

FACT SHEET FOR THE BOATYARD DRAFT GENERAL PERMIT

A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM AND
STATE WASTE DISCHARGE GENERAL PERMIT

REISSUANCE: JULY 20, 2022

EFFECTIVE: SEPTEMBER 1, 2022



PURPOSE OF THIS FACT SHEET

This fact sheet is a companion document to the National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge General Permit for Boatyards (boatyard general permit). It explains the nature of the proposed discharges, summarizes the history of the permit, documents the Washington State Department of Ecology's (Ecology) decisions for limiting the pollutants in the wastewater discharges, provides the regulatory and technical bases for those decisions, and fulfills the requirements of Washington Administrative Code (WAC) Section 173-226-110.

On February 17, 2021, Ecology prepared and made available a draft permit for boatyards and this accompanying fact sheet for public evaluation during a minimum 30-day review period (WAC 173-226-130). Copies of the draft general permit and this fact sheet were available at Ecology regional offices and via the Internet for public review and comment from March 3, 2021, through April 16, 2021. Details about how to prepare and submit comments are in Appendix C (Public Involvement Information).

SUMMARY

The boatyard general permit provides coverage for discharges of treated pressure-wash/process wastewater and stormwater runoff from certain boatyards to waters of the State. The general permit provides coverage for boatyards that:

Engage in the construction, repair, or maintenance of small vessels (boats or ships), where 85% of those vessels are 65 feet or less in length; or

Generate more than 85% of their gross receipts from revenues returned from the construction, repair, or maintenance of those small vessels (65 feet or less).

The proposed Boatyard General Permit includes both technology-based and water quality-based limits or benchmarks depending on the source of the wastewater and the receiving water.

Aside from clarifying and typographical changes, the proposed Boatyard General Permit contains the following changes from the current permit (effective August 8, 2016 through July 31, 2021):

- 1) Clarification that boatyard activities on a floating drydock are not authorized under this permit unless within the boundaries of the permitted facility. (Permit Section S1.B)
- 2) Decrease in the maximum daily limit for total lead and total zinc in wastewater discharged to non-delegated POTW's. Total lead decreased from 1.2 mg/L to 0.69 mg/L and total zinc decreased from 3.3 mg/L to 2.61 mg/L (Permit Section S2. A)
- 3) Replace the requirement for a seasonal benchmark for stormwater runoff discharged to surface waters of the state with an additional month of required sampling. (Permit Section S2.D.)
- 4) Decrease in the maximum daily benchmark value for total copper in stormwater runoff discharged to surface waters of the state from 147ug/L to 15ug/L for marine water and western freshwater and 20 ug/L for eastern freshwater. (Permit Section S2. D)

- 5) Addition of a maximum daily benchmark value of 25 NTU for turbidity in stormwater runoff discharged to surface waters of the state. (Permit Section S2. D)
- 6) Addition of a daily benchmark value range of 6.0-11.0 for pH in stormwater runoff discharged to waters of the state. (Permit Section S2. D)
- 7) Addition of a maximum daily benchmark value of 10 mg/L for Petroleum Hydrocarbons (Diesel Fraction) in stormwater runoff discharged to waters of the state. (Permit Section S2. D)
- 8) Significant rewrite of Permit Section S2.E to update the requirements of Permittees that discharge into impaired waters. This section incorporates impaired water bodies for the entire state according to the 303(d) listing. (Permit Section S2. E)
- 9) Addition of a maximum daily limit value of 30 mg/L for Total Suspended Solids (TSS) in stormwater runoff discharged to 303(d)-listed waters of the state impaired for TSS. (Permit Section S2. E)
- 10) Addition of a daily limit value range for pH in stormwater runoff discharged to 303(d)-listed waters of the state impaired for pH. The exact range limits are dependent on the water body the permittee will discharge into. (Permit Section S2. E)
- 11) Addition of a maximum daily limit value for total copper in stormwater runoff discharged to 303(d)-listed waters of the state impaired for copper. The exact limits will be determined based on the water body the permittee will discharge into. (Permit Section S2. E)
- 12) Addition of a maximum daily limit value for total zinc in stormwater runoff discharged to 303(d)-listed waters of the state impaired for zinc. The exact limits will be determined based on the water body the permittee will discharge into. (Permit Section S2. E)
- 13) Addition of a new section that describes discharge of wastewater to evaporation ponds/tanks in Eastern Washington. (Permit Section S2. F)
- 14) Additional requirements for work done on dry docks and graving docks. (Permit Section 3. M)
- 15) Additional requirements and details for stormwater and wastewater sampling. (Permit Section 6. A)
- 16) Clarification that the benchmark respons system is to be repeated until benchmarks are achieved. (Permit Section 7. A. 3(a))
- 17) Additional requirements to be included in the permittee's SWPPP. (Permit Section 8).
 - a) Significant rewrite of Permit Section 8 B.1 to expand permittee site map requirements. (S8. B1).
 - b) Additional requirements include that permittee's clean out catch basins and maintain all stormwater management/treatment facilities (Permit Section 8 B.3(e)).
 - c) Additional material handling requirements in the SPEC (Permit Section 8 B.3(f)).
 - d) Additional documentation requirement for decontamination procedues to be included in

the permittee's SWPPP (Permit Section 8 B.3(i)).

- e) Additional documentation requirement for vessel deconstruction procedures to be included in the permittee's SWPPP (Permit Section 8 B.3(k)).

18) Significant re-write of Reporting For Invasive Species Control (Permit Section 12) to include a complete list of prohibited invasive species.

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¹ <https://ecology.wa.gov/About-us/Accessibility-equity/Accessibility/>

INTRODUCTION

The Federal Clean Water Act (CWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the CWA is the National Pollutant Discharge Elimination System (NPDES) permit program, administered by the U.S. Environmental Protection Agency (EPA). The U.S. EPA has delegated the administration of the NPDES permit program to the State of Washington. The Washington State Legislature accepted the delegation and assigned the power and duty for conducting NPDES permitting and enforcement to the Washington State Department of Ecology (Ecology). The Legislature defined Ecology's authority and obligations for the wastewater discharge permit program in Chapter 90.48 of the Revised Code of Washington (RCW).

The Washington Administrative Code (WAC) requires that boatyards obtain coverage under an NPDES general permit before discharging wastewater to the waters of the State. The following regulations apply to NPDES general permits:

- Water quality criteria for groundwaters, bases for effluent limits, and other requirements (Chapter 173-200 WAC)
- Water quality criteria for surface waters, bases for effluent limits, and other requirements (Chapter 173-201A WAC)
- Sediment management standards, bases for effluent limits, and other requirements (Chapter 173-204 WAC)
- Whole effluent toxicity testing and limits (Chapter 173-205 WAC)
- Determination and payment of fees (Chapter 173-224 WAC)
- Procedures for issuing and administering NPDES general permits (Chapter 173-226 WAC)
- Plans and reports for construction of wastewater facilities (Chapter 173-240 WAC)

A general permit is designed to provide environmental protection under conditions typical for the covered industrial group. This permit regulates pollutant discharge primarily through: best management practices (BMPs) designed to minimize or eliminate the discharge of pollutants, stormwater treatment, numeric benchmarks or limits to assure pollutant control, and prohibition of all pressure-wash or process wastewater discharges to waters of the state. This permit may not be appropriate for every facility. When site-specific conditions at a facility are not typical of the industrial group or they are beyond the scope of the general permit, an individual permit may be required. The establishment of a general permit for the small shipyard industry is appropriate because:

- The wastewater characteristics among facilities are similar.
- A standard set of permit requirements can effectively provide environmental protection.
- Facilities in compliance with permit conditions will be in compliance with water quality

standards.

Appendix B of this fact sheet identifies the legal or technical bases underlying each of the special and general conditions of the proposed boatyard general permit.

ACTIVITIES, DISCHARGES, AND FACILITIES THAT REQUIRE THIS PERMIT

The discharge of stormwater or wastewater from boatyards to surface water requires an NPDES permit. In addition, no pollutants may be discharged from any commercial or industrial operation into waters of the State except as authorized under a wastewater discharge permit. Boatyards meet the legal definition of commercial or industrial operation, the process wastewater contains pollutants, and boatyards are point source dischargers. This general permit satisfies the legal requirement for an NPDES permit for boatyards that employ pressure washing to clean boats, particularly their hulls, or that produce stormwater runoff from areas where industrial activities occur which then discharges to waters of the State.

Both the current boatyard general permit (effective August 8, 2016, through July 31, 2021) and the draft Boatyard General Permit for the subsequent term (proposed to be issued June 16, 2021; to be effective August 1, 2021, through July 31, 2026) provide coverage for facilities that:

- Engage in the construction, repair, or maintenance of small vessels (boats or ships), where 85% of those vessels are 65 feet or less in length; or
- Generate more than 85% of their gross receipts from revenues returned from the construction, repair, or maintenance of those small vessels(65 feet or less).

Application Requirements

40 CFR 122.21(a)(1) requires any facility that “discharges or proposes to discharge pollutants” to surface waters to apply for permit coverage. 40 CFR 122.22 specifies the person or persons within the applicant's organization who may sign the application. WAC 173-226-200 describes the application process to obtain coverage. The regulation explains public notice requirements, SEPA compliance, and the effective date of coverage. There are some differences in application requirements for new facilities versus existing facilities. New facilities seeking to obtain coverage under this permit must notify the public of this intent in a newspaper of general circulation within the geographical area of the draft discharge or change in discharge. Chapter 173-226 WAC defines “new operation” as one that begins activities on or after the effective date of the permit. For purposes of this permit, “new operation” and “new facility” have the same meaning . The draft permit defines existing facilities as those that were in operation prior to the permit effective date so, under the draft permit, these facilities would not be subject to public notice requirements. WAC 173-226-130 requires facilities under permit that are increasing or altering their discharge, to notify the public of this intent in a newspaper of general circulation within the geographical area of the draft discharge or change in discharge.

ACTIVITIES, DICHARGES, AND FACILITIES EXCLUDED FROM COVERAGE UNDER THIS PERMIT

Facilities that provide only the following boatyard services, whether conducted by the vessel's owner or by an agent or contractor hired by the owner, do not require coverage under this permit:

- Use of tidal grids solely for emergency repair or for inspection by marine surveyors.
- Minor engine repair or maintenance within the engine space without vessel haul-out.
- Topsides cleaning, detailing, and bright work.
- Electronics servicing and maintenance.
- Marine sanitation device (MSD) servicing and maintenance that does not require haul-out.
- Minor repairs or modifications to the vessel rigging or superstructure (topside).

These activities, which do not require coverage under this permit, are often conducted in marinas. Marinas or boat owners conducting boatyard activities may be subject to penalty if they discharge pollutants without a permit. In addition, marinas must follow the in-water hull cleaning instructions in the Ecology Divers Advisory (Ecology, 1999). Marinas on aquatic lands leased from the Washington Department of Natural Resources have additional requirements defined by RCW 90.48.386.

The permit does not provide coverage for related or ancillary industrial or commercial facilities, such as a repair shop for marine engines. Those facilities may require coverage under the industrial stormwater general permit.

Discharges from facilities located on "Indian Country" as defined in 18 U.S.C. §1151, except portions of the Puyallup Reservation as noted in the permit, are not covered by the boatyard permit.

The following "federal facility" discharges are not covered by this permit:

- Discharges from activities operated by any department, agency, or instrumentality of the Federal Government of the United States.
- Discharges from activities (i) Located on federally-owned sites; and (ii) Operated by an entity, such as a private contractor, performing industrial activity on behalf of or under the direction of any department, agency, or instrumentality of the Federal Government of the United States.

This general permit does not cover vessel deconstruction activities that take place in the water or on a floating drydock or barge, unless within the boundaries of the covered facility. For vessel deconstruction activities that take place outside the boundaries of a permittee's facility, the boatyard must obtain either an individual permit or the Vessel Deconstruction General Permit. This is a change from the current permit which did not allow any work on a floating drydock or barge. This prohibition was unnecessarily restrictive and potentially required a permittee to receive two separate NPDES permits at single facility. This was not the intention of Ecology. The

Vessel Deconstruction General Permit was designed to cover deconstruction activities that do not take place at a fixed facility that does regular boatyard activities.

BACKGROUND INFORMATION

HISTORY

Under Task P-20 of the Puget Sound Water Quality Authority Plan (1989), Ecology was directed to carry out a program for detection and identification of unpermitted discharge sources. One of the significant unpermitted point source discharge groups found by the Elliott Bay and Lake Union Urban Bay Action Teams was the boatyard industry.

Ecology signed a Memorandum of Agreement with the U.S. EPA for development and issuance of a general permit for small shipyards. During the development of the permit it was decided to describe facilities in this segment of the Ship and Boat Building and Repairing industry as boatyards. A general permit was issued in 1992, reissued in 1997, and again in December 2005. The 2005 permit was modified in 2006 to correct an error. The 2005 permit and 2006 modification were appealed by the Northwest Marine Trade Association (NMTA) and the Puget Soundkeeper Alliance (PSA). The appeal was heard by the Pollution Control Hearings Board in July 2006, and the Board issued a decision in January 2007 (PCHB, 2007). That decision was appealed to Superior Court by NMTA and PSA. The appeal to Superior Court was conditionally settled by incorporating some of the PCHB judgment orders into a second permit modification (January 2008) and conducting a pilot test of three stormwater treatment devices during the winter of 2007-2008. The pilot test was funded by PSA, NMTA, and Ecology. A Settlement Steering Committee (steering committee) consisting of NMTA, PSA, their technical consultants, and Ecology directed the study. A project manager was hired to oversee day-to-day operation of the pilot test. A contractor was hired to conduct the sampling of the pilot treatment apparatus.

The pilot test was conducted for seven storm events, and the contractor presented the data in a report to the steering committee (Taylor Associates, Inc. 2008). An order-of-magnitude economic analysis was conducted by the NMTA technical consultant to estimate cost of installing treatment at a typical boatyard (Arcadis, 2008).

