov

BOAT SEWAGE

Earth's 911
Locate sewage pump-out facilities in California on the Website
www.earth911.org

San Francisco Estuary Project
Fact sheets about boat sewage impacts, management, and regulation
www.abag.ca.gov/bayarea/sfep/programs/boated
(510) 622-2465

Santa Monica Bay Restoration Program
Information about the environmental impacts of boat sewage
www.santamonicabay.org/site/programs/layout/boater.jsp
(213) 576-6645

Funding provided by the
California Integrated Waste Management Board

OIL AND FUEL

WHAT YOU CAN DO TO PREVENT OIL AND FUEL POLLUTION FROM YOUR BOAT

Preventive engine maintenance

- Keep the engine well tuned and operating efficiently.
- Practice preventive engine maintenance. Inspect fuel lines, hoses, hydraulic lines, valves, oil seals, gaskets and connections for deterioration and leaks. Fix leaks and replace worn parts. When replacing hoses, new sections should be the right length to prevent damage and leaks. Properly secure lines and hoses to prevent chafing, abrasion and damage.
- Choose Coast Guard-approved alcohol-resistant fuel lines.
- Install drip pans under all equipment that might leak.
- Avoid using solvents or toxic chemicals to clean engine parts. Use mechanical means (such as hand-scraping caked oil) or less toxic solvents (water-based). Do not let solvent run into the bilge.
- Transfer and remove fluids with care, using funnels, pumps, and absorbents to eliminate drips and spills and to keep the bilge area clean.

Bilge care and preventing oil spills

- Never use soaps or detergents to clean oil or fuel – it is illegal and increases the pollution problem.
- Install an on-board bilge filtration system that filters gas, oil or diesel from bilge water before the automatic pump discharges the water.
- Use oil-only absorbents in the bilge, securely fastened to prevent clogging the bilge pump or its sensor, to capture unexpected leaks.
- If you have a large quantity of oil in the bilge, use a bilge pumpout system.
- Never use the sewage pumpout for the bilge.
- If the bilge and/or engine compartment still needs significant cleaning after bilge pumpout, use a steam cleaning service.

Report oil and chemical spills

- If you see or cause a spill, do not apply soaps to disperse the sheen (it is illegal).
- Report spills of oil or chemicals to (800)424-8802, (800) OILS911, and to the marina office.

OIL AND FUEL

Spill-proof your oil changes and recycle used oil

- If you change the engine oil yourself, use a closed system – a portable vacuum oil change pump drained into a container that can be closed to prevent spills during transfer of oil (available at most marine supply stores).
- Do not mix used oil with other waste. Keep it segregated for recycling.
- Recycle used motor oil, oil filters, and fuel filters at a used oil recycling facility.
- Always keep oil-only absorbents on hand to wipe up spills.
- Saturated oil-absorbents are hazardous wastes and must be disposed of at the marina, the fuel dock, or at a hazardous waste disposal facility.

Use safe, spill-proof fueling practices

- SAFETY: prevent fires by shutting off motors, lights, and electrical equipment. Extinguish cigarettes and any other sources of ignition. Keep fuel-soaked absorbents away from sources of ignition. Close doors, hatches, ports, and entryways and turn off blowers.
- Maintain nozzle contact with the fill pipe to prevent static spark and spills.
- Do not rely on the automatic shut-off nozzle to prevent spills; they do not shut off in time.
- Know the capacity of your tank and leave it at least 5% empty because fuel expands.
- Hold an absorbent sheet under the nozzle to catch drips, and properly dispose of fuel-soaked absorbents as hazardous waste.

Fueling built-in tanks

- Fill tanks slowly to prevent overflows from the air vent. Avoid “topping off” the tank.
- Attach a fuel spill container to cover the air vent and catch spills (if available).
- Install fuel-air separator in air vent line to prevent spills or “splash back.”
- When fueling, keep your hand at the air vent or listen – air gushes when the tank is nearly full.
- At the end of boating season, leave tank full to reduce corrosion and condensation. Add fuel stabilizer to prevent stale gas.

OIL AND FUEL

Fueling outboard engines

- Fuel on land whenever possible.
- Use funnels to fill portable tanks, or spill-proof portable containers, and keep oil-only absorbents on hand to catch spills.
- Prevent stale gas by leaving fuel tank empty during long periods of inactivity.

Information about preventing oil and fuel spills on your boat

Boat U.S. Foundation
Stop the Drops Campaign
(800) BOAT-USA
www.boatus.com

California Coastal Commission
Locate absorbent pad distribution centers and bilge pump-outs on the clean boating Website
(800) COAST4U
www.coastal.ca.gov/ccbn.ccbndx.html

California Department of Boating and Waterways
Information about clean boating habits
(888) 326-2822
www.dbw.ca.gov

National Clean Boating Campaign
Information about environmentally sound boating practices
www.cleanboating.org

Location of used oil collection and hazardous waste disposal facilities

(800) CLEANUP
www.earth911.org
www.coastal.ca.gov/ccbn/ccbndx.html

Report oil and chemical spills to both numbers:

(800) OILS911 – State hotline
(800) 424-8802 – Federal hotline

CALIFORNIA COASTAL COMMISSION

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“Oil and Fuel”)

HAZARDOUS WASTES

WHAT YOU CAN DO TO PROPERLY DISPOSE OF HAZARDOUS WASTES

- To find the hazardous waste disposal facility nearest you or your boat, check with your marina and/or call (800)CLEANUP.
- Keep recyclable hazardous waste segregated from other waste and take it to a hazardous waste disposal facility to be recycled. Recyclable hazardous waste includes lead-acid batteries (many retailers will accept your old battery for recycling), used oil, oil filters, antifreeze, and zinc anodes.
- Review storage of products every six months and properly dispose of old or unnecessary products.
- Lead-acid batteries: retailers take the old battery for disposal when you purchase a new one. Ask whether your marina will accept old batteries for proper disposal.
- Antifreeze: ask your marina or local hazardous waste disposal facility to recycle used anti-freeze.
- Transmission fluid: ask the oil recycling facility that you use if it can be mixed with used oil for recycling.
- Zincs: take old zinc anodes to a scrap metal recycler. Some will pay for your old zinc anodes.

Information about managing hazardous wastes from your boat

California Coastal Commission
Information about clean boating practices
(800) COAST4U
www.coastal.ca.gov

California Department of Boating and Waterways
Information about clean boating habits
(888) 326-2822
www.dbw.ca.gov

California Integrated Waste Management Board
Provides the locations of household hazardous waste disposal facilities and information about used oil and hazardous waste recycling.
(916) 341-6000
www.ciwmb.ca.gov

Earth's 911
Provides the locations of hazardous waste disposal facilities
www.earth911.org

National Clean Boating Campaign
Information about environmentally sound boating practices
www.cleanboating.org

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“Hazardous Wastes”)

BOATER FACT SHEET

TRASH AND MARINE DEBRIS

WHAT YOU CAN DO TO PROPERLY STASH YOUR TRASH

- Don't dump plastics and trash overboard. It is illegal to discharge plastic anywhere in the ocean or in inland waterways.
- Bring it all back. Properly stash all containers and trash onboard to prevent it from being blown overboard.
- Designate a permanent onboard trash bin. Use a container with a lid.
- Help guests understand that on your boat, no trash is thrown overboard.
- Put empty cans back in your cooler to recycle ashore.
- Remove product packaging at home to eliminate space-consuming packaging waste onboard.
- Find ways to reduce the amount of garbage you create while aboard your boat. For example, pack food from home in reusable containers rather than disposable food bags.
- Take used monofilament fishing line back to recycling bins at your marina or tackle shop, or send it directly to: Berkley Recycling Center, 1900 18th Street, Spirit Lake, IA 51360-1099.

Information about preventing overboard trash disposal from your boat

Boat U.S. Foundation
Stash Your Trash program
(800) BOAT-USA
www.boatus.com

California Coastal Commission
Information about clean boating practices
(800) COAST4U
www.coastal.ca.gov

California Department of Boating and Waterways
Information about clean boating habits
(888) 326-2822
www.dbw.ca.gov

Earth's 911
Information about local recycling programs
www.earth911.org

National Clean Boating Campaign
Information about environmentally sound boating
www.cleanboating.org

To participate in a local marina or beach cleanup, call (800) COAST4U, or visit the California Coastal Commission Website at: www.coastal.ca.gov

CALIFORNIA COASTAL COMMISSION

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“Trash and Marine Debris”)

GRAY WATER

WHAT YOU CAN DO TO REDUCE GRAY WATER DISCHARGE

- Soaps from boat sinks, showers, and dishwashers are more harmful than those at home because they do not get treated in a sanitary sewer system when discharged from your boat. Do as much cleaning at shoreside facilities as possible.
- Choose phosphate-free biodegradable soaps.
- Use more "elbow grease" and as little cleaning product as possible.
- Rinse and scrub your boat with fresh water after each trip.
- Use tarps or canvas boat covers to keep boat clean between trips and reduce the amount of cleaning you need to do.

