

Guidance on Hull Cleaning in Washington State Waters

Why it matters

Anti-fouling paints contain toxic metals such as copper, tin, and lead. Pollutants generated during in-water hull cleaning of copper-based paint can cause an exceedence of the water quality standard for copper. The water quality standard for copper in marine waters is lower than 5 parts per billion. The freshwater standard for copper varies with water hardness but is also in the low parts per billion. Copper is highly toxic to native species but some invasive species are tolerant and thrive in copper polluted water.

Introduction of species via ship hulls remains similar in magnitude to introductions via ballast water. Not every ship voyage ends with a discharge of ballast water but the potential for invasive species introductions from hulls exists for every visit. Estimates of the percentage of coastal invasive species introduced via ship hulls around the world range from 10 percent to 90 percent. Portland State University researchers estimate that about 10 percent of the species introduced into the Lower Columbia River came from ship hulls. The diluted salinity in the Lower Columbia River may serve as a barrier to the introduction of some species from ship biofouling, but Puget Sound, the Strait of Juan de Fuca, and the outer coast lack a similar low salinity barrier and could experience a higher introduction rate from ship hulls.

EPA regulates ship hull cleaning in the Vessel General Permit (VGP). The VGP applies to non-recreational vessels 79 feet in length or longer. EPA has a Small Vessel General Permit (sVGP) for non-recreational vessels shorter than 79 feet. Hull cleaning requirements in the VGP and sVGP are similar.

Recreational boats readily move invasive species around our state due to a dynamic relationship between invasive species, boat hulls, and marinas. Marinas provide plenty of surfaces to colonize and boats transport invasive species from marina to marina. Copper in marina water and sediment favors some invasive species. The situation is ideal for spreading invasive species. State requirements for recreational boat hull cleaning are at:

www.ecy.wa.gov/programs/wq/nonpoint/CleanBoating/hull.html.



Photo courtesy Hydrex

MORE INFORMATION

Contacts for ship hull cleaning in Washington

Contact Ecology and WDFW at least 7 days prior to in-water hull cleaning:

Randall Marshall, Ecology
rmar461@ecy.wa.gov
360-407-6445

Allen Pleus, WDFW
Allen.Pleus@dfw.wa.gov
360-902-2724

To find a permitted shipyard or boatyard call:

Ecology's Southwest Regional Office at 360-407-6300 for locations in:

- Tacoma and to the south in Puget Sound
- Strait of Juan de Fuca
- Along the outer coast
- In the Columbia River

Ecology's Northwest Regional Office at 425-649-7000 for permitted shipyards or boatyards in Puget Sound north of Tacoma to Canadian border

Ship hull cleaning instructions for Washington State

Ship operators having permit coverage under the VGP or sVGP should contact Randall Marshall (rmar461@ecy.wa.gov, or 360-407-6445) at least 7 days prior to in-water hull cleaning with information on the hull coating, its contents, cleaning method, and date/time. An inspector might come out to observe, photograph, and take samples during the hull cleaning if the coating contains copper or any other toxic substance. Randall Marshall can also provide guidance on performing toxicity testing to verify that the discharge from a particular coating will be nontoxic during cleaning. The testing makes approval easier.

Ship operators must also contact Allen Pleus (Allen.Pleus@dfw.wa.gov, or 360-902-2724) at the Washington Department of Fish and Wildlife (WDFW) prior to in-water hull cleaning of a ship covered under the VGP or sVGP. WDFW may allow the in-water cleaning of hulls with only slime and sea grass growth (microfouling organisms), but does not allow the in-water cleaning of hulls with juvenile or adult aquatic species such as barnacles, mussels, and tube worms (macrofouling organisms). Vessels requesting in-water cleaning must provide suitable proof that the areas to be cleaned consist of only microfouling organisms.

Recreational boat hull cleaning instructions

Can be found at: www.ecy.wa.gov/programs/wq/nonpoint/CleanBoating/hull.html

Sediment contamination

The state of Washington has an interest in protecting sediment quality and the general health of aquatic lands, as provided by Chapter 79.02 RCW, Public Lands Act and Chapter 79.105 RCW, Aquatic Lands Act. The Washington Department of Natural Resources (DNR) is the agency responsible for managing state-owned aquatic lands to provide a balance of public benefits while ensuring environmental protection. DNR's programs are directed at avoiding, minimizing and eliminating impacts to sediments and other aquatic resources, including introduction of toxic pollutants into water or sediment. DNR prohibits work on vessels located on state-owned aquatic lands that could introduce toxic chemicals into the water. Any in-water process that removes paint from a boat is prohibited on state-owned aquatic lands unless discharge is prevented by containment of paint residues. If paint residue causes or contributes to sediment contamination on state-owned aquatic land, responsible persons may be prosecuted in accordance with RCW 79.02.300. Call DNR's Aquatics Program at 360-902-1100 to find out if your project will be on state-owned aquatic lands.