A draft permit modification produced by PSA and NMTA was conveyed to Ecology August 2008 as an agreement between those two parties. Ecology released the draft modification for public comment November 2008. The draft contained benchmarks based on the pilot stormwater treatment data. Based on the comments received, Ecology determined a small business and AKART economic analysis was required to proceed with the permit. That analysis showed some boatyards could not install stormwater treatment and remain in business (Ecology, 2010). The economic analysis was released as a separate but supporting document. Based on the economic analysis, Ecology imposed technology-based limits on boatyards that could afford it and water quality-based limits with a compliance schedule for the others to allow time to fund installation of treatment systems. Those boatyards with water quality-based limits had performance-based limits during the compliance period until treatment system(s) were to be installed. This third iteration of the boatyard general permit was to expire on November 2, 2010, but Ecology extended its coverage until Ecology could complete the next version, which became effective on June 1, 2011.

By the end of the term of the current boatyard general permit, in late 2020, Ecology had issued

coverage to 63 boatyards. A list of the boatyards currently covered under this general permit is provided in Table 1 of this fact sheet.

The draft permit published March 3, 2021, is the sixth version of the boatyard general permit. The proposed substantive changes from the current general permit are:

- 1) Clarification that boatyard activities on a floating drydock are not authorized under this permit unless within the boundaries of the permitted facility. (Permit Section S1.B)
- 2) Decrease in the maximum daily limit for total lead and total zinc in wastewater discharged to non-delegated POTW's. Total lead decreased from 1.2 mg/L to 0.69 mg/L and total zinc decreased from 3.3 mg/L to 2.61 mg/L (Permit Section S2. A)
- 3) Replace the requirement for a seasonal benchmark for stormwater runoff discharged to surface waters of the state with an additional month of required sampling. (Permit Section S2.D.)
- 4) Decrease in the maximum daily benchmark value for total copper in stormwater runoff discharged to surface waters of the state from 147ug/L to 15ug/L for marine water and western freshwater and 20 ug/L for eastern freshwater. (Permit Section S2. D)
- 5) Addition of a maximum daily benchmark value of 25 NTU for turbidity in stormwater runoff discharged to surface waters of the state. (Permit Section S2. D)
- 6) Addition of a daily benchmark value range of 6.0-11.0 for pH in stormwater runoff discharged to waters of the state. (Permit Section S2. D)
- 7) Addition of a maximum daily benchmark value of 10 mg/L for Petroleum Hydrocarbons (Diesel Fraction) in stormwater runoff discharged to waters of the state. (Permit Section S2. D)
- 8) Significant rewrite of Permit Section S2.E to update the requirements of Permittees that discharge into impaired waters. This section incorporates impaired water bodies for the entire state according to the 303(d) listing. (Permit Section S2. E)
- 9) Addition of a maximum daily limit value of 30 mg/L for Total Suspended Solids (TSS) in stormwater runoff discharged to 303(d)-listed waters of the state impaired for TSS. (Permit Section S2. E)
- 10) Addition of a daily limit value range for pH in stormwater runoff discharged to 303(d)-listed waters of the state impaired for pH. The exact range limits are dependent on the water body the permittee will discharge into. (Permit Section S2. E)
- 11) Addition of a maximum daily limit value for total copper in stormwater runoff discharged to 303(d)-listed waters of the state impaired for copper. The exact limits will be determined based on the water body the permittee will discharge into. (Permit Section S2. E)
- 12) Addition of a maximum daily limit value for total zinc in stormwater runoff discharged to 303(d)-listed waters of the state impaired for zinc. The exact limits will be determined based on the water body the permittee will discharge into. (Permit Section S2. E)
- 13) Addition of a new section that describes discharge of wastewater to evaporation

ponds/tanks in Eastern Washington. (Permit Section S2. F)

- 14) Additional requirements for work done on dry docks and graving docks. (Permit Section 3. M)
- 15) Additional requirements and details for stormwater and wastewater sampling. (Permit Section 6. A)
- 16) Clarification that the benchmark respons system is to be repeated until benchmarks are achieved. (Permit Section 7. A. 3(a))
- 17) Additional requirements to be included in the permittee's SWPPP. (Permit Section 8).
 - a. Significant rewrite of Permit Section 8 B.1 to expand permittee site map requirements. (S8. B1).
 - b. Additional requirements include that permittee's clean out catch basins and maintain all stormwater management/treatment facilities (Permit Section 8 B.3(e)).
 - c. Additional material handling requirements in the SPEC (Permit Section 8 B.3(f)).
 - d. Additional documentation requirement for decontamination procedues to be included in the permittee's SWPPP (Permit Section 8 B.3(i)).
 - e. Additional documentation requirement for vessel deconstruction procedues to be included in the permittee's SWPPP (Permit Section 8 B.3(k)).
- 18) Significant re-write of Reporting For Invasive Species Control (Permit Section 12) to include a complete list of prohibited invasive species.

This draft permit continues the requirement for certain best management practices and the prohibition of direct discharge of pressure-wash wastewater to waters of the state.

DESCRIPTION OF THE INDUSTRY

Industry Processes

The applicable Standard Industrial Classifications (SICs) are:

SIC No. 3731 (NAICS No. 336611) Ship Building and Repairing: "Establishments primarily engaged in building and repairing all types of ships, barges, and lighters whether propelled by sail or motor power or towed by other craft. This industry also includes the conversion and alteration of ships."

SIC No. 3732 (NAICS No. 336612) Boat Building and Repairing: "Establishments primarily engaged in building and repairing all types of boats."

A boatyard, as defined for the purpose of this permit, is a facility engaged in the construction, repair, and maintenance of small vessels, where 85% of those vessels are 65 feet or less in length or the boatyard generates more than 85% of its gross receipts working on those vessels. Services provided may include, but are not limited to: pressure washing; bottom and topside painting; engine, prop, shaft, and rudder repair and replacement; hull repair; joinery; bilge cleaning; fuel and lubrication system repair or replacement; welding and grinding on the hull; buffing and

waxing; topside cleaning; MSD repair or replacement; and other activities necessary to maintain a vessel. This document will use the generic terms pressure washing and pressure-wash wastewater for all pressure-washing activities at boatyards.

A boatyard may employ one or more of the following to remove or return a vessel to the water: marine railway, drydock, crane, hoist, ramp, or vertical lift. Some yards may build a limited number of custom boats usually constructed of fiberglass or aluminum. Permanent moorage facilities are not usually a feature of a boatyard although a few boatyards do have such facilities.

Historically, boat repair has been done outdoors on the waterfront. The vessel was supported in a cradle, on barrels, or in a sling while work was done on the hull. Some boatyard facilities are endeavoring to change operations in order to do the boat repair under cover. This will contribute to quality control, reduce or eliminate pollutant discharges from stormwater, and improve worker safety. If all activities are performed indoors, under cover, with no outside activities or exposure except haul-out, coverage under this permit may not be required.

Wastewater Treatment Processes

Boatyards covered by this general permit are prohibited from discharging pressure-wash wastewater or any other process water directly to waters of the State.

While this general permit does not explicitly require treatment of stormwater runoff from boatyards, some treatment may be required to comply with discharge limits and to ensure that pollutant concentrations in the runoff do not exceed benchmark concentrations. The permit also requires the implementation of several best management practices (BMPs) to prevent violation of water quality standards.

Discharge Outfall

Typically, the outfalls through which boatyards discharge their stormwater runoff to the environment discharge to either the adjacent surface waterbody or to an infiltration area that must be located at least 200 feet from the edge of the nearest surface waterbody.

Solid Wastes

Boatyards that accumulate solid wastes from treatment of pressure-wash wastewater or stormwater runoff must handle and dispose of those wastes in compliance with relevant solid waste regulations. Boatyards covered by this general permit generally employ the local municipality or a local contractor to haul solid wastes offsite and dispose of them properly.

DESCRIPTION OF THE RECEIVING WATERS

Boatyards covered by this permit may discharge stormwater runoff to the following three different types of receiving waters: fresh water (eastern and western), marine water, and groundwater. Some of these waterbodies may be impaired by specific pollutants. The type and condition of the particular receiving water to which a given boatyard discharges constitute the basis for permit-specified limits, benchmarks, and required BMPs.

Ecology conducted a receiving water study during the winter of 2008 and 2009 in Lake Union and Puget Sound (Ecology, 2009). The study was mandated by the PCHB in its 2007 decision. The

study parameters, sample sizes, and locations were determined by the steering committee. The study focused on copper, zinc, and lead in the receiving water (total and dissolved), total suspended solids, and hardness (fresh water). The results from all Lake Union and Lake Washington Ship Canal samples were below the acute and chronic criteria for copper, lead, and zinc. Lake Union and Lake Washington Ship Canal sampling stations yielded equivalent concentrations for the parameters measured. The marine stations in Puget Sound showed some differences, with urban bay stations typically showing the highest concentration of metals. All sampling locations met water quality criteria for the three metals, and lead was typically below detection or quantitation levels.

WASTEWATER CHARACTERIZATION

Wastes generated by boatyard activities include spent abrasive grit, spent solvent, spent oil, pressure-wash wastewater, paint over-spray, paint drips, various cleaners and anti-corrosive compounds, paint chips, scrap metal, welding rods, wood, plastic, resin, glass fibers, and miscellaneous trash such as paper and glass. If not adequately controlled, these pollutants can enter the wastewater stream through the application and preparation of paints and the painted surface; the handling, storage, and accidental spills of chemicals, leaks, or drips of paints, solvents, or thinners; the fracturing and breakdown of abrasive grits; and the repair and maintenance of mechanical equipment. Hull preparation for painting is commonly done by pressure washing, sanding, grinding or scraping, and some abrasive blasting.

The two main wastewater streams from boatyards are: (1) Pressure-wash wastewater; and (2) Stormwater runoff. Other minor potential sources are cooling water, pump testing, gray water, sanitary waste, wash-down of the work area, and engine bilge water. Gray water and sanitary waste go to municipal treatment or on-site treatment. Engine room bilge water and oily wastes are typically collected and disposed of through a licensed contracted disposal company.

Pressure-Wash Wastewater

In 1992, raw pressure-wash wastewaters were sampled by Ecology, local shipyards, boatyards, and the Municipality of Metropolitan Seattle (METRO) (Hart Crowser, 1997). The METRO data, summarized in Table 2, showed that the concentrations of copper, lead, and zinc in the untreated pressure-wash wastewater exceeded the typical standards for discharge to sanitary sewer systems by about a factor of 10, and exceeded surface water quality ambient standards by factors of about 9,000; 30; and 80, respectively.

During the current term of the boatyard general permit (2016-2021), permittees provided discharge monitoring reports (DMRs) to Ecology that characterized the pressure-wash wastewater that they discharged to their local publicly-owned treatment works (POTWs). The data on this treated wastewater are summarized in Table 3. The data showed a median pH value of 8.1 standard units (S.U.), with 35 values greater than 9.0 S.U. All the median concentrations for each of the metals were less than their respective allowed limits. The average concentration of copper (18.21 mg/L) and zinc (3.61 mg/L) exceeded their respective allowed limits.

Stormwater Runoff

The permit modification in 2008 required additional monitoring of stormwater for lead and zinc.

These monitoring data are for stormwater runoff controlled solely by best management practices (BMPs). A summary of some of the monitoring data reported by the boatyards on their discharge monitoring reports from 1998 through 2014 is presented in Table 4.

The median reported copper value for the period of 1998 to 2002 was 410 ug/L, which is about four times higher than the median value reported between 2006 and 2008. These results showed a continued reduction in copper concentration (not tested for statistical significance).

A full characterization of toxic pollutants in stormwater runoff from three representative boatyards in the spring of 2006 is summarized in Table 5 (Ecology, 2006). The freshwater and marine water quality criteria (if available) are shown after the name of the pollutants.

Organotins are a group of chemical compounds are used in biocides such as some antifouling paints. The results of analyzing organotins in boatyard stormwater runoff collected during April and May of 2006 is summarized in Table 6. The U.S. EPA-recommended acute criteria for tributyltin are 0.46 µg/L for fresh water and 0.37 µg/L for marine water. Except for the April sampling at the Seaview Boatyard East (6.0 ug/L), the concentrations of all tributyltin results were less than the criteria.

During the current term of the boatyard general permit (2016-2021), permittees provided to Ecology discharge monitoring reports that characterized the stormwater runoff that they discharged to either the ground or the nearby surface waterbody. The data on this stormwater runoff is presented in Table 4 for total copper, lead, and zinc from 2016 through 2020.

COMPLIANCE WITH THE STATE ENVIRONMENTAL POLICY ACT

State law exempts the issuance, reissuance, or modification of any wastewater discharge permit from the State Environmental Policy Act (SEPA) process as long as the permit contains conditions that are no less stringent than Federal and State rules and regulations (RCW 43.21C.0383 and WAC 197-11-855). This exemption applies only to existing discharges, not to new discharges. New facilities must demonstrate compliance with SEPA as part of project authorization and approval in order to be eligible for coverage under the boatyard general permit.

PROPOSED PERMIT LIMITS

Federal and State regulations require that effluent limits set forth in an NPDES permit must be either technology- or water quality-based. Technology-based limits are based upon the treatment methods available to treat specific pollutants and are cost modified. Technology-based limits are set by regulation or developed on a case-by-case basis (40 CFR 125.3, and Chapter 173-220 WAC). State laws (RCW 90.48.010; 90.52.040; and 90.54.020) require the use of all known, available, and reasonable methods (AKART) to prevent and control the pollution of waters of the State.

Water quality-based limits are based upon compliance with the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Standards (Chapter 173-200 WAC), Sediment Quality Standards (Chapter 173-204 WAC) or the National Toxics Rule (40 CFR 131.36). The more stringent of these two limits (technology or water quality-based) must be chosen for each of the parameters of concern. Each of these types of limits is described in more detail below.

Technology-based effluent limits for discharges consisting of process wastewater typically are based on some type of treatment technology to reduce the pollutants in that wastewater.

Stormwater differs from process wastewater in that it is not a continuous discharge, the pollutant sources are not continuous, and the pollutant concentrations are highly variable. The U.S. EPA, in their stormwater permits, has determined that the use of structural controls and best management practices (BMPs) to prevent the discharge of pollutants via stormwater runoff may be equivalent to the “best conventional pollutant control technology” (BCT) and the “best available technology economically achievable” (BAT), which are the federally mandated technology-based treatment levels.