Information about clean boating and gray water

California Coastal Commission
(800) COAST4U
www.coastal.ca.gov

California Department of Boating and Waterways
(888) 326-2822
www.dbw.ca.gov

Earth's 911
(800) CLEANUP
www.earth911.org

National Clean Boating Campaign
www.cleanboating.org

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“Gray Water”)

BOATER FACT SHEET

AQUATIC NUISANCE SPECIES

WHAT YOU CAN DO TO PREVENT THE SPREAD OF AQUATIC NUISANCE SPECIES

- Drain livewells, bilge water, and transom wells before leaving the vicinity of where you have used your boat.
- After leaving the water, inspect your boat and boat accessories, and dispose of any plants or animals you find by placing them in the garbage bin.
- Empty bait buckets on land, never into the water.
- Never dip your bait or minnow bucket into a lake if the bucket contains water from another lake.
- Never dump live fish or other organisms from one body of water into another one.
- When you get home, wash your boat, tackle, downriggers, and trailer with hot water.
- Flush water through your boat motor's cooling system and other parts of the boat that normally get wet. If possible, let everything dry for five days in the hot sun before using your boat in another body of water.

Information about preventing the spread of aquatic nuisance species

California Department of Boating and Waterways
(888) 326-2822
www.dbw.ca.gov

University of California Cooperative Extension, Sea Grant Extension Program
http://seagrant.ucdavis.edu/boating.htm
(858) 694-2845

Western Regional Panel
(303) 236-7862
http://www.wrp-ans.org

Report sightings of invasive species toll-free to:
(877) STOP ANS, or (877) 786-7267

CALIFORNIA COASTAL COMMISSION

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BOATER FACT SHEET

LESS TOXIC CLEANING

SIMPLE HOUSEHOLD ALTERNATIVES TO BOAT CLEANING AND MAINTENANCE PRODUCTS

Whether you clean your boat in the water or on land, boat cleaning products may end up in your local waterway. The products you purchase to clean and maintain your boat can have an adverse effect on aquatic life, water quality and human health. Many boat cleaning and maintenance products contain chemicals that are poisonous, corrosive, flammable and/or chemically reactive. When you purchase boat cleaning products, take time to read the label. A signal word, such as "danger/poison," "warning," or "caution" can give you a general indication of the toxicity of a product. If you want more information on a product's contents, ask your retailer or contact the manufacturer for the Material Safety Data Sheet (MSDS). The MSDS will list any constituents considered to be hazardous substances by the federal government. If you decide to purchase a soap to clean your boat, choose phosphate-free non-detergent soaps, such as, vegetable or citrus-based soaps.

How to be a less toxic consumer:

- Use elbow grease instead!
- Use less toxic alternatives whenever possible.
- Buy only the amount that you need.
- Properly handle and store materials.
- Dispose of hazardous waste legally and safely.
- Call (800) CLEANUP for the locations of used oil recycling and hazardous waste disposal facilities.

Alternatives to Traditional Cleaning Products:

You can minimize environmental impacts by using the following simple household alternatives to harmful products.

Product	Household Alternative
General cleaner	• Mix baking soda and vinegar. • Combine lemon juice with borax paste. • Dissolve baking soda in hot water for a general cleaner.
Surface cleaner	• Mix 1 quart of hot water, 1 tsp. vegetable oil-based soap/detergent, 1 tsp. borax and 2 Tbsp. vinegar. Vinegar is used as a mild acid to cut grease, borax is used as a water softener, especially good with hard water, to prevent soapy deposits. • Mix 1 cup of vinegar in 1 quart of warm water. • Dissolve baking soda in hot water for a general cleaner.

LESS TOXIC CLEANING

Product	Household Alternative
Degreaser	• Make a paste of lemon juice and borax. • When shopping for degreasing products, look for water-based products or citrus-based degreasers. • Avoid products that contain methylene chloride (known to cause cancer in laboratory animals). • Do not use gasoline to clean marine parts. Gas contains benzene (carcinogenic to humans) that, upon evaporation, causes air pollution.
Dish cleaner	• Use vegetable oil-based soaps/detergents.
Window cleaner	• Dilute one cup of white vinegar with 1 qt. water.
Floor cleaner	• To clean vinyl tile and linoleum, use 1/4 cup white vinegar, 1/4 cup of washing soda, in 1 gallon of warm water, or one cup vinegar in 2 gallons of water. • Remove scuff marks on linoleum with toothpaste.
Fiberglass cleaner	• Use a paste of baking soda and water.
Aluminum cleaner	• Mix 1 Tbsp. cream of tartar in 1 quart of hot water.
Brass cleaner	• Use Worcestershire sauce, or paste made of equal amounts of salt, vinegar, and water.
Copper cleaner	• Use lemon juice and water, or paste made of equal amounts of lemon juice, salt, and flour.
Chrome polish	• Use apple cider vinegar to clean; baby oil to polish.
Hand cleaner	• Apply baby oil or margarine, then clean with soap and water.
Head and shower	• Clean frequently with a mix of baking soda and water; brush thoroughly. Sprinkle baking soda around the rim of the toilet. • To clean and deodorize the head, try a mix of 1/2 cup of borax per 1 gallon of water.
Stainless steel cleaner	• Mix baking soda or mineral oil for polishing, vinegar to remove spots.
Scouring Powders	• Instead of scouring powder, try using baking soda.
Rug/Upholstery cleaner	• Sprinkle on dry corn starch; vacuum.
Teak cleaner	• Use a biodegradable soap to remove the dirt and salt water. • Instead of bleaching teak, try using a mild power soap and scrub with bronze wool.
Fiberglass stain remover	• Use a paste of baking soda and water.
Mildew removers	• Scrub mildew with borax/water using a nylon scouring pad.

BOATER FACT SHEET

LESS TOXIC CLEANING

Product	Household Alternative
Mildew removers	• Try scrubbing mildew with a vinegar and salt paste (equal parts), if problem is not severe. • Try vinegar full strength, then rinse. • To inhibit mold and mildew, wash area with 1/2 cup borax per 1 gallon hot water.
Wood polish	• Use olive, walnut, or almond oil.
Drain opener	• Dissemble or use plumber's snake. • Flush with a mixture of boiling water, one-quarter cup of baking soda and one quarter cup of vinegar.
Paint products	• Avoid paints containing methylene chloride and trichloroethylene (TCE) (evidence that these cause cancer in laboratory animals); benzene (known to cause cancer in humans); 1,1,1- trichloroethane (TCA) (irritant to eyes and tissues), xylene (toxic by drinking and breathing); or toluene (known to cause birth defects).
Wood Preservatives and stains	• Do not use old products that contain pentachlorophenol (PCP) (evidence that it causes cancer in laboratory animals), creosote, tributylin oxide, or folpet. • Water-based preservatives are available that can seal wood and protect it from water rot. • Use water-based stains. • Use finishes derived from natural sources, such as, shellac, tung oil, and linseed oil.

While baking soda, vinegar, lemon juice, and vegetable oils are far less harmful than bleaches, scouring powders and detergents, they can still be toxic to aquatic life. Use all cleaning products sparingly and minimize the amount discharged into the water. Never dispose of any cleaning products down the thru-hull drain; dispose of them on shore!

These alternatives have not been tested by the California Coastal Commission. They are offered as suggestions. The sources that were relied upon to develop these suggestions are cited below.

- Center for Marine Conservation, U.S. Coast Guard, U.S. Coast Guard Auxiliary, "Tips to Keep Your Boat in Top Shape."
- Flynn, A. A. and Rory E. Kessler. 1992. "A Consumer Guide to Safer Alternatives to Hazardous Household Products." Take Me Shopping. Department of Planning and Development, Santa Clara County, p. 33.
- HometownAnapolis.com, Boat Cleaning Tips, 2000. http://www.capitalonline.com/parks/boating.html,
- Gordon, Miriam. 1996. Marin County's Guide to Environmentally Sound Practices in the San Francisco Bay and Delta," Marine County Hazardous and Solid Waste Management Authority.
- Maryland Clean Marina Initiative. 2000. "Vessel Cleaning and Maintenance." http://www.dnr.state.md.us

Funding provided by the California Integrated Waste Management Board

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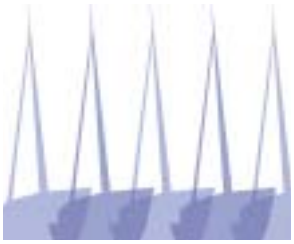
“Less Toxic Cleaning”)

ENVIRONMENTAL STRATEGIES: CASE STUDIES

PHOTO: Walt Poole



Environmental Strategies: Case Studies

What are the costs and benefits of adopting clean marina practices? A marina that employs these practices may achieve cost savings from decreased waste disposal fees, lower spill response costs, or fewer regulatory fines and penalties. Sometimes marinas make money by getting paid for recyclable materials collected, or by selling services or products that protect the environment. In addition, the costs of environmental improvements can often be offset by grants provided by government agencies, by charging marina users for a service, or by rolling the expenses into slip fees.

