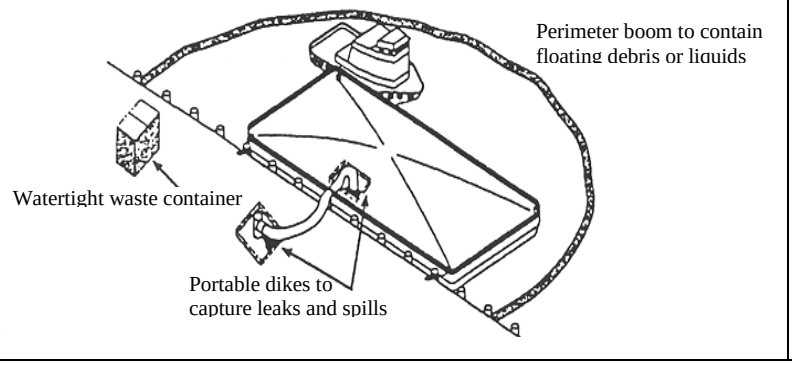
**ACTIVITY:** Over-Water Operations

# IC – 06




CITY OF KNOXVILLE

| 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 |

**Description**

Prevent or reduce the discharge of pollutants to stormwater and receiving waters from over-water activities by minimizing repairs and maintenance, proper disposal of wastes, cleaning up spills and wastes immediately, training and educating employees and visitors, and structural improvements.

**Suitable Applications**

Over-water industries include channel dredging or the use of some natural resource within a stream, river or lake. Commercial activities in or near rivers and lakes involve boat and ship repair yards, marinas and boat docks, tourist boats and cruises, and restaurants or other businesses on a dock or pier.

Over-water industries must be permitted by Tennessee Department of Environment and Conservation (TDEC) in order to operate within "waters of the state", defined as any blue-line stream on the USGS quadrangle map. Typical measures include the use of silt curtains, floating booms, specialized material handling equipment, filter boxes, cofferdams and dikes. The methods and approach must carefully consider currents, volume of flow, velocity, types of sediment, aquatic life and distribution, etc. Operations must be continuously monitored to prevent pollution from being generated. Consult TDEC for additional requirements and permit application process.

Activities of concern for marine activities 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 and low-cost changes to normal day-to-day procedures.

Commercial facilities and restaurants that are located on a boat or a dock are subject to the same pollution requirements as outlined elsewhere in the BMP Manual under sections. Utility connections are problematic and need special design solutions. Related BMPs include:

AM-06 Material Delivery and Storage
AM-08 Waste Management and Recycling
AM-09 Sanitary and Septic Waste Management
IC-07 Food Service and Handling
RH-11 Boating and Marinas

**Approach**

***Fish Waste***

Fish waste is defined as the byproducts of cleaning fresh-caught fish. Fish waste must be managed properly. Recycling small amounts of fish waste caught for personal use back into the water is encouraged when disposal will not result in water quality or public nuisance problems, such as wastes washing up onshore and causing odor or bacteria problems. Fish wastes should not be recycled in any dead-end lagoons or other poorly flushed areas.

Marina owners should generally provide fish cleaning stations where waste recycling can occur without adversely affecting water quality. People participating in fishing tournaments and other authorized events should follow the guidelines presented by the sponsors. Follow all rules and regulations that are issued by the Tennessee Wildlife Resources Agency.

Restaurants are specifically prohibited from discharging fish wastes into a stormwater conveyance or a natural body of water.

***Marine Activities***

- Properly dispose of domestic and sanitary wastewater by using holding tanks. Empty holding tanks at approved wastewater collection facilities at marinas and boatyards. Verify ballast water is clean before discharging to natural body of water.
- Limit over-water hull surface maintenance to minor sanding and minor painting using hand tools and a small can of paint or other surface agent. In general, conduct most boat repair and maintenance items by removing the boat from the water into an organized maintenance area.
- Use phosphate-free and biodegradable detergents for hull washing. Limit the amount of detergents used by first scrubbing and cleaning with water.
- Use secondary containment on paint cans. Have available spill containment and cleanup materials. Use tarps, ground cloths or plastic sheeting when sandblasting or painting boats on land. Spray applicators may be used when painting on land.
- Properly dispose of surface chips, used blasting sand, residual paints, and other materials. Use temporary storage containment that is not exposed to rain. Sweep drydocks each day or after maintenance is completed.
- Boats with inboard engines should have oil absorption pads in bilge areas. The pads should be changed at least once a year or as needed.
- Automotive fuel, fluids and oil should be kept in secure containers. Recycle used oil in properly labeled containers. Inspect and repair engine valves, pipes and hoses as necessary. Use drip pans when conducting maintenance and repair.
- Immediately clean up spills on docks or boats using absorbent materials. Keep ample supply of spill cleanup materials on hand and conspicuously marked. Dispose of cleanup materials properly.
- 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 visitors and employees on spill prevention and cleanup. Include appropriate language in tenant and user contracts that indicates their responsibilities to guard against spills, properly dispose waste materials, and limit practices that may pollute stormwater.
- 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.

- Marinas must provide wastewater disposal facilities on site or close by. Wastewater facilities typically consist of either dockside lines or a pumpout station. Marinas should post signs at the entrance and through the facility indicating maintenance rules and reminders.

**Limitations**

- Private tenants at marinas may resist restrictions on shipboard painting and maintenance. Existing contracts with tenants should be updated to require that tenants abide by new rules that benefit water quality.
- Even small amounts of biodegradable cleaning agents have been found to be toxic to fish. Disposal of small amounts of cleaning agents should be done through the sanitary sewer system.

**References** **33, 95, 135, 192** (see BMP Manual Chapter 10 for list)