Title 40 CFR 122.2 defines BMPs as “schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce pollution of waters of the United States.” BMPs also include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs are techniques for pollution prevention or, in other words, preventing the pollutants from getting into the wastewater (e.g., stormwater runoff).

The U.S. EPA has defined shipyards as a point source category. This category includes the facilities that Ecology has separated out and calls “boatyards.” The U.S. EPA draft document “Development Document for Shipbuilding and Repair” (U.S. EPA, 1978) recommended BMPs as the primary method of controlling waste discharges from shipyards to waters of the State. BMPs achieve pollution control through careful management of the product streams, segregation of potential pollutants in waste streams, and preventing or minimizing contact between water and waste material. Shipyards and boatyards have similar operations.

The Development Document for Shipbuilding and Repair also determined that BMPs constitute the “best practicable control technology currently available” (BPT) for the shipyard industry. Ecology concluded that BMPs constituted BCT for stormwater discharges in the boatyard industry and that collection, recycling, and treatment of pressure-wash wastewaters constituted BAT.

METRO TREATMENT STUDY

METRO (Municipality of Metropolitan Seattle) received a National Estuary Grant to do a treatment study of Puget Sound shipyard and boatyard wastewater and storm water. The study involved sampling of pressure-washing wastewater from a number of these facilities, and testing prototype collection and treatment systems to determine which methods could consistently meet state and local water quality standards.

METRO produced an analytical report of their findings and developed a guidance manual which was distributed to shipyards, boatyards, and publicly-owned treatment works (POTW). The manual includes options for treatment and discharge of pressure-wash wastewater, bilge and ballast water, and contaminated stormwater to receiving waters, municipal treatment plants, or off-site treatment facilities.

BMPs to collect and contain wastes and minimize waste generation during vessel repair and maintenance work have been researched, compiled, and distributed in Washington by Ecology, the Lake Union Association Water Quality Committee, and the Puget Sound Shipbuilders Association (1990), with funding assistance from the Puget Sound Water Quality Authority.

Many of the sources discussed in the Wastewater Characterization section of this fact sheet can be contained, controlled, or substantially reduced by the implementation of BMPs. BMPs are an essential component of this proposed NPDES general permit. BMPs include structural controls, such as catch basins and drains, berms, dikes, and appropriate containment for oils, chemicals, and wastes; roofed storage areas; and wastewater treatment facilities. Facilities covered by this general permit are required to implement the BMPs described in Special Condition S3 (Mandatory Best Management Practices) of the permit.

TECHNOLOGY-BASED LIMITS FOR PRESSURE-WASH WASTEWATER

The primary source of the heavy metals in pressure-wash wastewater is from paint removed from boat hulls. As noted previously, the copper concentration in this untreated wastewater exceeded the water quality criteria by several orders of magnitude. The next most common metals, by frequency and in magnitude, in boatyard and shipyard wastewater (or contaminated stormwater), were zinc and lead.

METRO's work clarified and expanded the list of options for treatment and disposal of boatyard wastewaters. The treatment study project was closely aligned with the initial development of the first general NPDES permit for boatyards. The study's project manager and project coordinator made valuable contributions to the general permit development by assisting Ecology in establishing standards for best available technology practices for boatyards.

More specifically, the alternatives for managing pressure-wash wastewater are:

- 1) Recycling it and conserving its use.
- 2) Collection and discharge (with pretreatment as necessary) of the wastewater to the sanitary sewer, which may include chemical addition followed by sedimentation and possibly evaporation.
- 3) For boatyards in Eastern Washington, evaporation from an evaporation pond or tank.

Option 1 - Recycle/Conservation

The preferred means of preventing pollution from pressure washing hulls is recycling the pressure-wash wastewater. The typical configuration is multi-stage filtration with some storage capacity. Water lost from evaporation during pressure washing can be made up from rain water falling on the wash pad or from tap water. The solids collected from the filters or from sedimentation in the storage tank are air-dried under cover and handled as solid waste. The recycled water may eventually become contaminated, requiring disposal or treatment. In that case the wastewater may be collected by a licensed waste hauler and treated off-site.

Option 2 - Discharge to a Publicly-Owned Treatment Works

For boatyard facilities which have the ability to connect to a publicly-owned treatment works (POTW), recycling, with occasional discharge of contaminated recycle water to the POTW, is the best treatment method. The recycled water may have to be treated with a polymer and settled before discharge in order to meet the discharge limits of the permit.

For facilities with excess contaminated water, the contaminated water must be hauled to a treatment facility for proper treatment and disposal. METRO's guidance manual gives a more detailed discussion of recycling options for pressure-wash wastewaters.

Since all boatyards have eliminated direct discharges of pressure-wash wastewater to waters of the state, Ecology has determined that AKART for pressure-wash wastewater is recycling, evaporation, or treatment and discharge to the sanitary sewer. Discharges to the sanitary sewer must meet the discharge requirements included in this permit for non-delegated POTWs or the requirements specified by delegated POTWs. Delegated POTWs are municipal wastewater treatment systems that have received Federal pretreatment delegation by a permit system through Ecology, to restrict the pollutant loading or concentration of pollutants to their system.

Option 3 – Evaporation from a pond or tank

For boatyard facilities located in Eastern Washington, facilities may choose to construct and discharge to an approved evaporation pond or tank. Prior to beginning construction or operation of a evaporation pond or tank, boatyards must submit an engineering report and Operations and Maintenance manual that meets all the applicable requirements in Chapter 173-240 WAC. Boatyards who receive approval to construct and operate an evaporation pond or tank are not authorized to discharge from these structures to Waters of the State.

Ecology has released guidance for domestic wastewater ponds in "Criteria for Sewage Works Design (Orange Book)", section G3-3.5. While this guidance is specifically designed for domestic wastewater treatment ponds, the technical information contained could be applicable and used in the design and operation of evaporation ponds receiving other non-domestic wastewater.

DISCHARGES TO NON-DELEGATED PUBLICALLY OWNED TREATMENT WORKS

The permit requires all Permittees who discharge wastewater to a non-delegated publicly owned treatment works(POTW), to conduct sampling for four pollutant paramters. As previously mentioned, these parameters were selected because they commonly occur in boatyard wastewater in high levels and can exceed pre-treatment standards. The representative

parameters are pH, total copper, total zinc, and total lead.

- **Ph.** The permit retains the previous permits limits within the range of 5 to 11 SU. These limits are based on federal rules at 40 CFR 403.5(b) and state rules at Chapter 173-216-060 WAC.
- **Total Copper.** The permit retains the previous permits limit on total copper at 2.4 mg/l.
- **Total Zinc.** The permit reduces the previous permits limit on total zinc from 3.3 mg/l to 2.61 mg/l. This limit is based on the federal effluent limitation standards found at 40 CFR 433.15 and 40 CFR 433.17.
- **Total Lead.** The permit reduces the previous permits limit on total lead from 1.2 mg/l to 0.69 mg/l. This limit is based on the federal effluent limitation standards found at 40 CFR 433.15 and 40 CFR 433.17.

TECHNOLOGY-BASED LIMITS FOR STORMWATER RUNOFF

As previously noted, the U.S. EPA has determined that BMPs are BPT for stormwater discharges under the U.S. EPA Multi-sector Stormwater General Permit and in their draft effluent guidelines for shipyards. Ecology required BMPs beginning in 2005 and incorporated a process for additional BMPs when benchmarks were exceeded.

The Northwest Marine Trade Association, Puget Soundkeeper Alliance, and Ecology conducted a pilot treatment study at several boatyards during the October-May season. Three different types of treatment devices were installed at three boatyards in the Seattle area, and multiple storm events were sampled. The results of the study are in a report [Boatyard Stormwater Treatment Technology Study](#)² dated March 2008. The cost of installing and operating each of the three treatment devices was estimated for the three model boatyards. The net present value of the most cost-effective treatment device of the three pilot treatment devices was \$255,000 per acre (Arcadis, 2008). The estimated cost for treatment and the preparation work (grading and repaving) for a 2-acre boatyard was \$400,000 to \$900,000. This document is available at: [Final Boatyard Cost Analysis Report](#)³.

The 2005 permit was modified as required by the settlement agreement in 2008 to incorporate PCHB orders numbered 2, 3, 7, and 8. This permit modification, as noted above, was appealed by the PSA (appeal 2). The appeal was on the permit modification Section S3.C *Receiving Water Studies*. This section was added according to the PCHB order 7.

Annual monitoring of stormwater was required in the first issuance of the Boatyard Permit (1992) to verify the effectiveness of best management practices. Compliance with the monitoring requirement was poor. The few discharges sampled at each boatyard failed to provide the feedback necessary to verify the effectiveness of best management practices or to characterize discharges. Ecology then determined that more than one sample per year was necessary.

Therefore, Ecology required four samples per year in the 1997 permit. The 2005 permit required

² <https://www.stormwaterx.com/boatyard-stormwater-treatment-technology-study/>

³ https://www.stormwaterx.com/wp-content/uploads/2016/11/StormwaterRx_Boatyard_Cost_Analysis.pdf

five samples per year. Four samples were required during the times the boatyard activity was highest (spring and fall) and one sample was required in January, the time of highest rainfall. The current draft permit (2021) replaces the seasonal benchmark requirement with an additional month of sampling. Ecology has determined that the additional month of sampling in March is necessary to verify the effectiveness of best management practices during a month that typically sees high boatyard activity and rainfall.

Boatyards covered under this permit are required to adopt the BMPs listed in the permit if appropriate for their facility. Other BMPs which are specific for the facility are expected to be developed as required by the facility to meet the permit benchmark values. Special condition S8 (Stormwater Pollution Prevention Plan) of the permit requires these BMPs be listed in a facility-specific document called the Stormwater Pollution Prevention Plan (SWPPP). This plan is expected to be updated as necessary, and it is a public document. The SWPPP also incorporates a monitoring plan, a spill plan, and weekly visual monitoring, as required in the previous permit.

The draft permit released for public comment in November 2008 contained benchmarks of 14.7 and 29 µg/L copper based on the demonstrated average concentration and variance observed during the pilot study of multimedia filtration. Comments received on these benchmarks disputed that they represented the performance expected when the apparatus was in actual operation as opposed to a test situation. In the period since the release of the 2008 draft, several boatyards have installed multimedia filtration stormwater treatment devices. The data from these were combined with the pilot test data from the boatyards and Pacific Fishermen pilot test (CH2M Hill, 2008) to derive new benchmarks. The data are presented in Appendix C of the April 21, 2010, fact sheet, which is available on the [Ecology Boatyard General Permit webpage](#)⁴. The benchmarks were calculated in the same manner as the effluent limit derivation presented in the U.S. EPA Technical Support Document, (U.S. EPA, 1991). The copper data were not normally distributed, so they were transformed by the log normal transformation to derive benchmarks. The zinc data were normally distributed after removal of the outliers.

Since lead in treated effluent was typically at or below a measureable concentration, no benchmarks were calculated. The 2011 permit did continue to require monitoring for lead. Beginning in 2005, copper and zinc limits were imposed in the permit as benchmarks. Benchmarks have been used instead of limits because adaptive management has been a useful process in stormwater management. This is evident in the declining copper concentrations in the boatyard data. Some boatyards may be able to consistently meet the current benchmarks with source control BMPs or with additional alternative treatment devices. Effluent limits, as used in this permit, consist of benchmarks plus adaptive management. In this permit, any exceedance of a benchmark requires a Level 1 response. This response is an examination by the boatyard of the probable cause of the exceedance and an action to be instituted that will cause the stormwater runoff to meet the benchmark in the next monitoring period. After 3 exceedances of a benchmark, the boatyard must submit and implement a Level 2 Structural Control Report.

After four exceedances, the boatyard must begin its Level 3 Response. The Permittee must submit an engineering report to Ecology within 3 months of reporting the sixth benchmark exceedance. The Level Three Engineering Report must also include an analysis of how the treated

⁴ <https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Boatyard-general-permit>

wastewater will be conveyed to the receiving water or sanitary system, and the characteristics of the receiving water. If the Permittee believes that additional treatment is not feasible or not necessary, the Permittee must request a permit modification, fulfill all the requirements in Condition S1.C (Modification of Permit Coverage), and convince Ecology that either:

- 1) Installation of necessary treatment BMPs is not feasible by the Level 3 deadline, up to a maximum of 15 months following reporting the sixth benchmark exceedance; or
- 2) Installation of treatment BMPs is not feasible or not necessary to prevent discharges that may cause or contribute to violation of a water quality standard.

The determination that a treatment BMP is “not feasible” may not be based on financial limitations or distress. Examples of situations where the installation of treatment BMPs may actually be “not feasible” are where the requirements of a local permitting authority delay or prevent the installation, where the local fire marshal has imposed land or building use restrictions, or where the Permittee’s lease agreement with the site owner precludes the installation.

The permit also contains sections addressing the circumstance of boatyards currently at the Level Two or Three Response stages.

If a permittee completes the required level 3 response and installs the approved treatment, that permittee is still subject to the applicable benchmarks. This means that a permittee who installs treatment as part of a level 3 response and continues to exceed the relevant benchmark, shall continue the adaptive management responses required in the permit.

WATER QUALITY-BASED EFFLUENT LIMITS

In order to protect existing water quality and preserve the designated beneficial uses of Washington surface waters, WAC 173-201A-060 states that waste discharge permits shall be conditioned such that the discharge will not cause a violation of Surface Water Quality Standards. The Washington State Surface Water Quality Standards (Chapter 173-201A WAC) is a state regulation designed to protect the beneficial uses of the surface waters of the State.

Mixing Zones

The Water Quality Standards allow the Ecology to authorize mixing zones around a point of discharge in establishing surface water quality-based effluent limits. Ecology may authorize both "acute" and "chronic" mixing zones for pollutants that can have a toxic effect on the aquatic environment near the point of discharge. The concentration of pollutants at the boundary of these mixing zones may not exceed the numerical criteria for that type of zone. Mixing zones can only be authorized for discharges that are receiving AKART and in accordance with other mixing zone requirements of WAC 173-201A-400.