While marinas frequently spend money to make environmental improvements that yield no direct financial return, many report that the costs are balanced by the improved image of their marina and improved water quality, which make their businesses more attractive to customers. Protecting the environment is also a good long-term business strategy because it ensures the future of resources such as fish and swimmable waters that attract people to boating.

Many California marinas have implemented clean marina practices. The examples in this section were provided in response to an October 2003 California Coastal Commission survey. In addition, the Commission's clean boating program maintains a database of sewage and oil-related services provided at marinas throughout the state that demonstrates that many other California marinas are providing environmental services. Visit the following Websites to see which marinas in California provide sewage- and oil-related services for their boaters: www.coastal.ca.gov/ccbn/ccbndx.html and www.cleanup.org.

We have selected the following responses from our survey in order to provide examples of marinas that are diverse in terms of geography,

size, boating population served, types of use, sources of funding, and the types of environmental problems they need to address. It is our hope that you, the California marina operator, will find helpful suggestions that are relevant to the operation of your particular facility. Use the contact information provided to follow up with any marina that has implemented a program about which you would like more information.

Big Bear Marina

P.O. Box 1844
500 Paine Road
Big Bear Lake, CA 92315
(909) 866-3218
Alan Sharp

A privately operated, seasonal (April-November), lake resort destination serving approximately 50,000 visitors annually. The marina has 200 in-water slips, plus boat rentals, a boat launch ramp, and marine supply shop. Slips are primarily occupied by outboard boats used for fishing and skiing.

PHOTO: Alan Sharp

Specific Actions Implemented:

1. **Distribution of absorbent pads at fuel dock.** By providing trained fuel dock operators, the marina reduces the possibility of spills while fueling. Staff uses absorbent pads on fill nozzles and applies an enzyme-based product to gas and oil spills. They collect spent pads from boaters and dispose of them as hazardous waste.

2. **Battery recycling.** The marina will collect a boater's used batteries at the supply shop for recycling, regardless of where it was purchased.

3. Hazardous waste management. Bad gas gets pumped out from portable tanks into a 55-gallon drum. On fixed tanks, marina staff pumps gas to a transfer container and then into the drum. A hazardous waste transporter collects bad gas, as well as used oil and filters for recycling.

4. Boat maintenance. No oil changes are permitted in the water. All engine maintenance must be done in the nearby boat repair facilities.

5. Solid waste management. The marina has collection containers for aluminum, glass, and plastic bottles, and the marina takes the recyclables to a local recycling center. The small amount of revenue they make funds picnics for employees. At the R.V. park, seniors recycle and get money for an occasional barbeque. The cost of labor and the income balance out.

6. Fishing line recycling. The staff collects fishing line found on the property and around the shoreline and sends it to Berkely Fishing for recycling (see *Information and Resources* for contact information.)

7. Trash and debris. For the last four years, the marina has participated in International Coastal Cleanup Day. In 2003, for example, 98 volunteers picked up 2,625 pounds of trash and 358 pounds of recyclables. There is a daily trash pickup by employees and the marina has hired a retiree to do cleanup as well. The entire staff is trained to keep things clean.

8. Water-wise, non-toxic landscaping. In an area with five years of drought, the marina has started to plant drought-tolerant plants, and uses non-toxic herbicides and pesticides.

9. Boater education. Marina staff distributes "Clean Green Boat Maintenance," a brochure provided by the California Coastal Commission, in the marina store (check *Educating Boaters at Your Marina* for how to obtain copies)

Benefits

When the owners bought the marina in 1998, it was less clean. They are seeing changes as a result of keeping oil, trash, and batteries out of the lake. Their programs also create an awareness among visitors and increase the marina's attractiveness.

Dana Point Harbor- East Basin

34555 Casitas Place
Dana Point, CA 92629
(949) 496-6137
Customerservice@danapointmarina.com
Douglas Whitlock, General Manager

This is a publicly (county) owned facility that is privately operated by Dana Point Marina Company (DPMC). All operating expenses come out of tidelands funds. The marina is on the coast in southern California and has 1,438 slips used year-round. Boat size ranges from 23-85', 50% power, 50% sail.

PHOTO: Doug Whitlock

Specific Actions Implemented:

1. **Developed and implemented a Clean Marina Plan.** Management saw a need to consolidate varied environmental policies into one plan. The Plan was completed in Fall 2002 at a cost of $600 (20 staff hours). Development of the Clean Marina Plan increased awareness of environmental issues by combining numerous environmental practices and policies into a single organized plan. The marina considers the Plan an effective tool for staff training.

2. **Shoreside and in-water litter and trash removal.** Increased traffic in the harbor resulted in increased litter and trash at the facility. In

response, the marina dedicated additional staff time starting in 2002 to litter and trash removal on docks and premises. Costs for dock/landside program: 20 staff-hours per month at a cost of $3,400 per year. Costs for in-water program, additional 40 staff-hours per month: $6,800 per year, plus undetermined fuel and boat maintenance costs.

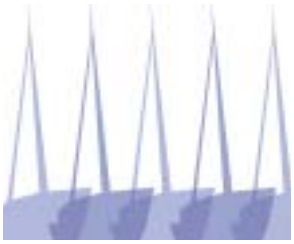
3. **Oil absorbent bilge pad exchange program.** After two years of county used-oil program funding for the oil-absorbent pad exchange program, the marina began purchasing the pads in spring 2003. The county pays for disposal. The marina pays $2,700 for 7000 pads per year. The county pays about $35 per drum five times per year for disposal; each drum contains 200 (or more) pads. Information about the oil pad exchange program is available at the marina office and frequently mentioned in the marina newsletter sent to all tenants. Signs about the program are posted at all dock gates and at the used oil collection facility. The Best Management Practices (BMPs) attached to the lease instructs tenants in proper management of oil and how to prevent oil and fuel discharges and informs them about laws prohibiting certain types of overboard discharges.

4. **Improving boater/tenant education via newsletter.** Starting in the spring of 2003, the marina increased the number of environmental issues addressed in its tenant newsletter and included information about marina environmental rules and policies.

5. **Staff training in "clean" work practices.** In 2002, the marina implemented this program in response to increased local law enforcement due to violations in a neighboring facility. Unquantified cost savings are perceived to have resulted from avoiding fines.

6. **Maritime Wharfage Contract (MWC) includes the marina's clean boating requirements.** Tenant contract requires boaters to follow specified BMPs and comply with all laws concerning waste disposal.

7. **Sewage.** The marina has three sewage pumpout facilities and a mobile pumpout for vessels with on-board holding tanks. The pumpouts are available free of charge. Strict adherence to state and county regulations about the number of liveaboards (10% per dock, no more than 5% overall) reduces the amount of sewage generated. Vessel inspections are required for liveaboards to ensure holding tanks are in good operating condition. The marina also posts, at all gates to docks, signs prohibiting sewage discharges, provides maps of pumpout locations in the office, provides clean 24-hour restrooms near each dock,



and trains staff to spot sewage pollution and notify the Harbor Patrol and marina management. A variety of brochures and newsletter pieces discuss methods for properly managing sewage wastes. The BMPs attached to the lease instruct tenants in proper management of sewage wastes and informs them about laws prohibiting certain types of overboard discharges.

8. **Used oil collection.** The marina provides a used-oil collection tank (above ground with secondary containment) with 220-gallon capacity. It is open from 11 a.m. to 4 p.m. and inspected daily by marina staff.

9. **Spills.** Marina staff members are trained to detect spills of oil, sewage, and hazardous substances, and to notify the Harbor Patrol and marina management. They are also trained in the proper use and location of first response containment/cleanup materials. Employees are retrained every 90 days. The marina maintains a supply of spill response materials and a list of spill response firms that can be employed in the event of a spill.

10. **Hazardous waste management.** Hazardous waste storage is prohibited on docks. Marina staff performs weekly inspections of docks to identify and remove hazardous wastes. These inspections heighten tenant and employee awareness of the need to properly manage hazardous wastes and to reduce the quantities generated. All eight marina trash areas have signs posted prohibiting disposal of hazardous wastes in the trash. Marina staff takes all hazardous wastes collected during dock inspections to the local household hazardous waste disposal facility.

11. **Vessel cleaning and maintenance.** Marina rules and policies prohibit rebuilding, hull painting, and other major repairs while the boat is moored at the marina. Rules also restrict sanding, painting, and the use of chemicals on a boat moored in the marina. Owners and contractors are required to follow policies for boaters, which specify proper methods of in-water boat maintenance. Marina staff is trained to report to the Dockmaster whenever they observe boat workers causing a prohibited substance to be released into the water. The Dockmaster reports all confirmed cases of water pollution to the harbor patrol and initiates cleanup. Confirmed cases of pollution are reported to the marina superintendent for administrative action.

12. **Solid waste management.** There are eight trash rooms and twelve outdoor trash receptacles. All trash receptacles are emptied twice a day to facility dumpsters, which are emptied four times per week. Dumpster lids remain closed. Each day, marina staff picks up trash from sidewalks and parking lots. Docks are cleaned each week. Twice a week, the marina removes trash and debris from harbor waters of the east basin using a 16-foot boat and a net. During heavy rain, additional staff members are assigned to this task. As an example, during the 1998 storm season, over three tons of debris were removed from marina waters and disposed of by marina staff.

