



Targeted Constituents				
● Significant Benefit		▸ Partial Benefit		○ Low or Unknown Benefit
○ Sediment	● Heavy Metals	● Floatable Materials	● Oxygen Demanding Substances	
○ Nutrients	● Toxic Materials	● Oil & Grease	● Bacteria & Viruses	○ Construction Wastes
Implementation Requirements				
● High		▸ Medium		○ Low
○ Capital Costs	▸ O & M Costs	▸ Maintenance	▸ Training	

Description

Prevent or reduce the discharge of pollutants to stormwater and receiving waters from over-water activities by minimizing over-water maintenance, keeping wastes out of the water, cleaning up spills and wastes immediately, and educating tenants and employees. This management practice is likely to create a significant reduction in heavy metals, toxic materials, floatable materials, oil and grease, oxygen demanding substances, and bacteria and viruses.

Suitable Applications

Over-water activities occur at boat and ship repair yards, marinas, and yacht clubs, although the latter are not required to obtain a permit. Activities of concern include chipping and painting of hulls, on board maintenance of engines, and the disposal of domestic wastewater and ballast water. With few exceptions, BMPs to protect water quality are common sense, low cost changes to normal day-to-day procedures.

Approach

- Properly dispose of domestic wastewater and ballast water.
- Limit over-water hull surface maintenance to sanding and minor painting.
- Use phosphate-free and biodegradable detergents for hull washing.
- Use secondary containment on paint cans.
- Have available spill containment and cleanup materials.
- Use ground cloths when painting boats on land.
- Use tarps, plastic sheeting, etc. to contain spray paint and blasting sand.
- Properly dispose of surface chips, used blasting sand, residual paints, and other materials. Use temporary storage containment that is not exposed to rain.

- Immediately clean up spills on docks or boats.
- Sweep drydocks before flooding.
- Clean catch basins and the storm drains at regular intervals.
- Post signs to indicate proper use and disposal of residual paints, rags, used oil, and other engine fluids.
- Educate tenants and employees on spill prevention and cleanup including review of the Spill Prevention, Control and Countermeasures (SPCC) Plan.
- Include appropriate language in tenant contracts indicating their responsibilities to guard against spills, properly dispose solid, liquid and hazardous waste, and limit practices that may pollute stormwater.
- Marinas should provide wastewater disposal facilities.

Over-Water Activity Minimization

Work on boats in the water should be kept to a minimum. Major hull resurfacing should occur on land. Surface preparation over water should be limited to sanding. Painting should be limited to spot work. In marinas, tenant maintenance over water should be such as to not require opening more than a pint size paint can. Paint mixing should not occur on the dock.

Good Housekeeping

When conducting on board maintenance, used antifreeze should be stored in a separate, labeled drum and recycled. Fuel tank vents should have valves to prevent fuel overflows or spills. Boats with inboard engines should have oil absorption pads in bilge areas and should be changed when no longer useful or at least once a year.

Marina owners should provide temporary storage stations for used engine fluids, paint cans, and other maintenance materials. Signs should be posted at the head of each dock indicating maintenance rules. Marina owners should install a wastewater disposal system, either dockside lines or a pumpout station.

When painting on shore, place paint cans in a tray or comparable device that collects spills and drips. Use spray guns that minimize overspray; also enclose the area with plastic tarps. Identify a designated area for washing boats. Vacuum sweep work areas frequently.

Large boat repair yards can implement the above BMPs. There are several additional measures. With regard to dry dock operations: sweep the accessible areas of the dry dock before flooding; and pick up other debris that appears after the ship is floated. Remove floatable debris such as wood. Shipboard cooling and process water discharges should be directed to minimize contact with spent abrasives, paints, and other debris. Look for and repair leaking valves, pipes, hoses, or soil shutes carrying either water or wastewater. Plastic sheeting or other suitable materials should be installed when sandblasting and spray painting.

Use drip pans or comparable devices when transferring oils, solvents, and paints. Regularly clean the shoreside work areas of debris, sandblasting material, etc. Clean catch basins or other parts of the stormwater system that might accumulate these materials.

Fish Wastes

Fish wastes must also be managed properly. Recycling fish wastes back to the water is encouraged when disposal will not result in water quality or public nuisance problems, such as wastes washing up onshore or causing odors or bacteria problems. Fish wastes should not be recycled in any dead end lagoons or other poorly flushed areas. Marina owners should provide fish cleaning stations where waste recycling can occur without adversely affecting water quality.

Maintenance

- Keep ample supply of spill cleanup materials on hand and conspicuously marked.

Limitations

- Private tenants at marinas may resist restrictions on shipboard painting and maintenance.
- Existing contracts with tenants may not allow the owner to require that tenants abide by new rules that benefit water quality.
- Even biodegradable cleaning agents have been found to be toxic to fish, therefore they should only be disposed of through the sanitary sewer.

Primary References

Caltrans Storm Water Quality Handbooks, Construction Contractor's Guide and Specifications, April 1997.

Subordinate References

Proposed Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters, USEPA, 1992.

General NPDES Permit for Discharges of Storm Water from Boat Repair Facilities, SFBRWQCB, 1992.