RCW 90.48.555(12) applies to this permit and addresses mixing zones. It states: “The department may authorize mixing zones only in compliance with and after making determinations mandated by the procedural and substantive requirements of applicable laws and regulations.”

The applicable laws and regulations include federal Clean Water Act, RCW 90.48, WAC 173- 200, WAC 173-201A, WAC 173-204, and human health based criteria in the National Toxics Rule (40

CFR 131.36).

No mixing zones are authorized in this permit. Since a general permit must apply to a number of different sites, precise mixing zones and the resultant dilution are not applicable to facilities covered under a general permit.

Any discharger may request a mixing zone through an application for an individual permit in accordance with WAC 173-220-040 or WAC 173-216-070.

Numerical Criteria for The Protection of Aquatic Life

“Numerical” water quality criteria are numerical values set forth in the State of Washington Water Quality Standards for Surface Waters (Chapter 173-201A WAC). They specify the maximum levels of pollutants allowed in receiving waters to be protective of aquatic life.

Numerical criteria set forth in the water quality standards are used along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limits, they must be used in a permit.

The State water quality criteria, WAC 173-201A, for acute toxic effects due to copper in marine water is 4.8 µg/L (dissolved) and in fresh water is 7.2 µg/L (dissolved) at a receiving water hardness of 40 mg/L.

The State water quality criterion, WAC 173-201A, for acute toxic effects due to lead in marine water is 210 µg/L (dissolved), and the fresh water acute criterion is 24 µg/L (dissolved) at a receiving water hardness of 40 mg/L.

The State water quality criteria, WAC 173-201A, for acute toxic effects due to zinc in marine water is 90.0 µg/L (dissolved), and the fresh water acute criterion is 53 µg/L (dissolved) at a receiving water hardness of 40 mg/L.

Numerical Criteria For The Protection Of Human Health

Numerical criteria for the protection of human health are promulgated in Chapter 173-201A WAC and 40 CFR 131.45. These criteria are designed to protect human health from exposure to pollutants linked to cancer and other diseases, based on consuming fish and shellfish and drinking contaminated surface waters. The water quality standards also include radionuclide criteria to protect humans from the effects of radioactive substances.

DISCHARGES TO NON-IMPAIRED SURFACE WATERS

The permit requires all Permittees with stormwater discharges to surface water to conduct sampling for five pollutant parameters. Ecology does not attempt to address all the possible pollutants from each industrial facility. Instead, a basic set of parameters was selected to provide an indication of how well the facilities BMPs are functioning to prevent violations of the state surface water quality standards. The representative parameters are pH, TSS, total copper, total zinc, Petroleum Hydrocarbons, and oil and grease. Ecology selected these parameters to reasonably indicate the overall effectiveness of each facility's BMPs to reduce and prevent stormwater discharges that could cause a violation of water quality standards. A secondary

objective was to minimize the level of laboratory expenses to what is necessary to reasonably ensure compliance with permit conditions. Based upon Ecology's best professional judgment, experience under previous permit cycles, the available science, and the "Boatyard Stormwater Treatment Study" (Taylor Associates, Inc., 2008), Ecology has determined that in order to meet the proposed benchmarks, permittees will be required to fully apply AKART, and many will be required to install active stormwater treatment systems.

- **Turbidity** of water is related to the amount of suspended and colloidal matter contained in the water. Increasing turbidity reduces the clarity and penetration of light, negatively impacting aquatic organisms. Suspended solids can settle out, covering up gravel beds and suffocating or driving off benthic organisms. Fish may be harmed by suspended particles which can irritate the gills. In addition, many of the pollutants that are found in stormwater are attached to the small particles that become suspended in the stormwater, increasing their potential toxicity. Turbidity is an indirect measure of total suspended solids (TSS). For these reasons, high turbidity is a useful indicator of stormwater contamination. Turbidity was also chosen as a core parameter, in part, because Chapter 173-201A WAC includes a turbidity standard, and Ecology studies have demonstrated a poor statistical correlation between turbidity and TSS. Turbidity sampling provides a more direct basis for determining compliance with water quality standards. Turbidity sampling can be conducted on-site if the Permittee purchases a turbidity meter. Ecology also believes turbidity is an indicator of good housekeeping practices.
- **pH.** The permit requires all Permittees to sample for pH to determine the acidity/alkalinity of the discharge. Extremes in pH are toxic to fish and unsuitable for ground water used as a drinking water source. Rainfall is typically slightly acidic as it hits the ground, but buffers quickly, achieving near neutral pH. Stormwater discharges with significantly higher or lower pH values strongly indicate that the stormwater has been contaminated. The permit authorizes the use of paper or a calibrated pH meter for measuring pH, unless the discharge is subject to a pH effluent limitation (Condition S5.C). Permittees subject to a pH effluent limitation must use a pH meter.

The permit assigns Permittees a pH benchmark of between 6.0 and 9.0. This benchmark reflects the federal technology-based secondary treatment standards applied to discharges from wastewater treatment plants. In addition, this benchmark corresponds to the water quality criterion applied to many water bodies that specifies: pH shall be in the range of 6.5 to 8.5, with a human-caused variation within the above range of less than 0.5 units. [WAC 173-201A-200(1)(g)] This benchmark value is assigned to most industrial categories in the EPA's 2015 MSGP and is recommended for all categories by the National Academies of Sciences, Engineering, and Medicine (2019).

- **Visible Oil Sheen.** Ecology retained the visible oil sheen requirement from the previous permit. If visible oil sheen is observed by the permittee at a sampling location during a stormwater discharge event, it is considered an excursion of the benchmark. This benchmark is based on Ecology's best professional judgment that stormwater associated with industrial activity with a visible petroleum oil sheen is likely to discharge cancer causing pollutants including, but not limited to, benzene, metals, and polycyclic aromatic

hydrocarbons (PAH)

- **Total Copper.** The total copper benchmark was derived using a Monte Carlo simulation as the statistical method. The methodology for the Monte Carlo simulation was adapted from a similar analyses that was performed by Herrera Consultants to calculate the total copper benchmark in the Industrial Stormwater General Permit (Herrera 2009). The major change in our methodology is that instead of fitting the data to a distribution we used an empirical distribution. This Monte Carlo simulation draws from the empirical distribution, which is the observed data. The Monte Carlo simulation explores the likelihood of exceeding the relevant water quality standard for discharges at different levels of copper at the relevant dilution factor. 100,000 iterations or trials were run to calculate each benchmark. For each trial, the application independently selects:
 - A record from the receiving water data,
 - A record from the benchmark data,
 - A record from the hardness data (for freshwater only, hardness is not used in marine calculations).

The total copper in the receiving water (Ct.tot) is calculated using a dilution factor (DF), the total copper from the receiving water (AMB) and the benchmark total copper (BM) using the equation:

$$Ct.tot = \frac{1}{DF * BM} + \left(1 - \frac{1}{DF}\right) * AMB$$

The dissolved copper (Ct.dis) is calculated using the translator observed ratio of dissolved copper to total copper.

The use of a dilution factor in deriving the benchmark is not considered the authorization of a mixing zone, but Ecology has determined that a modest dilution factor 5 is protective and consistent with WAC 173-201A-400. The conservative dilution factor of 5 used in this calculation is consistent with the dilution factor used in similar calculations in the previous BYGP and for calculations in the ISGP.

- **Total Zinc.** Ecology retained from the current permit the benchmarks for total zinc. The maximum daily benchmarks for total zinc in discharges of stormwater runoff to both fresh and marine waters is 90 ug/L.
- **Petroleum Hydrocarbons (Diesel Fraction).** Ecology added sampling requirements for total petroleum hydrocarbons (NWTPH-Dx). Ecology based the requirements to sample for these parameters on its best professional judgment that these pollutants are reasonably likely to be present in stormwater discharges from boatyards. The 10 mg/L benchmark for TPH has based upon the TPH-Dx effluent limitation used in industrial stormwater permits in Washington State.

DISCHARGES TO IMPAIRED SURFACE WATERS

Section 303(d) of the Federal Clean Water Act requires Washington State periodically to prepare

a list of all surface waters in the State for which beneficial uses of the water – such as for drinking, recreation, aquatic habitat, and industrial use – are impaired by pollutants. These waterbodies are water quality-limited estuaries, lakes, and streams that fall short of State surface water quality standards, and are not expected to improve within the next 2 years.

Waters placed on the 303(d) list require the preparation of total maximum daily loads (TMDLs), a key tool in the work to clean up polluted waters. TMDLs identify the maximum amount of a pollutant to be allowed to be released into a waterbody so as not to impair uses of the water, and allocate that amount among various sources.

Ecology’s assessment of which waters to place on the 303(d) list is guided by Federal laws, State water quality standards, and the State 303(d) policy. This policy describes how the standards are applied, requirements for the data used, and how to prioritize TMDLs, among other issues. The goal is to make the best possible decisions on whether each body of water is impaired by pollutants, to ensure that all impaired waters are identified and that no waters are mistakenly identified.

The previous version of the BYGP addressed discharges to impaired surface waters by listing specific impaired water bodies and effluent limits. This method of applying limits proved to be ineffective at addressing the current list of impaired water bodies. Therefore, the new version of the BYGP is consistent with the method of addressing discharges to these waters found in the Industrial Stormwater General Permit. Current information about Washington States 303(d) list can be found on Ecology’s [Assessment of state waters and 303d list](#)⁵.

This draft permit applies water quality-based numeric effluent limitations for facilities discharging to impaired water bodies that are “listed” due to pollutants typically present in Boatyard stormwater discharges. Facilities discharging to any waterbodies with 303(d)-listings (Category 5) would be subject to numeric effluent limitations for the 303(d)-listed parameter (e.g., if receiving waterbody listed for total copper, the facility would be subject to a numeric effluent limitation for total copper), or in the case of a sediment quality impairment (Category 5 and/ or Puget Sound Sediment Cleanup Site), a numeric effluent limitation for Total Suspended Solids (30 mg/L). The technical basis for these limitations is described below.

- **pH.** Facilities with outfalls to freshwater on the 303(d) list for pH are subject to a water quality based numeric effluent limitation, applied end-of-pipe, as follows:
 - Between 6.0 and 8.5 if the 303(d) listing was for high pH only;
 - Between 6.5 and 9.0 if the 303(d) listing was for low pH only; and
 - Between 6.5 and 8.5 if the 303(d) listing was for both low and high pH.

These limitations are based upon the aquatic life criteria in WAC 173-201A-200(1)(g).

Facilities with outfalls to marine waters on the 303(d) list for pH are subject to a water quality based numeric effluent limitation of between 7.0 and 8.5, applied end-of-pipe. This effluent limitation is based on the aquatic life criteria in WAC 173-201A-210(1)(f).

- **Total Copper.** Facilities with outfalls to waterbodies on the 303(d) list for Total Copper

⁵ <https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-improvement/Assessment-of-state-waters-303d>

are subject to a water quality based numeric effluent limitation. This effluent limitation will be derived as the dissolved copper criteria at the time of permit coverage, based upon receiving water type (freshwater or marine) and hardness, and a total/dissolved translator factor, in accordance with WAC 173-201A-240(3), applied end-of-pipe as a “daily maximum” limit.

- **Total Zinc.** Facilities with outfalls to waterbodies on the 303(d) list for Total Zinc are subject to a water quality based numeric effluent limitation. This effluent limitation will be derived and assigned at the time of permit coverage based upon receiving water type (freshwater or marine) and hardness, and total/dissolved conversion factor, in accordance with WAC 173-201A-240(3), applied end-of-pipe as a “daily maximum” limit.
- **Total Lead.** Facilities with outfalls to waterbodies on the 303(d) list for Total lead are subject to a water quality based numeric effluent limitation. This effluent limitation will be derived and assigned at the time of permit coverage based upon receiving water type (freshwater or marine) and hardness, and total/dissolved conversion factor, in accordance with WAC 173-201A-240(3), applied end-of-pipe as a “daily maximum” limit.
- **Sediment Quality Impairment.** Facilities with outfalls to Category 5 sediment impaired waterbodies (Sediment Management Standards, Chapter 173-204 WAC) are subject to a water quality based numeric effluent limitation of 30 mg/L Total Suspended Solids (TSS). This limitation is based upon a best professional judgment determination that stormwater discharges with less than 30 mg/L TSS will not cause or contribute to a violation of sediment management standards.

Discharges to sediment-impaired waterbodies defined as a Puget Sound Sediment Cleanup Sites are also subject to numeric and narrative effluent limitations. These sites are, or will be, undergoing cleanup under the authority of the Model Toxics Control Act (MTCA) and/or the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund.

In addition to meeting the 30 mg/L TSS numeric effluent limit, Permittees discharging to a Puget Sound Sediment Cleanup Site must also implement additional storm drain line cleaning BMPs, solids sampling, and reporting, per Condition S2.E.4.

Effluent Limitations for Discharges to Waterbodies with Approved TMDLs

Ecology plans to continue implementing a permit application review process to identify discharges to impaired waters with an approved or established Total Maximum Daily Load (TMDL). Where an operator indicates on its application for coverage form that the discharge is to one of these waters, Ecology will review the applicable TMDL to determine as a threshold matter whether the TMDL includes requirements that apply to the individual discharger or its industrial sector. Ecology will determine whether any more stringent requirements are necessary to comply with the WLA, whether compliance with the existing permit limits is sufficient, or, alternatively, whether an individual permit application is necessary. If Ecology determines that additional requirements are necessary, Ecology will incorporate the final limits as site-specific terms to the facilities general permit coverage.

Condition S2.E is intended to implement the requirements of 40 CFR 122.44(d)(1)(vii)(B), which requires that water quality based effluent limits “are consistent with the assumptions and requirements of any available wasteload allocation for the discharge” Because WLAs for stormwater discharges may be specified in many different formats, Ecology plans to ensure that these requirements are properly interpreted and communicated to the Permittee in a way that can be implemented.