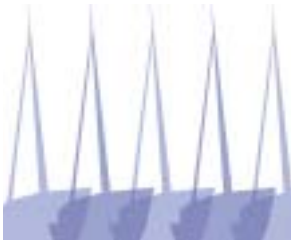
    Marina staff also ensures the removal of debris created by on-going dock maintenance. Tarps and nets are used to collect trash and debris in the water. Marina staff is instructed on techniques to prevent construction debris from entering harbor waters. The contract signed by each berth tenant includes prohibitions on the discharge of trash and debris from any vessel and requires each tenant to maintain the assigned berth and surrounding area in a neat and clean condition at all times.

13. **Gray water minimization.** There are conveniently located shower and laundry facilities for the boaters. The MWC advises boaters to use only biodegradable soaps and cleaners. Strict adherence to state and county regulations limiting the number of liveaboard permits minimizes gray water discharge. The MWC prohibits all discharges into harbor waters and the attached rules advise boaters to use only biodegradable soaps and cleaners.

14. **Fish waste management.** The MWC prohibits fish cleaning on docks and prohibits overboard discharges of fish waste into the harbor waters.

15. **Boat operation.** Marina rules and regulations require that vessels be moored in a safe manner. Rules include a maximum speed limit within Dana Point Harbor of five knots, and no wake is permitted.

16. **Boater education.** The marina maintains a monthly newsletter and provides literature in the marina office. Information is provided to each tenant in the MWC. This includes the terms of the contract, rules, and regulations, best management practices for boaters, and a compilation of local, state and federal laws concerning all aspects of pollution.



Costs and Funding

A total annual operation and maintenance cost associated with programs listed is $13,500. Most environmental costs are included in the regular slip fees, but the oil-pad exchange program was funded by used-oil grants provided by the County.

Benefits

The DPMC believes its tenants recognize and appreciate the marina's environmental efforts and that a highly visible clean marina program gives the public a positive perception of the company and the facility. A clean marina environment is also important to the property owner (County of Orange), who agrees that the marina's proactive approach to environmental matters helps create a positive image of the marina.

Development of the Clean Marina Plan increased management and staff awareness of environmental issues by combining numerous environmental practices and policies into a single organized plan. The Clean Marina Plan has become an effective tool for staff training.

Grand Marina

2099 Grand Street
Alameda, CA 94501
(510) 865-1200
Chrissie Prentiss, Assistant Harbormaster

Grand Marina is a privately operated, year-round marina with 400 slips on San Francisco Bay. The boats are all recreational and range from 30 to 53 feet in length, with 40% power and 60% sail. The marina has a liveaboard community that comprises 10% of its occupancy.

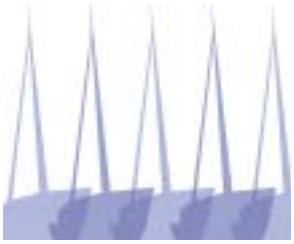
PHOTO: Miriam Gordon

Specific Actions Implemented:

1. **Boat maintenance.** The marina's boater education program (discussed below) informs tenants that no spills or discharges of any toxic materials or debris are permitted on the marina premises. This policy is reinforced by friendly reminders and advice provided by marina staff who are a constant presence on the docks.

2. **Sewage pump-out.** The sewage pumpout facility is open 24/7 to all boaters free of charge. It was funded by the Department of Boating and Waterways 12 years ago. The marina considers the facility essential to service the liveaboard boaters.

3. **Gray water.** The marina has shower and laundry facilities. The show-



ers are free. The showers, laundry and restrooms are clean and well-maintained to encourage their use and prevent in-vessel use of the same services.

4. **Oil absorbents.** The marina distributes free absorbents to boaters and encourages proper disposal at the nearby hazardous waste disposal facility. The marina also advertises the (800) CLEANUP phone number for boaters to find locations for hazardous waste disposal.

5. **Used oil and oil filters.** The marina has a hazardous waste storage shed that includes a used oil and filter recycling tank. Boaters can dispose of oil and filters for free.

6. **Other hazardous wastes.** The marina accepts anti-freeze and batteries for disposal free of charge.

7. **Solid waste/recycling.** The marina has collection receptacles for glass, cardboard, cans, and paper. Garbage is collected and placed in the garbage compactor. Separating recyclables out of the waste stream saves the marina money on garbage disposal fees, but the marina does not calculate the specific cost savings.

8. **Boat Operation.** Because the marina recently spent $400,000 repairing docks, the manager has asked the city harbor patrol to strictly enforce the no-wake zone to reduce wear on the docks. The marina is posting signs and conducting significant boater education about the need to obey no-wake rules.

9. **Education.** Marina management believes that education is critical to successfully operating a clean marina and minimizing water quality impacts. A key element of the marina's education program is having a staff person dedicated to continuously inspecting the facility, talking to boaters, and making sure wastes and boat maintenance are properly handled. This staff person is a trained Dockwalker and distributes boater kits and other educational materials. Other Dockwalkers assist the marina in educating boaters. Marina tenants are very proactive and inform staff whenever they see a possible safety or environmental hazard.

Benefits

Costs of these environmental programs are covered by slip fees. The benefits include 100% occupancy. Having a clean marina contributes to the tenants pride in maintaining the standards of cleanliness and environmental protection.

Lake Casitas Recreation Area

11311 Santa Anna Road
Ventura, CA 93001
(805) 649-2233
www.casitaswater.org
Brian Roney, Park Services Manager

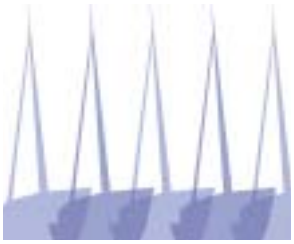
The Lake Casitas Recreation Area hosts approximately 750,000 visitors and 29,000 boaters annually. It is located along the north shore of the Casitas Dam, a drinking water reservoir serving the Ojai Valley, the Rincon area, and parts of Ventura. The Casitas Municipal Water District operates a year-round marina with two launch ramps, boat rentals, 100 wet slips and 185 dry slips, approximately 50% power and 50% sail, ranging in length from 15 to 26 feet.

Specific Actions Implemented:

1. **In-water boat maintenance.** The marina does not allow any in-water boat maintenance.

2. **Oil spill response preparedness.** In 2003, the marina purchased two types of spill kits for $600. Both types are portable, allowing for quick response to spills on the lake or in a stream.

3. **Recycle program.** The marina provides recycle containers to encourage



recycling of bottles and cans. The collection containers were initially funded by the California Department of Conservation, which provided about $5,000 to purchase the containers. In addition, the trash removal hauler provides three 10-yard dumpsters specifically designated for all other recyclable materials. The hauler provides recycling removal free of charge. The garbage costs have been reduced, but it is too soon to provide exact cost savings. The marina has found that convenient location of collection containers is a major factor in whether or not boaters choose to recycle.

4. **Gray water minimization.** New showers were made available to customers in November 2003. Wastewater is collected in a vault, pumped into a vacuum truck and transported off the property to a certified dump station. The showers are coin operated to encourage customers to conserve water.

5. **Fish waste management.** Lake Casitas has two fish-cleaning facilities with electric disposal units at a cost of $30,000. The commercial grade units are expensive but designed to handle heavy usage and designed for compliance with Americans with Disabilities Act (ADA) specifications. The ground-up fish remains are flushed into a holding tank that is pumped into a vacuum truck and transported off-site to a certified dump station.

6. **Boat launch ramp stormwater prevention.** As part of a $1.4 million grant funded by the California Department of Boating and Waterways, the main Santa Ana boat launch ramp was totally refurbished in 2003, including a bio-filtration system (costing about $10,000, for design, labor, equipment and installation) with a collection channel to prevent any contaminated runoff from entering the lake. There is some additional labor involved with the cleaning of the channel, but the District feels that the benefit to water quality of the lake outweighs the cost.

7. **Outboard engine emissions.** The boat concessionaire has converted all rental boat motors from two-stroke to four-stroke to reduce emissions. In addition, Lake Casitas patrol boats have also been converted to four-stroke motors. The initial cost of the motors was substantial, but over time a cost saving will be realized due to increased fuel efficiency.

8. **Boater education.** Copies of a brochure about recycling are provided in English and Spanish.

Benefits

Feedback from customers demonstrates that boaters are aware of the District's environmental concerns and appreciate its efforts to protect the Lake. The recycling program results in less trash cleanup for their maintenance crews and improves the look of the park.

Lake Don Pedro Marina

81 Bonds Flat Road
La Grange, CA 95329
(209) 852-2369
Walt Poole, General Manager
www.LakeDonPedroMarina.com

This is a privately operated marina. Most boating is seasonal. There are 342 wet berths, ranging from 16-60 feet, and 180 moorings. Of the wet berths and moorings, about half are houseboats. Boats stored at the marina are 90% power, 10% sail. There is a boating supply store and fuel dock. The marina has a boat rental operation, food and beverage sales, and a marine supply shop. There is an independently owned and operated launching ramp adjacent to the marina.