VGP hull cleaning requirements summary

VGP section 2.2.23 Underwater Ship Husbandry Discharges

- Vessel owner/operators must minimize transport of attached living organisms when they travel into U.S. waters from outside the U.S. economic zone or when traveling between Captain of the Port (COTP) zones.
- Whenever possible, hull-cleaning activities should take place in drydock or another land-based facility where the removal of fouling organisms or spent antifouling coatings can be contained. (Contact the Department of Ecology using the information in the sidebar on page 1 for help locating a permitted shipyard or boatyard in our state.)

- Vessel owner/operators who remove fouling organisms from hulls while the vessel is waterborne must employ methods that minimize discharge of fouling organisms and antifouling hull coatings. These shall include:
 - Selection of appropriate cleaning brush or sponge rigidity to minimize removal of antifouling coatings and biocide releases into the water column.
 - Limiting use of hard brushes to the removal of hard growth.
 - When available and feasible, use of vacuum control technologies to capture hull coating residue and fouling organisms after removal and minimize release into the water column.
- Vessel owner/operators must minimize release of copper from antifouling paint into the water column when they clean their vessel. Cleaning of copper-based antifouling paints must not result in any visible cloud or plume of paint in the water. If a visible cloud or plume of paint develops, shift to a softer brush or less abrasive cleaning technique. A plume or cloud of paint can be recognized by discoloration or another visible indication that is distinguishable from hull growth or sediment suspended in the water column. A plume of sediment or hull growth is normal during vessel hull cleaning, but paint should not be clearly identifiable in the plume or cloud.
- Vessels that use copper-based anti-fouling paint must not clean the hull in copper impaired waters within the first 365 days after paint application unless documented as absolutely necessary. Lists of state impaired waters can be found at www.ecy.wa.gov/programs/wq/303d/index.html.
- See section 2.2.23 of the VGP and section 2.6 of the sVGP for more details on hull maintenance.

The VGP also requires compliance with state laws

VGP section - 1.11 State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by section 510 of the Clean Water Act.

VGP section - 2.3.1 Water Quality-Based Effluent Limitations

Your discharge must be controlled as necessary to meet applicable water quality standards in the receiving water body or another water body impacted by your discharges.

The most pertinent provisions of state law are

RCW 90.48.080 - Discharge of polluting matter in waters prohibited

It shall be unlawful for any person to throw, drain, run, or otherwise discharge into any of the waters of this state, or to cause, permit or suffer to be thrown, run, drained, allowed to seep or otherwise discharged into such waters any organic or inorganic matter that shall cause or tend to cause pollution of such waters according to the determination of the department, as provided for in this chapter.

RCW 90.48.020 - Definitions

Whenever the word "**person**" is used in this chapter, it shall be construed to include any political subdivision, government agency, municipality, industry, public or private corporation, copartnership, association, firm, individual, or any other entity whatsoever.

Whenever the word "**pollution**" is used in this chapter, it shall be construed to mean such contamination, or other **alteration of the physical, chemical or biological properties**, of any waters of the state, including change in temperature, taste, color, turbidity, or odor of the waters, or such discharge of any liquid, gaseous, solid, radioactive, or other substance into any waters of the state as will or is likely to create a nuisance or render such waters harmful, detrimental or injurious to the public health, safety or welfare, or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses, or to livestock, wild animals, birds, fish or other aquatic life.

(Note that introduction of an invasive species during hull cleaning alters the biological properties of state waters and is a violation of RCW 90.48.080.)

WAC 173-201A-260(2) Toxics and aesthetics criteria

- (a) Toxic, radioactive, or deleterious material concentrations must be below those which have the potential, either singularly or cumulatively, to adversely affect characteristic water uses, cause acute or chronic conditions to the most sensitive biota dependent upon those waters, or adversely affect public health.
- (b) Aesthetic values must not be impaired by the presence of materials or their effects, excluding those of natural origin, which offend the senses of sight, smell, touch, or taste.

Numeric water quality criteria for toxic substances such as copper can be found in WAC 173-201A-240 available at <http://apps.leg.wa.gov/wac/default.aspx?cite=173-201A-240>.

RCW 77.15.253 Unlawful use of prohibited aquatic animal species — Penalty.

- (1) A person is guilty of unlawful use of a prohibited aquatic animal species if he or she possesses, imports, purchases, sells, propagates, transports, or releases a prohibited aquatic animal species within the state, except as provided in this section.
- (4) A person is guilty of unlawful release of a regulated aquatic animal species if he or she releases a regulated aquatic animal species into state waters, unless allowed by the commission*.
- (6) A person is guilty of unlawful release of an unlisted aquatic animal species if he or she releases an unlisted aquatic animal species into state waters without requesting a commission* designation under RCW 77.12.020.

*Fish and Wildlife Commission directing WDFW

Special accommodations:

If you need this document in a format for the visually impaired, call the Water Quality Program at 360-407-6600. Persons with hearing loss, call 711 for Washington Relay Service. Persons with a speech disability, call 877-833-6341.