DISCHARGES TO THE GROUND

A treatment technology identified as an economical treatment method in an engineering report for shipyard stormwater was discharging to an infiltration basin or trench lined with metal-absorbent material. This treatment was called “enhanced filtration” (Hart Crowser, 1997). Any discharge to an infiltration basin or trench must be located far enough from surface water so as not to be deemed a surface discharge due to hydraulic continuity. In addition, the discharge must comply with the groundwater standards. This permit continues to require that this type of discharge be at least 200 feet from the nearest surface water and meet maximum daily limits of 1,000 µg/L for total copper; and 1,020 ug/L for total zinc. The limit for copper is the groundwater criterion for copper, and the limit for zinc is technology-based. Both limits should be obtainable with proper BMPs at the facility. Meeting the limits at the point of discharge to the infiltration basin or trench (the treatment device) eliminates the need for groundwater sampling. This condition is continued from the current permit.

Sediment Quality Criteria

There is little data to judge the impact of boatyard activity on sediment quality. One study found that sediment quality in two Puget Sound boatyard/marinas was well below current sediment quality criteria for copper, lead, and zinc (Crecelius, E. et al, 1989). Ecology collected sediment samples at three boatyards in 2006 to determine the impact of boatyard stormwater runoff to sediment quality (Ecology, 2006). Sediment contamination appeared to correlate with stormwater runoff contamination. Ecology believes that controlling the sources of the pollutants in stormwater will cause a reduction of pollutants in the sediments.

Narrative Criteria

In addition to numerical criteria, “narrative” water quality criteria (WAC 173-201A-030) limit toxic, radioactive, or deleterious material concentrations below those which have the potential to adversely affect characteristic water uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect human health. Narrative criteria protect the specific beneficial uses of all fresh (WAC 173-201A-130) and marine (WAC 173-201A-140) waters in the State of Washington.

ANTI-DEGRADATION

The purpose of Washington's Antidegradation Policy (WAC 173-201A-300-330) is to:

- 1) Restore and maintain the highest possible quality of the surface waters of Washington.
- 2) Describe situations under which water quality may be lowered from its current condition.

- 3) Apply to human activities that are likely to have an impact on the water quality of surface water.
- 4) Ensure that all human activities likely to contribute to a lowering of water quality, at a minimum, apply all known, available, and reasonable methods of prevention, control, and treatment (AKART).
- 5) Apply three tiers of protection (described below) for surface waters of the State.

Tier I ensures existing and designated uses are maintained and protected and applies to all waters and all sources of pollutions. Tier II ensures that waters of a higher quality than the criteria assigned are not degraded unless such lowering of water quality is necessary and in the overriding public interest. Tier II applies only to a specific list of polluting activities. Tier III prevents the degradation of waters formally listed as "outstanding resource waters," and applies to all sources of pollution.

Tier I and Tier II are considered in this permit. Ecology has determined that no BYGP-covered facilities discharge to Tier III waters.

Tier I Antidegradation Plan

Protection and Maintenance of Existing and Designated Uses (WAC 173-301A-310) states:

- 1) Existing and designated uses must be maintained and protected. No degradation may be allowed that would interfere with, or become injurious to, existing or designated uses, except as provided for in this chapter.
- 2) For waters that do not meet assigned criteria, or protect existing or designated uses, the department will take appropriate and definitive steps to bring the water quality back into compliance with the water quality standards.
- 3) Whenever the natural conditions of a water body are of a lower quality than the assigned criteria, the natural conditions constitute the water quality criteria. Where water quality criteria are not met because of natural conditions, human actions are not allowed to further lower the water quality, except where explicitly allowed in this chapter.

[Statutory Authority: Chapters 90.48 and 90.54 RCW]

To comply with Tier I, the draft BYGP applies water quality-based limitations to stormwater discharges, as discussed earlier in this section. To comply with Tier II, the draft BYGP proposes to continue implementing the Tier II Antidegradation Plan that was reviewed by the Pollution Control Hearings Board and affirmed in on April 25, 2011 in *Findings of Fact, Conclusions of Law, and Order PCHB Nos. 09-135 through 09-141*, excerpted below:

“After hearing on the merits, the Board concludes that Ecology has complied with the Tier II antidegradation requirements, and that the previously issued Stay should be dissolved. In 2009, after discontinuance of the TAPE program, the Legislature directed Ecology to create a Stormwater Technical Resource Center to provide tools for stormwater management, as funding becomes available. RCW 90.48.545. Initial funding has allowed this effort to proceed through TAPE, and the process described in the original Fact Sheet and public notice has resumed after an initial delay. We also give deference to Ecology’s interpretation of WAC 173-201A-320(6) and

how it should be applied in the context of general permits. It is reasonable and valid for Ecology to conclude that this rule allows the adaptive management scheme of the permit, combined with regular updates of the SWMM which capture new and emerging technologies, to stand as the method to comply with antidegradation requirements in the general permit context.”

Tier II Antidegradation Plan

Background: Federal regulations and the Water Quality Standards for Surface Waters of the State of Washington establish a water quality antidegradation program. WAC 173-201A-320 contains the Tier II antidegradation provisions for the state’s surface water quality standards.

A Tier II analysis is required when new or expanded actions are expected to cause a measurable change in the quality of a receiving water that is of a higher quality than the criterion designated for that waterbody in the water quality standards. WAC 173-201A-320(1). WAC 173-201A-320(3) defines a measureable change as specific reductions in water quality, and defines “new or expanded actions” as “human actions that occur or are regulated for the first time, or human actions expanded such that they result in an increase in pollution, after July 1, 2003[.]” This definition includes facilities that first began to discharge pollutants, or increased the discharge of pollutants after July 1, 2003. The definition also applies to those facilities that discharged pollutants prior to July 1, 2003, but were regulated by Ecology for the first time after July 1, 2003. This Antidegradation Plan applies to those applicants for coverage under the BYGP that are subject to a Tier II antidegradation analysis.

Formal Adaptive Process to comply with WAC 173-201A-320(6):

WAC 173-201A-320(6) states that “the antidegradation requirements of this section can be considered met for general permits and programs that have a formal process to select, develop, adopt, and refine control practices for protecting water quality and meeting the intent of this section. This adaptive process must:

- 1) Ensure that information is developed and used expeditiously to revise permit or program requirements.
- 2) Review and refine management and control programs in cycles not to exceed five years or the period of permit reissuance,
- 3) Include a plan that describes how information will be obtained and used to ensure full compliance with this chapter. The plan must be developed and documented in advance of permit or program approval under this section.”

Permit Development Process

Ecology uses a formal process to develop and reissue the BYGP every five years. The process includes selecting, developing, adopting, and refining control practices to protect water quality and meet the intent of WAC 173-201A-320. All NPDES permits, including the BYGP, are effective for a fixed term not to exceed five years (40 CFR §122.25). Each time Ecology reissues the BYGP, it evaluates the effluent limits and permit conditions to determine if it should incorporate additional or more stringent requirements.

Ecology's evaluation includes a review of information on new stormwater pollution prevention and treatment practices. Ecology may incorporate these practices into the BYGP as permit

conditions or in support of effluent limits. This approach works to reduce the discharge of pollutants incrementally during each successive new five-year permit cycle. Sources of such information include, but are not limited to:

- **Public comments and testimony** provided during listening sessions and the public comment period on the draft permit. Ecology encourages the public to share what is working and what is not. Ecology uses this formal public process to review and refine stormwater management and control requirements in each successive permit.
- **Ecology's Stormwater Management Manuals (SWMMs)**. Ecology updates the SWMMs periodically based on new information and science. The updates include a public involvement process. The BYGP requires Permittees to select BMPs from the most recent edition of the SWMMs (or approved equivalent SWMMs). Therefore, the BMPs contained in the updated SWMMs are adopted and used expeditiously to refine and improve the effectiveness of these stormwater controls to protect water quality and meet the intent of the anti-degradation provisions in the water quality standards.
- **Technology Assessment Protocol – Ecology (TAPE) process**. This formal process involves reviewing and testing treatment technologies for eventual adoption into Ecology's Stormwater Management Manuals. [The TAPE – Emerging Technologies Program of the Washington Stormwater Center](#)⁶ provides assistance to Ecology's TAPE Program by:
 - Coordinating and reviewing applications, sampling plans, and technical reports submitted to Ecology
 - Coordinating and compiling reviews by the Board of External Reviewers (BER).
 - Working with the Stakeholder Advisory Group (SAG) to revise guidance documents and provide direction and input

The TAPE process stimulates the development and use of innovative stormwater technologies, used at facilities covered under the BYGP.

- **Ecology stormwater staff** (inspectors, enforcement staff, permit writers and engineers) attend training and conferences, confer with regulatory agency staff nationally and locally; and review professional journals and scientific literature. Ecology conducts research on stormwater management practices and the effect of stormwater discharges on water quality. Ecology uses its expertise in the field of stormwater management to adopt and refine stormwater controls and management practices in the SWMMs and BYGP.
- **BYGP requires adaptive management**. In addition to the formal programmatic improvements to the SWMM and BYGP described above, the BYGP contains an

⁶ <https://www.wastormwatercenter.org/stormwater-technologies/tape/>

adaptive management process. The process requires Permittees to implement timely revisions to their Stormwater Pollution Prevention Plans (SWPPPs) when stormwater discharges exceed benchmarks. As such, stormwater controls on individual projects are subject to ongoing refinement (i.e., addition of new BMPs and/or enhancement of existing BMPs) that reduces the amount of pollutants that would otherwise be discharged to receiving waterbodies.

Public Notice of the General Permit Antidegradation Plan and Individual Actions

Since Ecology has chosen to address Tier II anti-degradation in accordance with WAC 173-201A-320(6), Ecology will not perform site-specific analyses of each “new or expanded action” proposed for coverage under the permit. However, it is important that the public be able to weigh in on whether individual actions are “necessary and in the overriding public interest”. The antidegradation rule establishes a refutable presumption that they do, but only through a public notice process does the general public have an opportunity to question individual actions.

Ecology will require the general permit applicant's public notice to include language regarding Tier II antidegradation. Specifically, when an applicant runs the public notice per WAC 173-226-130(5), the notice will include all public notice information currently required on the BYGP application form including name/location of the facility and the receiving water.

MONITORING REQUIREMENTS

DISCHARGES OF PRESSURE-WASH WASTEWATER

Discharges of pressure-wash wastewater are restricted from discharging to waters of the state. Ecology requires monitoring by those boatyards that discharge to non-delegated POTWs. The monitoring schedule for discharges of pressure-wash wastewater will be the same as the schedule in the current permit: Once monthly in June, July, August, and September. The POTW limits and monitoring frequency in this permit were originally adopted from METRO's pretreatment limits. However the latest version of this permit has been updated to include the minimum federal standards for pretreatment programs for non-delegated POTW's (40 CFR 433.15 and 40 CFR 433.17). Therefore, the maximum daily limits for total zinc and total lead have been updated to comply with the minimum limits set in 40 CFR 433. Pretreatment limits established by delegated POTWs have similar limits and monitoring requirements for discharge into their systems.

Samples and measurements taken to meet the requirements of this general permit must represent the volume and nature of the monitored discharge within the monthly monitoring period, including representative sampling of any unusual discharge or discharge condition such as bypasses, upsets, and maintenance-related conditions affecting effluent quality.

DISCHARGES OF STORMWATER RUNOFF TO WATERS OF THE STATE

The Permittee must monitor discharges of stormwater runoff from the areas of the facility where industrial activity occurs. The Permittee must collect samples from a location or locations affected by boatyard-related activities and as noted on the application for coverage. If stormwater runoff from the industrial areas of a facility occurs as sheet flow, then the Permittee must construct a collection point to collect an adequate sample volume that is representative of the entire industrial area. If stormwater runoff discharges do not occur during a monthly sampling period, then the Permittee must indicate that on the discharge monitoring report (DMR) for that monitoring period.

The monitoring schedule for discharges in the permit retains the previous permit's requirement to sample once monthly in October, November, January, April, and May. However the new permit has replaced the "seasonal average" measurement and benchmark and replaced it with an additional sampling month of March. The "seasonal average" benchmark was confusing to permittees and did not provide any new information regarding discharge of pollutants from the site. The additional month of March was selected to capture a month of relatively high boatyard activity during the wet season.

Permittee's must use appropriate methods and procedures when collecting samples and reporting data to ecology. Detailed guidance on how to correctly sample stormwater can be found in the [Stormwater Sampling Manual](https://apps.ecology.wa.gov/publications/SummaryPages/1503044.html)⁷. The use of inappropriate sampling methods can result in inaccurate results and may not "represent the volume and nature of the monitored discharge". Permittees must ensure that they use appropriate methods and procedures in order

⁷ <https://apps.ecology.wa.gov/publications/SummaryPages/1503044.html>

to meet this permit requirement.

The proposed permit includes additional sampling requirements. Under the proposed permit, Permittees would be required to sample within 12 hours of a stormwater discharge that occurs during a sampling period. This change is intended to capture the “first flush” of contaminants from a site. This change does not require permittees to sample outside of business hours or during unsafe conditions. The proposed permit also includes requirements that are intended to clarify standard sampling procedures. These clarifying changes include:

- 1) Allowing single grab samples, time-proportional samples, or flow-proportional samples
- 2) If a permittee takes multiple samples in a sampling period, they should calculate and report the monthly average.
- 3) Where possible, Permittees should collect samples at the point of discharge.

Permittees must sample each discharge point unless from substantially identical areas.

ANALYTICAL PROCEDURES

Analytical methods used to meet the monitoring requirements specified in this general permit must conform to the latest revision of the “Guidelines Establishing Test Procedures for the Analysis of Pollutants” contained in 40 CFR 136. However, if an alternate method from 40 CFR 136 is sufficient to produce measurable results in the sample, the Permittee may use that method for analysis. If the Permittee uses an alternate method, it must report the test method and quantitation level on the DMR. If the Permittee is unable to obtain the required quantitation level due to matrix effects, the Permittee must report the matrix-specific method detection limit and quantitation level on the DMR.

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

Ecology based Special Condition S9 (Reporting and Recordkeeping Requirements) on its authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-226-090). The reporting and recordkeeping requirements are based on the federal and state authorities, which allow Ecology to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges. Section 308(a)(3)(A)(v) of the Clean Water Act and 40 CFR 122.41(h) provide federal authority. RCW 90.48 and WAC 173-226-090 provide state authority. Keeping records and reporting provide practical measures that allow the Permittee and Ecology to assess compliance with the requirements of this permit.