PHOTO: Walt Poole

Specific Actions Implemented:

1. **Management.** The marina established written procedures for: 1) community awareness and involvement, 2) contractor /concession coordination, 3) fuel storage and delivery systems for diesel, gasoline, and propane, 4) green procurement (sets criteria with vendors for green products and alternatives), 5) hazardous materials management, 6) integrated pest management (non-toxic pest management), 7) water and energy conservation, 8) water quality protection (storm

water pollution prevention, wastewater management, and boat operations for fueling and maintenance), 9) energy efficiency in lighting, 10) solid, sanitary and hazardous waste management, and 11) use of native species in landscaping. The assistant general manager assesses the implementation of these procedures each month, and a steering committee reviews the results.

2. **Boat and facility maintenance.** All of the chemicals the marina uses in the rental houseboats, the marine supply store, and food and beverage operations are cruelty free, non-toxic, and biodegradable. They are free of all known carcinogens, benzene-derived detergents, or alcohol. In the slips, no washing, painting, or other kind of maintenance that would cause any discharge is allowed.

3. **Solid waste.** The marina collected 15,000 pounds of recyclables in 2003. The marina recycles glass, aluminum, paper, plastic, batteries, and fishing line. All houseboats contain recycling bins and renters are educated about their recycling program. The marina management feels that the key to success of a recycling program is to make it easy for people to recycle. The marina does all the hauling of materials from recycling containers to their large bin. Recycling is picked up from the large bin for free by a waste removal company.

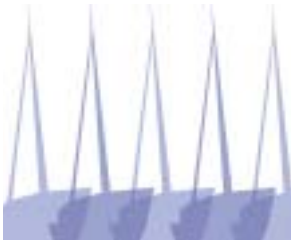
4. **Green procurement.** All paper products sold and used on-site contain at least 30% post-consumer recycled content. The marina sends a green procurement letter to all its vendors.

5. **Oil and hazardous waste.** The marina accepts all non-contaminated used-oil and filters from customers for recycling. There is a fuel spill prevention program at the fuel dock, including absorbent pad distribution and absorbent doughnuts over fuel nozzles. Staff educates customers to prevent topping off. The marine supply shop will not sell a new battery without taking a used one to recycle.

6. **Emergency response.** The marina always has one certified first responder on site in the event of a spill.

7. **Energy efficiency.** The marina is in the process of changing the lighting to compact fluorescent and green-tipped bulbs.

8. **Gray water.** The Lake Don Pedro Recreation Agency mandates no gray water discharge. Therefore, the marina prohibits boat washing with soaps in the berths.



9. Sewage. It is a no-discharge lake. The marina provides a free sewage pumpout service. Toilets are available at the dock.

10. Trash and marine debris. The marina does a debris removal dive once a year and also recycles fishing line. The marina does not use or sell polystyrene, to prevent it from getting into the lake.

11. Education. Through constant word of mouth, proper signage, and continued distribution of flyers that explain the recycling program, the marina has made the recycling program a success.

Benefits

Keeping all chemicals and soaps out of water and recycling batteries and used oil has improved water quality and fish habitat. The marina has saved a lot of money on garbage hauling fees because staff removed 15,000 pounds in one season of trash for recycling. They also saved money on electricity with compact fluorescent light bulbs and green tipped bulbs.

Pittsburgh Marina

51 E Marina Blvd.
Pittsburg, CA 94565
(925) 439-4958
Van DePiero, Harbormaster

A city-owned and operated marina with 575 slips. Boat range in length from 20 to 50 feet and are 20% sail and 80% power. The marina includes a launching ramp and haul-out.

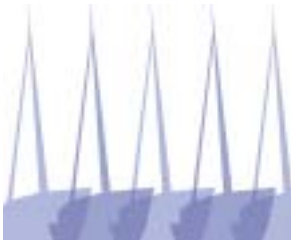
Specific Actions Implemented:

1. **Solid waste/recycling.** The marina provides collection containers for aluminum, plastic, and glass at the public launching ramp, and two additional containers, which service all the slips. Staff empties the recycling containers once every two weeks, collecting approximately 30 cubic feet of material. The collection area at the launch ramp gets the most use because it is the area with the greatest public access. Staff keeps an eye on use of the trash dumpsters and reminds people to recycle.

2. **Oil absorbent exchange program.** Oil-absorbent pads are distributed free of charge at the fuel dock. The used pads are collected at the fuel dock and picked up by an absorbent pad recycler. The marina estimates it takes 3-6 months to fill a 55-gallon drum with spent pads for recycling. Each drum contains 250 pads. The cost is $289 per drum. New tenants receive a free boater kit containing half a dozen absorbents and information about the program.

3. **Used oil recycling.** The marina has a 300-gallon double walled tank housed in a 10 x 10 foot building for oil and oil filter collection. Tenants who change their own oil are loaned 5-quart oil collection containers for collection and spill-proof transfer of crankcase oil.

4. **Bilge pump-out.** The marina plans to install a bilge pumpout and oil separation facility and will provide free bilge pump-outs to any boater. The marina will accept bilge water that is contaminated with soaps for



free from tenants and charge non-tenants the cost of disposal.

5. **Sewage pump-out.** The marina has a sewage pumpout facility but is investigating getting a new facility with a grant from the Department of Boating and Waterways.

6. **Fuel spill prevention.** The fuel dock attendant supervises fueling or does it for the boater. The fuel dock provides and uses fuel spill containers. Signs at the fuel dock encourage proper fueling techniques to prevent fuel spills.

7. **Hazardous wastes.** The marina accepts anti-freeze and lead-acid batteries for disposal at no cost to the boater. Staff collects 20-25 batteries per month for disposal. The staff will pick up batteries from the slip.

8. **Derelict boats.** The marina takes title to abandoned and derelict boats to deal with this problem. When a boat sinks, the marina takes control and retains a salvage company. The marina booms and pads the boat to prevent oil and fuel spills. All tenants are required to name the marina as "additional insured" in order to cover the costs.

9. **Boater education.** New tenants receive a free boater kit. Marina newsletters address environmental issues such as proper bilge management. The marina posts many signs to get marine debris, recycling, and waste management messages across. Signs tell boaters that the marina will take any waste. Marina staff is instructed to be proactive on environmental education and to instruct boaters about all aspects of clean boating.

Benefits

The marina provides free environmental services in order to further their goal of 100% occupancy. The staff says they are "unselfish for selfish reasons."

Sunroad Resort Marina

95 Harbor Island Drive
San Diego, CA 92106
(619) 574-0736
Scott Maclaggan, Marina Manager

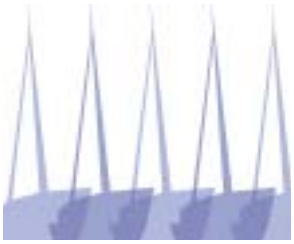
A privately owned and operated marina in San Diego with 610 in-water slips for boats between 18-130 feet, average length of 45ft., 55% power, 45% sail with 10% live-aboards. This is a year round coastal marina for pleasure yachts.

Specific Actions Implemented:

1. **Boater education.** The staff makes copies of "Boaters Best Management Practices" (listed in *Educating Boaters at Your Marina*) available for all vendors, boat workers and marina tenants and guests along with a library of environmental materials. The marina has an on-going boater education program, which includes bulletin board postings, events, a newsletter, and many signs posted around the marina. In 2003, the marina hosted a "vendor day" where vendors, boat workers, and agencies set up informational tables at the marina. It was very well attended and received. They plan to make it an annual event open to everyone.

2. **Employee training.** All marina employees have been trained in BMPs and use of emergency/ spill response equipment.

3. **Sewage management.** The marina has a sewage pumpout that was funded by a grant from the Department of Boating and Waterways. All tenants and guests get "potty training" and their Rules and Regulations are very specific and strictly enforced. Despite these efforts, misuse of the sewage pump for pumping oily bilge water is an occasional problem.



4. **Boat maintenance.** All vendors and boat workers who work at the marina must be insured and are also given the Rules and Regulations and agree to use BMPs. All divers working in the marinas are required to have passed an in-water Hull Cleaner Certification course. The marina is very strict about how much in-the-water work can be conducted at the marina.

5. **Gray water.** The marina provides shoreside shower and laundry facilities and encourages their use. The marina does not allow boat or car washing in parking lots.

6. **Storm-water.** Maintenance staff is extremely water-wise. For example, irrigation water usage declined 23% between September 2002 and September 2003. Total water usage in September 2003 decreased 10% from September 2002.

7. **Hazardous wastes.** The marina collects used oil, batteries, etc., and disposes of them at a hazardous waste disposal facility. Marina staff notifies tenants of collection events and disposal opportunities throughout the city.

8. **Environmental policies.** When tenants repeatedly fail to adhere to marina environmental policies, the marina terminates the boater's lease.

Benefits

Marina management believes that tenants are willing to pay higher than average rates at this marina because cleanliness and environmental protection is a top priority. The marina is fully occupied, which management feels offsets its environmental expenditures.

THE CALIFORNIA CLEAN MARINA TOOLKIT

INFORMATION AND RESOURCES

FOR CLEAN MARINAS

PHOTO: John Cruger-Hansen

SITING AND DESIGN, CONSERVATION MEASURES

U.S. Environmental Protection Agency
EPA Management Measures, "Excerpts from Federal Guidance," January 1993. EPA-840-B-92-002. Washington, DC.

U.S. Environmental Protection Agency
National Management Measures Guidance to Control Nonpoint Source Pollution from Marinas and Recreational Boating, November 2001, EPA 841-B-01-005

U.S. EPA marinas Website
www.epa.gov/owow/nps/marinas.html

California Coastal Commission
www.coastal.ca.gov
Provides a copy of the California's "Plan for Non-point Source Pollution Control" includes siting and design considerations for marinas

National Clean Boating Campaign Website
www.cleanboating.org

University of California Sea Grant, San Diego
http://seagrant.ucdavis.edu/marharboats.htm

California Department of Boating and Waterways
www.dbw.ca.gov
(916) 263-1331, Toll free (888) 326-2822

San Francisco Bay Conservation and Development Commission
www.bcdc.ca.gov
(415) 352-3600

EMPLOYEE TRAINING

Developing a Workplace Injury and Illness Prevention Program
www.dir.ca.gov/dosh/dosh_publications/iipp.html

General information about employee safety and training
Cal/OSHA Consultation Service
(800) 963-9424

Check the phone book and Internet for employee training in hazardous materials management.

U.S. Department of Transporation hazardous materials training classes
http://hazmat.dot.gov/training.htm

BOAT CLEANING AND MAINTENANCE

See General Information (above)

UNDERWATER HULL CLEANING

University of California Sea Grant, San Diego
http://seagrant.ucdavis.edu/hullclean.htm
(858) 694-2854

HAZARDOUS WASTE MANAGEMENT (continued)

Location of local business and household hazardous waste disposal facilities
www.cleanup.org
(800) CLEANUP

Courtesy hazardous waste inspections (non-regulatory inspections provided as a courtesy to assist marinas with hazardous waste compliance)
U.S. Coast Guard Auxiliary – check with your local Auxiliary flotilla
www.cgaux.org
(800) 368-5647

TRASH AND MARINE DEBRIS

GENERAL SOLID WASTE INFORMATION

U.S. EPA
www.epa.gov/epaoswer/nonhw/muncpl/facts.htm

California Integrated Waste Management Board
www.ciwmb.ca.gov
(916) 341-6000

MARINE DEBRIS ISSUES

The Ocean Conservancy
www.oceanconservancy.org
(202) 429-5609

Algalita Marine Research Foundation
www.algalita.org
(562) 433-2361

California Coastal Commission
www.coastal.ca.gov
(800) COAST4U

LOCATING RECYCLERS

California Integrated Waste Management Board
www.calMax.org

Shring wrap recycling
Dr. Shrink, Inc.
www.dr-shrink.com
(800) 968-5147

To obtain fishing line recycling boxes, call:
Pure Fishing
(877) 777-3850 ext. 8419

Send fishing line directly to:
Berkley Recycling Center
1900 18th Street
Spirit Lake, IA 51360-1099

AQUATIC NUISANCE SPECIES

Report sightings of invasive species toll-free to:
(877) STOP ANS, or (877) 786-7267.

Invasive Species Information System
http://www.invasivespecies.gov

California Sea Grant Extension Program
http://seagrant.ucdavis.edu/boating.htm
(858) 694-2845

Western Regional Panel
http://www.wrp-ans.org
(303) 236-7862

Environmental Regulatory Program Contact Information

Implementing some of the clean marina practices suggested in the *Guidebook* requires compliance with specific environmental laws and regulations. This section provides contact information for the local, state and federal agencies that regulate environmental practices at marinas, and a description of the programs they implement. In many instances, regulatory requirements differ from one local jurisdiction to the next.

The regulations pertaining to hazardous waste management are perhaps the most complex of all regulatory programs that may apply to California marinas. In California, local governments are charged with the authority for implementing hazardous waste regulations. In most instances, these local agencies are "Certified Unified Program Agencies" or CUPAs. Most CUPA regulations follow the guidance set forth by the California Department of Toxic Substances Control (DTSC) for hazardous waste management. We suggest that you contact your local CUPA first to find out about hazardous waste management requirements. In addition, DTSC has many resources to help small businesses understand hazardous waste generator compliance.

California Coastal Commission

45 Fremont Street, Suite 2000
San Francisco, CA 94105
(415) 904-5200, (800) COAST4U
www.coastal.ca.gov/ccbn/ccbndx.html

The Commission permits new marina development or redevelopment of marinas in the coastal zone, and implements boater and marine business education program, "Boating Clean and Green."

California Department of Fish and Game- OSPR

1416 Ninth Street
Sacramento, CA 95814
(916) 445-0411
www.dfg.ca.gov

The Office of Spill Prevention and Response implements programs to certify small craft fueling facilities for spill prevention and oversees programs requiring marine fueling facilities to prepare spill contingency plans. The Department conducts enforcement regarding pollution discharges considered deleterious to fish, plants, and birds.

Certified Unified Program Agencies

www.calepa.ca.gov/CUPA/
cupa@calepa.ca.gov
(916) 327-9559

CUPAs implement local hazardous waste and materials management programs, above and underground storage tank programs, and business hazardous materials emergency response programs.

Regional Water Quality Control Boards

The Boards implement storm water and pollution discharge permits for marinas and conduct enforcement of water quality laws. Regional Boards also have the authority to require installation and maintenance of sewage pumpouts and to establish regional standards for adequate numbers of pumpouts.

Region 1- North Coast Region

5550 Skylane Blvd., Suite A
Santa Rosa, CA 95403
(707) 576-2220

Region 2 – San Francisco Bay Region

1515 Clay St. Suite 1400
Oakland, CA 94612
(510) 622-2300

Region 3 – Central Coast Region

895 Aerovista Place
Suite 101
San Luis Obispo, CA 93401
(805) 549-3147

Region 4 – L.A. Region

320 W. 4th Street, Suite 200
Los Angeles, CA 90013
(213) 576-6600

Region 5 - Central Valley Region

- **Sacramento Main Office**
  11020 Sun Center Drive #200
  Rancho Cordova, CA 95670-6114
  (916) 464-3291

- **Fresno Branch Office**
  1685 “E” Street
  Fresno, CA 93706-2020
  (559) 445-5116

U.S. Coast Guard

District 11
Building 14, Coast Guard Island
Alameda California 94501
(415) 399-3547
www.uscg.mil/d11

Marina and boating-related responsibilities of the Coast Guard include providing oil and chemical spill response, enforcing MARPOL, educating boaters about boating safety, and certifying marine sanitation devices and other boat equipment.

U.S. Environmental Protection Agency

Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460
(202) 272-0167
www.epa.gov

The U.S. Environmental Protection Agency requires that coastal states implement regulatory programs to control non-point source pollution, including pollution from marinas and boating. Under this program, the EPA has issued guidance regarding the implementation of best management practices at marinas.

Funding Sources

Grant Program	Description	Eligibility
Boat U.S. Clean Water Trust: Clean Water Grants	For education and hands-on efforts aimed at environmentally friendly boating and fishing	Volunteer orgs, nonprofits and US Coast Guard Auxiliary
Calif. Dept. of Conservation, Div. of Recycling: Beverage Container Recycling	To support the purchase of receptacles for recycling beverage containers	All types of organizations
CALFED: Drinking Water Quality Program (Prop. 13)	To reduce contaminants that impair the quality of Delta and Central Valley drinking water sources	Any public or private entity may be eligible
CIWMB: Used Oil Nonprofit Grant Program	To increase oil collection opportunities in order to reduce the potential for illegal disposal	Nonprofits
CIWMB: Used Oil Opportunity Grant Program	To help local governments establish or enhance permanent, sustainable used oil recycling programs	Local gov't, cities, counties or regional programs
Dept. of Boating & Waterways: Boating Infrastructure Grant (BIG) program	To help improve docking facilities for transient, nontrailerable boats.	Public and private marinas
Dept. of Boating & Waterways—the Abandoned Watercraft Abatement Fund	For the removal storage and/or disposal of abandoned watercraft.	Public entities
Dept. of Boating & Waterways: Clean Vessel Act—Sewage Pumpout Grant Program	To fund the construction, renovation, operation and maintenance of pumpout and dump stations	Local gov't & private businesses that own & operate boating facilities open to the gen'l public
SWRCB: Coastal Nonpoint Source Control Program (Prop. 13)	Projects that restore and protect the water quality and environment of coastal waters, estuaries, bays, and near shore waters and groundwater	municipalities, local public agencies, educational institutions, nonprofits
SWRCB: Nonpoint Source Implementa-tion Grant [319(h)]	Watershed and land use management activities to reduce, eliminate, or prevent water pollution and to enhance water quality	Nonprofits, government agencies, educational institutions
SWRCB: Clean Water State Revolving Fund	Low-interest loans to address water quality problems from nonpoint source pollution and for estuary enhancement	Local agencies