Permittees must submit discharge monitoring reports (DMRs) to Ecology by the 28th day of the month immediately following every month during which monitoring is required. Unless authorized by a written waiver from Ecology, Permittees must submit their DMRs electronically using the online [Ecology WebDMR program](#)⁸. Their data will then be automatically stored in Ecology's Permitting and Reporting Information System (PARIS). Permittees unable to submit electronically (e.g., those who do not have an Internet connection) must contact their Ecology regional permit administrator to request a waiver and to obtain instructions on how to provide hardcopy paper versions of the required reports and documentation. Since about the year 2010, Ecology has been asking NPDES and state waste discharge Permittees to provide their monitoring data electronically to expedite their required reporting and minimize errors in the transfer of their data into PARIS.

NON-ROUTINE AND UNANTICIPATED WASTEWATER

Non-routine and unanticipated wastewater consists of process wastewater not identified in Special Condition S1 (Permit Coverage Required), not routinely discharged, and not anticipated at the time of permit application, such as waters used to pressure-test storage tanks or fire water systems or of leaks from drinking water systems. The Permittee must address any such wastewaters in accordance with the terms of Special Condition S5 (Non-Stormwater Miscellaneous Discharges).

STORMWATER POLLUTION PREVENTION PLAN

In accordance with 40 CFR 122.44(k) and 40 CFR 122.44 (s), the reissued permit includes requirements for the development and implementation of a stormwater pollution prevention plan (SWPPP) along with best management practices (BMPs) to minimize or prevent the discharge of pollutants via stormwater discharged from areas associated with industrial activity to waters of the State.

BMPs constitute best conventional pollutant control technology (BCT) and best available

⁸ <https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Water-quality-permits-guidance/WQWebPortal-guidance>

technology economically achievable (BAT) for stormwater discharges. Facilities that discharge stormwater from their site to a surface waterbody or to a stormwater conveyance system that discharges to a surface waterbody must prepare a SWPPP. Ecology has determined that each Permittee must develop a SWPPP and implement adequate BMPs in order to meet the requirements of “all known, available, and reasonable methods of prevention, control, and treatment” (AKART).

The purpose of a SWPPP is to prevent the contamination of stormwater to the maximum extent practical. The SWPPP must identify the potential contaminants to stormwater, the potential sources of stormwater contamination from industrial activities, and the actions that the facility must implement to manage stormwater and the sources of contamination to comply with the requirement under Chapter 90.48 RCW to prevent or minimize contamination of stormwater to protect the beneficial uses of waters of the State.

The proposed permit includes additional required SWPPP sections. These changes include:

- 1) SWPPP Map requirements. The new permit includes more specific map requirements. The SWPPP map is an important tool to help permittees and inspectors understand the interaction between pollution sources and stormwater on a facility. These map requirements are included in order to insure that the SWPPP map will contain sufficient information about site operations, layout, stormwater flow, and contaminant sources.
- 2) Catch Basin Cleaning. Permittees must implement a variety of source control BMP's to effectively prevent stormwater contamination. The new permit requires that permittees clean stormdrain catch basins when they become at least 60% full of debris. This additional BMP will prevent contamination of stormwater in catch basins.
- 3) Spill Prevention and Emergency Cleanup Plan(SPECP): The proposed permit includes expanded requirements in the SPECP and requires permittees to include additional information in their SPECP. These updates will help protect stormwater from spills and hazardous substances.
- 4) The SWPPP now requires that Permittees include a description of how they will notify vessel owners at the facility that state and federal regulations prohibit the discharge of sewage and gray water into waters of the state.
- 5) The SWPPP now requires that Permittees include documentation of washpad or dry dock decontamination procedures, personnel, and equipment that will be used to comply with S3.J and S3.M.
- 6) The SWPPP now requires that any permittee who conducts vessel deconstruction activities onsite under the BYGP document the BMP's that they plan to implement to protect stormwater and to comply with S3.M.

Each Permittee must continuously review and revise its SWPPP as necessary to assure that stormwater discharges do not degrade water quality. Each Permittee must retain the SWPPP on site or within reasonable access to the site and make it available for review by Ecology when requested.

BEST MANAGEMENT PRACTICES

Best management practices (BMPs) are the actions identified to manage, prevent contamination of, and treat stormwater. BMPs identify schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs also identify treatment systems, operating procedures, and practices used to control plant site runoff, spillage or leaks, sludge or waste disposal, and drainage from raw material storage. Permittees must ensure that their SWPPP includes the operational and structural source control BMPs listed as “applicable” in the applicable Ecology stormwater management manual.

While Permittees that provide areas at their facilities for individual boat owners and operators to service their own vessels themselves (“do-it-yourselfers” or their independent contractors) may not be held directly responsible for the bad practices of those individuals, Permittees remain liable for the water quality of discharges of stormwater runoff from those do-it-yourself areas.

Therefore, Permittees should require do-it-yourselfers and independent contractors to adhere to the same BMPs as those required for boatyards by the general permit. Do-it-yourselfers and independent contractors who fail to implement all the required or appropriate BMPs must be prohibited from working at the boatyard. The Permittee may document its compliance with this BMP by (1) Maintaining written agreements with those non-boatyard individuals that they will implement all of the mandatory BMPs, and (2) Excluding repeat offenders from its facilities.

The proposed permit includes the following additional Mandatory BMP’s or changes to existing BMP’s:

- 1) The permit now requires that all solvent, paint, and chemical containers be securely closed when not in use. (S3 F. and S3. I)
- 2) The permit now includes specific BMP’s for permittee’s that use a dry dock or graving dock. These BMP’s include thoroughly cleaning the dry dock or graving dock of all contaminants and pressure wash the area into a wastewater collection system prior to flooding the area or discharging stormwater from the dry dock or graving dock.

Operational Source Control BMPs

Operational source control BMPs include a schedule of activities, prohibition of practices, maintenance procedures, employee training, good housekeeping, and other managerial practices to prevent or reduce the pollution of waters of the State. These activities do not require construction of pollution control devices but are very important components of a successful SWPPP. Employee training, for instance, is critical to achieving timely and consistent spill response. Pollution prevention is likely to fail if employees do not understand the importance and objectives of BMPs. Prohibitions might include eliminating outdoor repair work on equipment and certainly would include the elimination of intentional draining of crankcase oil onto the ground. Good housekeeping and maintenance schedules help prevent incidents that could result in the release of pollutants. Operational BMPs are cost-effective methods to control pollutants and protect the environment. The SWPPP must identify all the operational BMPs and how and where they are to be implemented. For example, the SWPPP must identify the subject

matter of applicable training, when training will take place, and who is responsible to assure that employee training occurs.

Structural Source Control BMPs

Structural source control BMPs include physical, structural, or mechanical devices or facilities intended to prevent pollutants from entering stormwater. Examples of structural source control BMPs include erosion control practices, maintenance of stormwater facilities (e.g., cleaning out sediment traps), construction of roofs over storage and working areas, and direction of equipment wash water and similar discharges to the sanitary sewer or a dead end sump.

Structural source control BMPs likely include a capital investment but are cost effective compared to cleaning up pollutants after they have entered stormwater.

Treatment BMPs

Operational and structural source control BMPs are designed to prevent pollutants from entering stormwater. However, even with an aggressive and successful program, stormwater may still require treatment to achieve compliance with water quality standards. Treatment BMPs remove pollutants from stormwater. Examples of treatment BMPs are detention ponds, oil/water separators, biofiltration, and constructed wetlands.

Volume and Flow Control BMPs

Ecology recognizes the need to include specific BMP requirements for stormwater runoff quantity control to protect beneficial water uses, including fish habitat. Controlling the rate and volume of stormwater discharge maintains the health of the watershed. New facilities and existing facilities undergoing redevelopment must implement the requirements for peak runoff rate and volume control identified in the applicable “Stormwater Management Manual for Western [or Eastern] Washington (2019)”. Permittees should identify volume and flow control measures that they can implement over time to reduce the impact of uncontrolled release of stormwater.

Ecology-Approved Stormwater Management Manuals

Consistent with RCW 90.48.555(5) and (6), the reissued permit requires each Permittee to implement BMPs described in the applicable “Stormwater Management Manual for Western [or Eastern] Washington (2019)”, or practices that are demonstrably equivalent to practices contained in stormwater technical manuals approved by Ecology. The SWPPP must document that the BMPs not selected from Ecology-approved manuals provide an equivalent level of pollution prevention, compared to the applicable stormwater management manuals, including the technical basis for the selection of the stormwater BMPs (scientific, technical studies, and/or modeling) which supports the performance claims for the selected BMPs.

PERMIT TERM

Ecology is issuing this permit for a term of 5 years, as allowed by WAC 173-226-220 and 40 CFR 122.46.

ECONOMIC IMPACT ANALYSIS

Ecology's State Waste Discharge General Permit Program rule (WAC 173-226-120) requires an economic impact analysis (EIA) of any draft wastewater general permit intended to directly cover small businesses. The analysis is required to serve the following purposes:

- A brief description of the compliance requirements of the draft general permit.
- The estimated costs for complying with the permit, based on existing data for facilities to be covered under the general permit.
- A comparison, to the greatest extent possible, of the cost of compliance for small businesses with the cost of compliance for the largest ten percent of the facilities to be covered under the general permit.
- A discussion of what mitigation the permit provides to reduce the effect on small businesses (if a disproportionate impact is expected), without compromising the mandated intent of the permit.

RCW 19.85.020(4) defines a small business as any business entity, including a sole proprietorship, corporation, partnership, or other legal entity, that is owned and operated independently from all other businesses, and that has fifty or fewer employees.

In 2010, Ecology deemed the level of performance from multimedia filtration as AKART. The term AKART has been defined as an engineering and economic decision process, which is equivalent to the Federal BCT, BAT determination. (Chapter 4 in Ecology, 2015). Therefore, Ecology combined the EIA with an economic evaluation of AKART and summarized the evaluations in Ecology Publication Number 10-10-018, in April 2010.

The 2015 EIA determined the general permit had a disproportionate impact on small business, but there were no opportunities for mitigation without compromising the mandated intent of the permit.

The 2021 EIA (Ecology, 2021) again determined the general permit had a disproportionate impact on small business, but there were no opportunities for mitigation without compromising the mandated intent of the permit.

INVASIVE SPECIES CONTROL

The permit contains reporting and treatment requirements for Level 1, 2, or 3 prohibited invasive species(Chapter 220-640 WAC) and designated quarantined plant species(Chapter 16-752 WAC). Zebra Mussels(*Dreissena polymorpha*) and Quagga Mussels (*Dreissena rostriformis*

bugensisare) are listed as prohibited level 1 species (WAC 220-640-030) and represent a threat to the biological integrity of Waters of the State. Therefore, the permit contains inspection, reporting, and quarantine requirements to minimize the potential for infestation of zebra mussels, quagga mussels, or other prohibited species.

Zebra mussels and Quagga mussels have spread throughout the Great Lakes and other waterways in several states. Two Canadian provinces believe they were accidentally introduced into Lakes Erie and St. Clair in the 1980s. This introduction has been attributed to a discharge of ballast water from a commercial freighter, but other introductions are known to have come from hull biofouling.

Zebra and Quagga mussels will likely continue to expand their range as naturally flowing water carries their young, known as veligers, downstream. Commercial and recreational vessels and equipment can also spread zebra mussels when they move from infested waters to uninfested waters. Adult mussels may attach to any hard surface and the veligers may be transported in water. Placing items in un-infested waters without following precautions may lead to an accidental introduction of mussels. Any boats or vessels from outside the State of Washington should be carefully examined, and all boats or vessels from east of the Rocky Mountains should be considered infected.

Potential carriers include:

- Boats, trailers and other equipment
- Scientific equipment
- SCUBA and snorkel gear
- Live wells
- Raw water
- Plants and animals

Vessels must be cleaned and drained after used in a water body (RCW 77.135.110).

[Guidance for identifying Zebra and Quagga mussels](https://invasivespecies.wa.gov/priorityspecies/zebra-and-quagga-mussels/)⁹ and cleaning vessels is provided by the [Washington Invasive Species Council](https://invasivespecies.wa.gov/)¹⁰. Additionally, permittee's can call WDFW's Aquatic Invasive Species hotline with any questions at 888-WDFW-AIS.

⁹ <https://invasivespecies.wa.gov/priorityspecies/zebra-and-quagga-mussels/>

¹⁰ <https://invasivespecies.wa.gov/>

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- 1) Peer review is overseen by an independent third party.
- 2) Review is by staff internal to Department of Ecology.
- 3) Review is by persons that are external to and selected by the Department of Ecology.
- 4) Documented open public review process that is not limited to invited organizations or individuals.
- 5) Federal and state statutes.
- 6) Court and hearings board decisions.
- 7) Federal and state administrative rules and regulations.
- 8) Policy and regulatory documents adopted by local governments.
- 9) Data from primary research, monitoring activities, or other sources, but that has not been
- 10) incorporated as part of documents reviewed under other processes.
- 11) Records of best professional judgment of Department of Ecology employees or other
- 12) individuals.
- 13) Sources of information that do not fit into one of the other categories listed.