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Environmental Impacts of Boating Pollutants

POLLUTANT	SOURCES AND CHARACTERISTICS	ENVIRONMENTAL ACTIVITY	ENVIRONMENTAL OR HUMAN HEALTH EFFECTS
Detergents	• Most cleaning agents, detergents and soaps • Oil spill dispersants [29] • Breaks down oils and greases on boats [17] • Dissolves according to water conditions	• Accumulates in sediments • Broken down by microorganisms	• Toxic to marine plants and animals • Impairs breathing in fish [17] • Reduces amounts of oxygen in affected waters • Produces unsightly foam on the water surface
Marine debris	• Commercial and recreational boating [11] • Plastics, food wastes, packaging, lines, nets, fish cleaning wastes [3] • Some wastes become nutrients (see "Nutrients")	• Persistent in the environment • Plastic photodegrades in the marine environment, but never fully degrades. Circulates in ocean currents. [32]	• Fish, turtles, birds, marine mammals die due to ingestion or entanglement. [31, 3, 11] • Ghosts nets and traps endanger divers [3] • Can transport harmful non-native species [11] • Snagged by props and engines [3] • Degrades recreational beaches [11] Carcinogens and hormone-disrupting chemicals in plastics can bioaccumulate up the food chain.
Acidic & Alkalis Substances	• Battery acid, lye and other strong acids or bases in vessel cleaning products [13] • Dissolves easily in water	• Increases natural acidity or alkalinity of water by decreasing or increasing pH respectively.	• Toxic to marine plants and animals • Increases the toxicity of other toxic substances, metals, other pollutants and chemicals • Can irritate or damage skin
Metals	• Paint particles from hydro washing, metal shavings from engine wear, and consumer products containing metals. Also in used engine oil, fuel, dissolving zinc anodes, and bottom paints. • Dissolves according to water conditions	• Accumulates in sediments, marine plants, and animals • Persistent in the environment • Some metals broken down by microorganisms	• Toxic to marine plants and animals. • Changes the food web in the marine environment by eliminating certain species.
Copper (Cu)	• Used as a toxic agent in antifouling paints. • Dissolves according to water conditions • Traditional bottom paints (soft-sloughing) are designed to release dissolved copper to repel marine growth on boat hulls.	• Accumulates in sediments, marine plants, and animals • Persistent in the environment • Abrasive underwater cleaning can double copper emissions compared to passive leaching. [33] • 95% of copper emitted from bottom paints is from passive leaching, in certain conditions. [33]	• Very toxic to fish when combined with zinc sulfates [15] • Long term toxicity to marine plants and animals.
Tributlytin (TBT) Dusts and sediments	• Still used as a toxic agent in antifouling paint on aluminum hulls, outboard motors & lower drive units [4, 15] • Complete phase-out of TBT-based paint sales in US expected in 2004, consistent with international treaty to ban its use on ships. [34]	• Accumulates in sediments, marine plants, and animals [15] • Persistent in the environment	• Toxic even in small amounts to marine plants and animals, especially bottom feeders [15] • TBT contaminated shellfish are dangerous to human health [15]
Zinc (Zn)	• Anticorrosive zincs and paint pigments • Dissolves according to water conditions, which can make Zn more available to marine organisms [15]	• Accumulates in sediments, marine plants & animals • Persistent in the environment	• Toxic to marine plants and animals, even small amounts [14]

Environmental Impacts of Boating Pollutants (CONTINUED)

POLLUTANT	SOURCES AND CHARACTERISTICS	ENVIRONMENTAL ACTIVITY	ENVIRONMENTAL OR HUMAN HEALTH EFFECTS
Oil / Fuel	• Normal boat operation, fueling, engine maintenance, spills, runoff, and bilge discharge • Dissolves slowly in water, clings to particles and sediments in marine environments	• Fuels evaporate in air. • Broken down by sediment microorganisms [21] • Accumulates in sediments, marine plants, and animals • High accumulation in estuaries and intertidal areas	• Some components toxic to marine plants and animals even at low concentrations [23] • Some components cause cancer, mutations and / or birth defects. • Behavioral changes in shellfish and fish [23] • Discoloring and bad taste in flesh of fish [19, 24, 25]
Dusts and sediments	• Vessel scraping and sanding, erosion during construction and urban runoff • Heavy metals, nutrients, hydrocarbons, etc. adhere to dusts and sediments	• Accumulate in sediments near the discharge to water • Sediment bound contaminants released to water if disturbed	• May reduce amounts of oxygen in affected waters • General lowering of water quality • Burial of habitat, food and/or organisms • Increased turbidity can clog gills of fish
Nutrients	• Runoff, sewage, erosion, garbage & detergents containing (P)hosphorous or (N)itrogen • P binds easily to water particles	• Used by marine plants and organisms for food (P,N) • Accumulates in sediment (P)	• Increase in algae growth which decreases light and oxygen in the water (eutrophication) • N can be toxic in higher concentrations
Solvents	• Vessel maintenance & repair activities • Paints, varnishes, paint removers, and lacquers as well as degreasing agents • Does not dissolve in water [13]	• Sink in water until they reach an impervious surface • Acetone lingers in air and is transported to sediment & water	• Many solvents can cause cancer. • Large amounts can cause dizziness, disorientation and unconsciousness in the user [2]
Anti-freeze	• Used as engine coolant and freeze prevention during winter storage. Improper use & storage creates leaks or spills [13]	• Fate similar to solvents [13]	• Ethylene glycol is deadly to humans, pets & marine organisms in low doses [2] • Propylene glycol (orange/pink color) is less toxic than ethylene glycol (blue/green color) and is preferred for use in boats [2, 7]
Pathogens/ Bacteria	• Overboard discharge of raw or poorly treated sewage. • Indicator bacteria for water pollutin include total coliforms, fecal coliform, and enterococcus. • Pathogens are disease-causing organisms such as viruses, bacteria and protozoans.	• Bacteria decompose organic matter in sewage using oxygen, which can cause oxygen depletion.	• Oxygen depletion deprives fish, other aquatic animals, and plants of oxygen necessary for survival. • Coliform and fecal coliform bacteria can cause human health problems such as diarrhea, cramps, nausea, and possibly jaundice and headaches. [30]

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FARM & HOME ADVISOR DEPT.
SEA GRANT EXTENSION PROGRAM
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California Clean Marina Checklist

How to Use this Checklist

This Checklist is designed to help you conduct assessments of your operations and management in order to protect the water quality at and near your marina. By answering the questions contained in this Checklist, you will be able to identify opportunities to improve your facility and minimize environmental problems.

Answer the questions by checking a "yes' or "no" or "N/A" (not applicable). After answering the questions in the Checklist, review those with a "No" response and evaluate the feasibility of implementing those measures. Not all measures are either necessary or feasible at all marinas in California. Factors such as a marina's size, location, other physical factors, and local regulations may help to define what is reasonable and appropriate for a specific facility.

The questions in this Checklist reflect the suggested practices of the California Clean Marinas Guidebook. Consult the Guidebook for further clarification of any suggested practices. To obtain a copy, contact the California Coastal Commission at (800) COAST4U, or download it from the website at: www.coastal.ca.gov/ccbn/ccbndx.html

CLEAN MARINA MANAGEMENT

1. Clean Marina Planning

DO YOU/HAVE YOU....	Yes	No	N/A
◆ have a Clean Marina Plan?	_____	_____	_____
◆ checked with your local CUPA1 to make sure you are in compliance with all environmental regulations that apply?	_____	_____	_____
◆ determined who has responsibility for implementing the Plan?	_____	_____	_____
◆ communicated the contents of the Plan to staff?	_____	_____	_____

2. Marina Environmental Policies

DO YOU/HAVE YOU....	Yes	No	N/A
◆ developed marina environmental policies that address how boaters and contractors conduct boat cleaning and maintenance, and manage sewage, hazardous waste, solid waste, and how you will handle repeat polluters?	_____	_____	_____
◆ incorporate marina environmental policies into contracts with your tenants and boat maintenance contractors?	_____	_____	_____
◆ post your marina environmental policies in conspicuous places so that your customers see them regularly?	_____	_____	_____
◆ developed methods for identifying violators of marina environmental policies?	_____	_____	_____

STAFF TRAINING AND EMERGENCY RESPONSE

DO YOU/HAVE YOU....	Yes	No	N/A
◆ trained staff in how to respond to oil, chemical, and fuel spills?	_____	_____	_____
◆ conduct regular emergency response drills for preparedness?	_____	_____	_____
◆ conduct trainings that cover how to respond to polluting workers and customers, and who has the authority to approach them?	_____	_____	_____

VESSEL CLEANING AND MAINTENANCE OPERATIONS

DO YOU/HAVE YOU....	Yes	No	N/A
◆ adopted a policy regarding the amount and type of work that can be performed over the water, and that discourages large boat maintenance projects?	_____	_____	_____
◆ established a lending program for pollution prevention equipment, such as vacuum sanders with collection bags, and/or portable oil change equipment?	_____	_____	_____
◆ a list of "approved" boat workers and contractors who have demonstrated compliance with your environmental policies?	_____	_____	_____
◆ use a no-discharge approach to maintaining marina structures?	_____	_____	_____
◆ encourage the use of less-toxic cleaning and repair products through education?	_____	_____	_____
◆ have established methods, such as notice boards, give-away shelves, or education, to minimize the accumulation of leftover products?	_____	_____	_____
◆ educate boaters and contractors to minimize the amount of debris and discharges of pollutants associated with boat maintenance?	_____	_____	_____
◆ encourage underwater hull cleaners to minimize the discharge of soft sloughing paints in marina waters (i.e. no cleaning that creates a colored plume)?	_____	_____	_____

SEWAGE MANAGEMENT

DO YOU/HAVE YOU....	Yes	No	N/A
◆ installed a sewage pumpout system to service boats that have holding tanks?	_____	_____	_____
◆ regularly inspect and maintain the pumpout to keep it in good working order?	_____	_____	_____
◆ provide convenient and comfortable restroom facilities?	_____	_____	_____
◆ if you have liveaboard tenants, do you provide adequate sewage management services to prevent discharges?	_____	_____	_____
◆ have public restrooms for guests and transient boaters?	_____	_____	_____
◆ educate boaters about sound sewage management practices?	_____	_____	_____

OIL AND FUEL CONTAMINATION

DO YOU/HAVE YOU....	Yes	No	N/A
◆ informed marina tenants of practices that minimize oily discharges?	_____	_____	_____
◆ developed marina policies that will help minimize oily discharges?	_____	_____	_____
◆ provided a system for preventing overboard discharge of oily bilge water, such as a bilge pumpout or oil absorbent pad distribution and collection program?	_____	_____	_____
◆ offer spill proof oil changes (an oil change service, contracted services, or lending of portable equipment)?	_____	_____	_____
◆ advise boaters about soap-less bilge cleaning techniques?	_____	_____	_____
◆ provide collection and recycling for used oil and oil filters, or inform boaters about the locations of the nearest oil recycling centers?	_____	_____	_____
◆ provide collection and recycling for used oil filters or inform boaters about the locations of the nearest oil recycling centers?	_____	_____	_____
◆ offer clearly labeled, separate tanks or containers for disposal of used oil and oil filters (if you provide collection)?	_____	_____	_____
◆ encourage boaters to install and use fuel spill prevention devices?	_____	_____	_____

If you operate a fueling facility....

- ◆ educate fuel dock attendants and users in spill-proof fueling methods? _____ _____ _____
- ◆ oversee fueling to prevent spills? _____ _____ _____
- ◆ provide oil-only absorbents for fueling to catch drips and spills, and provide collection of saturated absorbent pads? _____ _____ _____
- ◆ maintain an adequate supply of oil spill response materials on-site to address a spill from the largest boat in the marina? _____ _____ _____
- ◆ developed an oil and fuel spill response plan? _____ _____ _____
- ◆ trained marina staff in proper oil and chemical spill reporting protocol? _____ _____ _____
- ◆ posted federal and state oil and chemical spill reporting phone numbers prominently around the marina? _____ _____ _____

HAZARDOUS WASTE MANAGEMENT

DO YOU/HAVE YOU....	Yes	No	N/A
◆ provide or arrange for hazardous waste collection for your tenants?	_____	_____	_____
◆ segregate waste for recycling and disposal (antifreeze, oil, batteries, filters) and store them properly (i.e. according to labeling and shipping requirements and limits on time for accumulation)?	_____	_____	_____
◆ ducate boaters and marina staff to avoid using products likely to generate hazardous waste?	_____	_____	_____

TRASH AND MARINE DEBRIS

DO YOU/HAVE YOU....	Yes	No	N/A
◆ encourage boaters to stow goods securely on-board to prevent accidental overboard discharge?	_____	_____	_____
◆ provide adequate and convenient garbage collection facilities?	_____	_____	_____
◆ provide convenient recycling facilities for collection of paper, plastic, glass, aluminum, etc. (whatever is collected in your community)?	_____	_____	_____
◆ provide recycling for fishing line and nets (if you have a significant fishing population)?	_____	_____	_____
◆ provide trash and recycling at the boat launch ramp?	_____	_____	_____
◆ provide recycling for boat shrink wrap (if this is common in your facility)?	_____	_____	_____
◆ encourage the use of non-disposable products, rather than plastic and polystyrene cups and food containers, and other disposable goods?	_____	_____	_____
◆ encourage waste reduction and recycling in the marina office?	_____	_____	_____

GRAY WATER MINIMIZATION

DO YOU/HAVE YOU....	Yes	No	N/A
◆ make shower, dishwashing, and laundry facilities available to your tenants?	_____	_____	_____
◆ if sinks and showers and laundry facilities are not available in the marina, do you encourage boaters to save those tasks for home?	_____	_____	_____
◆ educate boaters about reducing the gray water discharges generated by top-side cleaning and maintenance?	_____	_____	_____

FISH WASTE MANAGEMENT

DO YOU/HAVE YOU....	Yes	No	N/A
◆ installed a fish cleaning station?	_____	_____	_____
◆ if you have a fish cleaning station, have you made sure that your boaters know where it is located?	_____	_____	_____
◆ provide proper disposal for fish waste (for marinas where waters are not well-flushed by tidal action or with a large fishing community)?	_____	_____	_____

BOAT OPERATION

DO YOU/HAVE YOU....	Yes	No	N/A
◆ protect sea-grass beds and bottom habitats in shallow waters?	_____	_____	_____
◆ used speed limits or no wake zones to address environmental or safety problems at your marina?	_____	_____	_____
◆ determined whether and what invasive species are a concern in your area?	_____	_____	_____
◆ prohibit the dumping or dipping of bait buckets in areas where invasive species may be a threat?	_____	_____	_____
◆ inform boaters about methods to use in preventing the spread of aquatic nuisance species?	_____	_____	_____

STORM WATER RUNOFF

DO YOU/HAVE YOU....	Yes	No	N/A
◆ placed filters or absorbents in drain inlets to remove oil and grease? If so, do you dispose of used materials as hazardous waste?	_____	_____	_____
◆ install oil-grit separators in areas where petroleum is likely to be spilled (i.e. near work and maintenance areas)?	_____	_____	_____
◆ incorporated vegetated areas and filter strips next to areas where polluted runoff might be a problem	_____	_____	_____
◆ conduct regular sweeping or vacuum sweeping of parking lots?	_____	_____	_____
◆ adopted least-toxic pest management methods, such as Integrated Pest Management and/or the use of pest resistant native plants?	_____	_____	_____
◆ practice water-wise landscaping?	_____	_____	_____
◆ encourage tenants and guests to clean up pet waste and provide methods to make it easier?	_____	_____	_____
IN DESIGNATED SHORESIDE BOAT MAINTENANCE AREAS:			
◆ use waste collection, treatment and disposal systems to handle waste water from hull cleaning?	_____	_____	_____
◆ ensure that boat cleaning, maintenance and repair that emits air particulates is conducted in enclosed areas (indoors, in spray booths, or tarp enclosures)?	_____	_____	_____
◆ clean hull maintenance areas immediately after any maintenance to remove debris and dispose of collected debris properly?	_____	_____	_____
◆ use vacuum sanders in sanding operations and collect using a bag?	_____	_____	_____
◆ have an established sweeping schedule that results in frequent sweeping around hull maintenance areas, roads, parking lots and driveways?	_____	_____	_____
◆ store chemicals and waste in covered enclosed areas and provide secondary containment around the storage area?	_____	_____	_____

BOATER EDUCATION

DO YOU/HAVE YOU....	Yes	No	N/A
◆ developed plans for educating marina users about clean boating practices?	_____	_____	_____
◆ does the plan incorporate a variety of educational means for reaching boaters?	_____	_____	_____
◆ post clean boating information in the marina office?	_____	_____	_____
◆ promote clean boating by word-of-mouth and face-to-face boater education?	_____	_____	_____
◆ educate new tenants and visiting boaters about th emarina's clean marina policies?	_____	_____	_____

- ◆ train your employees to pass information on to boaters? _____ _____ _____
- ◆ develop clean boating inserts for your monthly billing? _____ _____ _____
- ◆ inform boaters about where to find environmental services for their boats, such as sewage pumpouts, oil change facilities, used oil recycling, bilge pumpouts, engine steam cleaning, absorbent pad distribution and collection, and hazardous waste disposal? _____ _____ _____
- ◆ use signs to get the word out – post environmental information? _____ _____ _____
- ◆ include clean marina services on maps of your marina? _____ _____ _____
- ◆ distribute tide table booklets with maps or charts that identify clean marina services available in your region? _____ _____ _____
- ◆ include clean boating information in periodic newsletters distributed to marina tenants? _____ _____ _____

* A CUPA is a Certified Unified Program Agency, generally a local (city or county) environmental agency or fire department.