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40 CFR 122.21: Application for a permit. [7]

40 CFR 122.3: Exclusions. [7]

40 CFR 122.41: Conditions applicable to all permits. [7]

40 CFR 122.44: Establishing limitations, standards, and other permit conditions. [7]

40 CFR 125.3: Technology-based treatment requirements in permits. [7]

40 CFR 131.36: Toxics criteria for those states not complying with Clean Water Act section 303(c)(2)(B). [7]

40 CFR 131.45: Revision of certain Federal water quality criteria applicable to Washington. [7]

40 CFR 136: Guidelines Establishing Test Procedures for the Analysis of Pollutants. [7]

40 CFR 403.5(b): National pretreatment standards: Prohibited discharges.[7]

40 CFR 433: Metal Finishing Point Source Category. [7]

U.S. Environmental Protection Agency. 1978. "Development Document for Shipbuilding and Repair - Draft," EPA 440/1- 70/076-b. [11]

U.S. Environmental Protection Agency. 1991. "Technical Support Document for Water Quality-Based Toxics Control." EPA/505/2-90-001. [7]

U.S. Environmental Protection Agency. 2015. "NPDES Stormwater Multi-Sector General Permit." Federal Register, 80 FR 34403. [7]

REVISED CODE WASHINGTON (RCW)

Chapter 19.85 RCW: Regulatory Fairness Act. [7]

Chapter 43.21C RCW: State environmental policy. [7]

Chapter 77.135 RCW: Invasive Species. [7]

Chapter 90.48 RCW: Water Pollution Control. [7]

Chapter 90.52 RCW: Pollution Disclosure Act of 1971. [7]

Chapter 90.54 RCW: Water Resources Act of 1971. [7]

WASHINGTON ADMINISTRATIVE CODE (WAC)

Chapter 173-50 WAC: Accreditation of environmental laboratories. [5]

Chapter 173-200 WAC: Water quality criteria for groundwaters, bases for effluent limits, and other requirements. [5]

Chapter 173-201A WAC: Water quality criteria for surface waters, bases for effluent limits, and other requirements. [5]

Chapter 173-204 WAC: Sediment management standards, bases for effluent limits, and other requirements. [5]

Chapter 173-205 WAC: Whole effluent toxicity testing and limits. [5]

Chapter 173-216 WAC: State waste discharge permit program. [5]

Chapter 173-220 WAC: Procedures for NPDES permits. [5]

Chapter 173-224 WAC: Determination and payment of fees. [5]

Chapter 173-226 WAC: Procedures for issuing and administering NPDES general permits. [5]

Chapter 173-240 WAC: Plans and reports for construction of wastewater facilities. [5]

Chapter 173-303 WAC: Dangerous Waste Regulations. [5]

Chapter 197-11-855 WAC: SEPA rules. [5]

Chapter 220-640 WAC: Invasive/Nonnative Species. [5]

Chapter 371-08 WAC: Environmental and Land Use Hearings Office (Pollution Control Hearings Board). [5]

Table 1: Facilities Currently Covered under this Permit

Facility Name	Permit Number	Receiving Waterbody (specific to general)	Waterbody Type
2440 West Commodore, LLC	WAG031055	Salmon Bay, Lake Washington Ship Canal	Fresh
Albert Jensen & Sons, Inc.	WAG994386	Friday Harbor, San Juan Channel	Marine
Bremerton Yacht Club	WAG030011	Phinney Bay, Dyes Inlet, Port Washington Narrows	Marine
Cap Sante Marine South Yard	WAG030022	Fidalgo Bay	Marine
CI McNeil Island Stewardship	WAG031038	Balch Passage, Puget Sound (South)	Marine
CSR Marine East - Shilshole; Seaview East Boatyard	WAG031052	Salmon Bay, Lake Washington Ship Canal	Fresh
CSR Marine South	WAG030009	Puget Sound (Central)	Marine
Dagmars Marina	WAG030059	Snohomish River, Possession Sound (North), Puget Sound	Fresh
Deer Harbor Boatworks	WAG030103	N/A	N/A
Delta Marine Industries, Inc.	WAG030091	Duwamish Waterway	Fresh
Endor Marine, LLC	WAG030047	Salmon Bay, Lake Washington Ship Canal	Fresh
Gig Harbor Boat Yard, Inc.	WAG031009	Gig Harbor, Colvos Passage, Puget Sound	Marine
Hilton Harbor Marina	WAG030024	I and J Street Waterway, Bellingham Bay (Inner)	Marine
Howard Moe Enterprises	WAG031048	Hoquiam River, Grays Harbor (Inner)	Fresh
Hylebos Marina	WAG031020	Hylebos Waterway, Commencement Bay (Inner)	Marine
Islands Marine Center	WAG030072	Fisherman Bay, San Juan Channel	Marine
Kitsap Marine Industries, Inc.	WAG030027	Sinclair Inlet	Marine
La Conner Maritime Services	WAG030074	Swinomish Channel, Padilla Bay, Skagit Bay	Marine
Landings At Colony Wharf	WAG030006	Whatcom Creek Waterway, Bellingham Bay	Marine

Facility Name	Permit Number	Receiving Waterbody (specific to general)	Waterbody Type
Lyles Boats and Motors	WAG994443	Wenatchee River	Fresh
Marine Servicenter	WAG030095	Flounder Bay, Burrows Bay, Rosario Strait	Marine
Marine Services & Assist	WAG030083	Cornet Bay, Puget Sound	Marine
Mariners Haven	WAG030070	Oak Harbor, Saratoga Passage, Skagit Bay	Marine
Modutech Marine, Inc.	WAG031016	Hylebos Waterway, Commencement Bay (Inner)	Marine
Nordlund Boat Company, Inc.	WAG031025	Upper Turning Basin, Hylebos Waterway, Commencement Bay (Inner)	Marine
North Harbor Diesel, Inc.	WAG030123	Fidalgo Bay, Guemes Channel, Rosario Strait	Marine
North Island Boat Company	WAG030139	Flounder Bay, Burrows Bay, Rosario Strait	Marine
North Lake Marina	WAG030014	Lake Washington	Fresh
Northern Marine Industries, Inc.	WAG030135	Salmon Bay, Lake Washington Ship Canal	Fresh
On-Board Marine Services LLC	WAG030053	Semiahmoo Bay, Strait of Georgia	Marine
Pacific Coast Yachting Services	WAG031053	Lake Union, Lake Washington Ship Canal	Fresh
Pacific Marine Center	WAG994368	Fidalgo Bay	Marine
Platypus Marine, Inc.	WAG031047	Port Angeles Harbor, Strait of Juan de Fuca (Central)	Marine
Point Roberts Resort, LP	WAG030037	Strait of Georgia	Marine
Port of Edmonds	WAG030034	Puget Sound (North Central)	Marine
Port of Everett Marina West	WAG030131	Possession Sound (North), Puget Sound	Marine
Port of Ilwaco Boatyard & Marina	WAG031017	Baker Bay, Columbia River	Fresh
Port of Port Angeles Boatyard	WAG031027	Port Angeles Harbor, Strait of Juan de Fuca (Central)	Marine
Port of Port Townsend	WAG031006	Port Townsend Bay, Admiralty Inlet, Puget Sound (North)	Marine

Facility Name	Permit Number	Receiving Waterbody (specific to general)	Waterbody Type
Reed Brothers Shipyard	WAG030038	Reads Bay, Lopez Sound, Rosario Strait	Marine
Roche Harbor Marine, Inc.	WAG994262	Roche Harbor, Haro Strait	Marine
Sea Marine	WAG031003	Admiralty Inlet, Puget Sound (North)	Marine
Seattle Mobile Marine Fisherman's Terminal	WAG994251	Salmon Bay, Lake Washington Ship Canal	Fresh
Seattle Yachts	WAG031051	Fidalgo Bay	Marine
Seaview Boatyard, Inc. North	WAG030118	Squalicum Harbor, Bellingham Bay (Inner)	Marine
Seaview Boatyard, Inc. West	WAG030043	Shilshole Bay, Puget Sound (Central)	Marine
Seaview Yacht Service Fairhaven	WAG030137	Bellingham Bay (Inner)	Marine
Shelton Yacht Club	WAG031010	Oakland Bay	Marine
Skyline Marina	WAG030039	Flounder Bay, Burrows Bay, Rosario Strait, Strait of Georgia	Marine
South Bend Boat, LLC	WAG031000	Willapa River	Fresh
South Park Marina	WAG030045	Duwamish Waterway	Fresh
Suldans Boat Works, Inc.	WAG030046	Sinclair Inlet	Marine
Sundance Yacht Sales	WAG030119	Semiahmoo Bay, Strait of Georgia	Marine
Swantown Boatyard	WAG031043	East Bay, Budd Inlet, Puget Sound	Marine
Swegle Boatworks	WAG031042	Willapa River	Fresh
Tacoma Marine Services	WAG031026	Thea Foss Waterway, Commencement Bay, Puget Sound	Marine
The Shipyard, LLC	WAG031039	Hoquiam River	Fresh
Union Marine	WAG030025	Lake Union	Fresh
West Sound Marina, Inc.	WAG030054	West Sound	Marine
Yacht Performance Center	WAG030106	Portage Bay, Lake Union / Lake Washington Ship Canal	Fresh

Facility Name	Permit Number	Receiving Waterbody (specific to general)	Waterbody Type
Yacht Fish Marine	WAG030076	Lake Union	Marine
Yachtfish Marine Port Orchard	WAG030016	Sinclair Inlet	Fresh
Zittels	WAG031012	Baird Cove, Nisqually Reach, Puget Sound	Marine

Table 2: Characteristics of Untreated Boatyard Pressure-Washing Wastewater (1992)

Parameter	Average Concentration	Greatest Reported Value or Range
Arsenic ($\mu\text{g/L}$)	80	100
Copper ($\mu\text{g/L}$)	55,000	190,000
Lead ($\mu\text{g/L}$)	1,700	14,000
Tin ($\mu\text{g/L}$)	490	1,400
Zinc ($\mu\text{g/L}$)	6,000	22,000
Oil and grease (mg/L)	None visible	None visible
pH (S.U.)	7.2	6.7 to 8.2
Total Suspended Solids (mg/L)	800	3,100
Turbidity (NTU)	469	1,700

The source of these data was the study conducted by METRO (1992).

$\mu\text{g/L}$ = Micrograms per liter. mg/L = Milligrams per liter.

NTU = Nephelometric turbidity units.

S.U. = Standard units.

Table 3: Summary of Pressure-Washing Wastewater Monitoring Data for the Boatyard General Permit, 2016 through 2020

	Copper (Lim=2.4)	Lead (Lim=1.2)	Zinc (Lim=3.3)	pH (5.0-11.0)
Number of Permittees with Monitoring Data	10	10	10	10
Number of Values	206	188	202	173
Median of Values (mg/L or S.U.)	0.35	0.003	0.089	8.1
Average of (mg/L or S.U.)	18.21	0.14	3.61	NA
Number of pH Values Greater than 9.0	---	---	---	35
Number of pH Values less than 5.0	---	---	---	1

Lim = Discharge Limit.

mg/L = Milligrams per liter.

S.U. = Standard units. NA = Not applicable.

Table 4: Selected Statistics for Pollutants in Stormwater Runoff from Boatyards Reported in Discharge Monitoring Reports

Monitoring Period Date Range (Notes)	Parameter	Number of Results	Average (ug/L)	Median (ug/L)	Maximum (ug/L)
1998 - 2002	Total Copper	na	na	410	na
2006 - 2008 (Excluding all values <1.0)	Total Copper	381	492	110	29,100
2006 - 2008	Oil & Grease	200	4,710	5,000	31,000
2006 - 2008	TSS	403	26,400	10,000	1,200,000
2008 - 2010 (Only boatyards without treatment)	Total Copper	239	192	72	5,650
2008 - 2010	Total Lead	133	20.6	4.0	550
2008 - 2010	Total Zinc	206	344	140	6,000
2011 - 2014	Total Copper	844	143	31.1	5,770
2011 - 2014	Total Lead	816	10.9	1.0	1,045
2011 - 2014 (Fresh waters only)	Total Lead	167	11.6	1.0	806
2011 - 2014	Total Zinc	845	157	49.0	5,100
2016 - 2020	Total Copper	1059	121.2	29.1	31,917
2016 - 2020	Total Lead	101	14.2	1.1	494
2016 - 2020	Total Zinc	1053	132.3	25.2	28,648

na = Data are not available.

ug/L = Micrograms per liter.

TSS = Total suspended solids.

Table 5: Toxic Pollutants in Stormwater Runoff - Selected Boatyards, April & May 2006

Parameter (ug/L)	Water Quality Criteria (fresh water / marine)	Swantown (marine)	Swantown (marine)	Port Townsend (marine)	Seaview (fresh water)
		04/08/06	04/13/06	05/23/06	04/08/06
1-Methylnaphthalene	na	0.06 U	2.9	0.06 U	0.19
2,4-Dimethylphenol	(380 / 850)	0.16	3	0.06 U	1.1
2-Methylnaphthalene	na	0.06 U	3.3	0.06 U	0.27
2-Methylphenol	na	0.19	0.54	0.07	1
2-Nitrophenol	na	0.25 J	0.25 U	0.26 U	0.26 U
4,6-Dinitro-2-methylphenol	na	0.59 J	0.63 U	0.64 U	0.64 U
4-Chloro-3-methylphenol	na	0.12 U	0.13 U	8.4	0.13 U
4-Methylphenol	na	0.85	0.06 U	1.2	3.1
Acenaphthene	(670 / 990)	0.06 U	0.11	0.06 U	0.22
Acenaphthylene	na	0.06 U	3.9	0.06 U	0.42
Anthracene	(9,600 / 110,000)	0.06 U	0.07	0.06 U	0.58
Benzo(a)anthracene	(0.0028 / 0.031)	0.06 U	0.05 J	0.14	0.24
Benzo(a)pyrene	(0.0028 / 0.031)	0.06 U	0.06 U	0.04 J	0.26
Benzo(b)fluoranthene	(0.0028 / 0.031)	0.06 U	0.05 J	0.2	0.39
Benzo(g,h,i)perylene	na	0.06 U	0.08	0.06 J	0.16
Benzo(k)fluoranthene	(0.0028 / 0.031)	0.06 U	0.07	0.15	0.4
Benzoic acid	na	5.8	1.3 U	0.74 J	1.3 U
Benzyl alcohol	na	0.64	0.13 U	0.13 UJ	4.5
bis(2-Ethylhexyl) phthalate	(1.8 / 5.9)	2.8	1.3 UJ	2.1	15
Butylbenzylphthalate	na	0.39	0.14	0.03 J	2.1
Caffeine	na	2.7	0.61	0.46	15
Carbazole	na	0.06 UJ	0.06 UJ	0.06 UJ	1.2 J
Chrysene	(0.0028 / 0.031)	0.07 J	0.08	0.26	0.82
Dibenzofuran	na	0.06 U	0.08	0.06 U	0.29
Diethylphthalate	na	0.28 J	0.05 J	0.09 J	1.2
Dimethylphthalate	(313,000 / 2,900,000)	1	0.22	0.68	13 E
di-N-Butylphthalate	na	2.6	0.54	0.16 J	4.3
Fluoranthene	(300 / 370)	0.12	0.35	0.42	2.4
Fluorene	(1,300 / 1,400)	0.06 U	0.29	0.06 U	0.33
Indeno(1,2,3-cd)pyrene	(0.0028 / 0.031)	0.06 U	0.06 U	0.05 J	0.12
Isophorone	(8.4 / 600)	0.06 U	0.06 U	0.06 U	0.35
Naphthalene	na	0.06 U	2.6	0.06 U	0.32
Phenanthrene	na	0.13	0.12	0.15	2.1
Phenol	(21,000 / 4,600,000)	0.84	0.55	0.29	4.6
Pyrene	(960 / 11,000)	0.1	0.63	0.38 J	1.3
Retene	na	0.08	0.06 U	0.06 U	0.58

The source of these data was the study conducted by Ecology in 2006 (Ecology Pub. No. 06-03-041).

E = Exceeds calibration range.

J = Estimated concentration. na = None available.

U = Not detected at or above the reported value.

UJ = Not detected at or above the reported estimated value.

Table 6: Organotin in Stormwater Runoff from Selected Boatyards, April and May 2006

Parameter (ug/L)	Water Quality Criteria (freshwater / marine)	Swantown (marine)	Swantown (marine)	Swantown (marine)	Port Townsend (marine)	Port Townsend (marine)	Port Townsend (marine)
		04/08/06	04/13/06	05/31/06	05/23/06	04/08/06	05/23/06
Dibutyltin	na	0.041 J	0.002 UJ	0.033 J	0.010	0.064 J	0.10
Monobutyltin	na	0.001 UJ	0.001 UJ	0.012 J	0.006 J	0.001 UJ	0.014
Tributyltin	(0.460 / 0.37)	0.22	0.13	0.010 J	0.18 J	6.0	0.36

The source of these data was the study conducted by Ecology in 2006 (Ecology Pub. No. 06-03-041).

J = Estimated concentration. na = None available

UJ = Not detected at or above the reported estimated value.

APPENDIX A - ACRONYMS AND UNITS OF MEASURE

Table 7: Acronyms

Acronym	Meaning
AKART	All known, available, and reasonable methods of prevention, control, and treatment
BAT	Best available technology economically achievable
BCT	Best conventional pollutant control technology
BMP	Best management practice
BPT	Best practicable control technology currently available
CFR	Code of Federal Regulations
CWA	Clean Water Act
DMR	Discharge monitoring report
Ecology	Washington State Department of Ecology
EIA	Economic Impact Analysis
EPA	Environmental Protection Agency
METRO	Municipality of Metropolitan Seattle
MSD	Marine sanitation device
NAICS	North American Industry Classification System
NMTA	Northwest Marine Trade Association
NPDES	National Pollutant Discharge Elimination System
PCHB	Pollution Control Hearings Board
POTW	Publicly-owned treatment works
PSA	Puget Soundkeeper Alliance
RCW	Revised Code of Washington State
SEPA	State Environmental Policy Act, RCW 43.21C
SIC	Standard Industrial Classification
SWPPP	Stormwater pollution prevention plan
TMDL	Total maximum daily load
TSD	Technical Support Document
TSS	Total suspended solids
WAC	Washington Administrative Code
WLA	Wasteload allocation

Table 8: Units of Measure

Unit of Measure	Meaning
cfm	Cubic feet per minute
Degree F	Degree Fahrenheit
mg/L	Milligrams per liter
µg/L	Micrograms per liter
S.U.	Standard units

APPENDIX B - LEGAL BASES FOR BOATYARD PERMIT CONDITIONS

Ecology bases the terms and conditions of its NPDES general permits on State and Federal law and regulations. The summary below identifies each of the conditions in the boatyard general permit, describes their content, and cites the laws and regulations upon which they are based.

Special Condition S1 Permit Coverage Required

Identifies the activities, discharges, and facilities that require coverage by the permit; the discharges that are authorized or conditionally authorized under the permit; the geographic area covered by the permit; discharges and facilities excluded from coverage under the permit; and conditions and requirements for permit modification.

40 CFR 122.26 (g)

40 CFR Part 122.41 (f)

RCW 90.48.195

WAC 173-226-050 (2), (3), and (4)

WAC 173-226-070 (1) (d)

WAC 173-226-080 (1) (a), (d), and (j) WAC 173-226-100 (2)

WAC 173-226-130 (5)

Special Condition S2 Discharge Limits

Identifies the standards and requirements for compliance with the permit, including discharge limits and other requirements for impaired waterbodies.

40 CFR Part 125.3

40 CFR Part 403

Chapter 173-201A WAC

WAC 173-226-070 (1), (2), (3), and (6) (a) and (c)

Chapter 173-303 WAC

Special Condition S3 Mandatory Best Management Practices

Identifies requirements for facility operation and maintenance, including operational restrictions that support compliance with the permit. This condition describes the 13 mandatory BMPs that are required at permitted boatyards for demonstrating that those boatyards have complied with AKART. These BMPs address the use of vacuum sanders, tidal grids, and paints and solvents; in-water maintenance and repair of vessels; management of solid residues, sacrificial anodes, chemicals, oils, and bilge water; decontamination of washing pads; discharge of sewage and gray water; and oversight of do-it-yourselfers.

40 CFR Part 122.2

40 CFR Part 122.41 (e)

RCW 90.48.555 (5) and (6) WAC 173-201A-110

WAC 173-226-070 (1) (d) and (3) (d)

Special Condition S4 Compliance with Water Quality Standards

Identifies the applicable State standards for compliance with the permit, including those for surface and groundwater quality and sediment management.

40 CFR Part 131.36

RCW 90.48.010

Chapter 173-200 WAC Chapter 173-201A WAC Chapter 173-204 WAC

Special Condition S5 Non-Stormwater Miscellaneous Discharges

Identifies those non-stormwater discharges conditionally approved and the requirements for that approval.

WAC 173-226-070 (1) (d)

WAC 173-226-100 (2)

Special Condition S6 Monitoring Requirements

Identifies the required sampling and analytical procedures for monitoring the characteristics and toxicity of discharges; and requirements for effectiveness monitoring, visual inspections, and operational recordkeeping.

40 CFR Part 122.22

40 CFR Part 122.41 (j) (1) and (4)

40 CFR Part 136

Chapter 173-50 WAC

Chapter 173-205 WAC

WAC 173-226-090 (1) (a), (b), (c), (d), and (e); (4); and (5)

Special Condition S7 Response to Monitoring Results that Exceed Benchmarks

Identifies the required reporting and corrective actions to respond to benchmark exceedances.

40 CFR Part 122.41 (e) and (l) (5)

WAC 173-226-070

WAC 173-226-080 (1) (i) and (4)

Special Condition S8 Stormwater Pollution Prevention Plan

Identifies the requirement for and elements of a facility-specific stormwater pollution prevention

plan.

40 CFR Part 122.26 (b) (14)

40 CFR Part 122.44 (k) and (s) 40 CFR Part 125.3

Chapter 90.48 RCW

WAC 173-226-070

Special Condition S9 Deconstruction and Site Management Plan

Identifies the requirement for and elements of a project specific Deconstruction and Site Management Plan .

40 CFR Part 122.26 (b) (14)

40 CFR Part 122.44 (k) and (s) 40 CFR Part 125.3

Chapter 90.48 RCW

WAC 173-226-070

Special Condition S10 Reporting and Recordkeeping Requirements

Identifies the results that the Permittee must record; the requirements for engineering documentation, notification and posting, reporting, records retention, public access to information, coordination of inspections, and other reporting.

40 CFR Part 122.41(j) (2) and (3); (k); and (l) (1), (2), (4), (5), (6), and (7)

WAC 173-226-080 (1) (b) and (4)

WAC 173-226-090 (2) and (3) (a) and (b)

WAC 173-226-180 (4)

WAC 173-226-200 (3) (d)

Special Condition S11 Bypass

Identifies the types of permitted bypasses, the procedures that permittees must follow to maintain compliance with this permit, and Ecology's possible responses to a bypass event.

40 CFR Part 122.41 (m)

RCW 90.48.120 WAC 173-201A-410

Special Condition S12 Solid Waste Management

Identifies the requirement for the permittee to properly manage solid wastes and prevent the release of leachate.

WAC 173-226-070 (3) (d)

WAC 173-226-100

Special Condition S13 Reporting for Zebra Mussel Control

Identifies notification, quarantine, and pump-out requirements for vessels carrying zebra mussels.

Chapter 77 RCW

WAC 77.135

Special Condition S14 Termination of Coverage under This Permit

Explains the process and requirements for a permittee to obtain approval from Ecology for terminating its coverage under this permit.

40 CFR Part 122.41 (f)

RCW 90.48.190

RCW 90.48.195

WAC 173-226-080 (3)

WAC 173-226-180 (5)

WAC 173-226-230 (1)

WAC 173-226-240

General Condition G1 Discharge Violations

Identifies the requirement that discharges and activities must comply with the terms and conditions of the permit.

WAC 173-226-080 (a), (d), and (j)

General Condition G2 Proper Operation and Maintenance

Identifies and expands on the requirement for proper operation and maintenance of treatment and control facilities.

40 CFR Part 122.41 (e)

WAC 173-226-080 (1) (i)

General Condition G3 Right of Entry

Identifies Ecology's right to enter the permittee's property to inspect, collect samples, and review documents.

40 CFR Part 122.41 (i)

RCW 90.48.090

WAC 173-226-080 (1) (h)

WAC 173-226-250 (2)

General Condition G4 Permit Coverage Revoked

Identifies the conditions when Ecology may revoke coverage under the permit.

40 CFR Part 122.41 (f)

Chapter 43.21B RCW RCW 90.48.090

RCW 90.48.190

RCW 90.48.465

Chapter 173-224 WAC

WAC 173-226-130 (5)

WAC 173-226-240

General Condition G5 General Permit Modification and Revocation

Identifies the conditions when the permit may be modified or revoked.

40 CFR Part 122.41 (f)

RCW 90.48.190

RCW 90.48.195

Chapter 173-226 WAC

General Condition G6 Reporting a Cause for Modification

Identifies the conditions when the permit modification may be required and Ecology's subsequent requirement for a new application for coverage from the permittee.

40 CFR Part 122.41 (f), and (l) (1)

40 CFR Part 122.62

WAC 173-220-150 (1) (b)

WAC 173-226-080 (1) (a), (b), and (d)

General Condition G7 Toxic Pollutants

Identifies requirements for compliance with the Clean Water Act.

CWA Section 307(a) WAC 173-226-070

General Condition G8 Other Requirements of 40 CFR

Incorporates other requirements from Federal regulations.

40 CFR Part 122.41

40 CFR Part 122.42

General Condition G9 Compliance with Other Laws and Statutes

Identifies the requirement for the permittee to comply with other applicable statutes, ordinances, and regulations.

40 CFR Part 122.41

40 CFR Part 122.42

WAC 173-226-070 (3) and (5)

General Condition G10 Additional Monitoring

Identifies the possibility that Ecology may assign additional monitoring requirements.

CWA Section 308

40 CFR Part 122.41 (h)

General Condition G11 Payment of Fees

Identifies the requirement for the permittee to pay fees and Ecology's ability to take actions if fees are not paid.

RCW 90.48.160

RCW 90.48.465

Chapter 173-224 WAC

WAC 173-220-150 (1) (d) (viii)

General Condition G12 Removed Substances

Prohibits the discharge of pollutants removed during treatment.

40 CFR Part 125.3 (g)

RCW 90.48.010

RCW 90.48.080

WAC 173-220-130 (a)

General Condition G13 Requests to be Excluded from Coverage under a General Permit

Identifies how the permittee may be excluded from coverage under this general permit.

WAC 173-216-070

WAC 173-220-040

WAC 173-226-080 (3) and (4)

WAC 173-226-200 (7)

WAC 173-226-240 (4)

General Condition G14 Transfer of Permit Coverage

Identifies how the permittee might transfer permit coverage to another party.

40 CFR Part 122.41 (l) (3)

40 CFR Part 122.61

40 CFR Part 122.63 (d)

WAC 173-226-210

General Condition G15 Duty to Reapply

Identifies the requirement for the permittee to reapply for permit coverage before the current coverage expires.

CWA Section 301

40 CFR Part 122.21 (d)

40 CFR Part 122.41 (b)

RCW 90.48.170

WAC 173-226-080 (2)

WAC 173-226-200 (1), (3), and (4)

WAC 173-226-220 (2)

General Condition G16 Penalties for Violating Permit Conditions

Identifies penalties for violating the terms and conditions of the permit.

40 CFR Part 122.41 (a) (2) and (3)

RCW 90.48.140

RCW 90.48.144

WAC 173-226-250 (3), (4), and (5)

General Condition G17 Signatory Requirements

Identifies the requirements for who must sign and certify applications, reports, and other information provided to Ecology.

40 CFR Part 122.22

40 CFR Part 122.41 (k)

WAC 173-226-090 (3) (b)

WAC 173-226-200 (3) (d)

General Condition G18 Appeals

Identifies the types and methods of appealing the permit and its applicability to particular facilities.

RCW 43.21(B) WAC 173-226 190

General Condition G19 Severability

Identifies the effect of invalidation of particular terms of the permit.

RCW 90.48.904

General Condition G20 Reporting Other Information

Identifies the requirement for informing Ecology of new or corrected information.

40 CFR Part 122.41(h) and (l) (8)

General Condition G21 Duty to Comply

Identifies the requirement for the permittee to comply with all conditions of this permit, or face possible penalties for violating the Clean Water Act.

40 CFR Part 122.41 (a) and (l) (8)

APPENDIX C - PUBLIC INVOLVEMENT INFORMATION

The Washington State Department of Ecology (Ecology) proposes to reissue the Boatyard National Pollutant Discharge Elimination System and State Waste Discharge General Permit (permit). The current permit was issued on July 6, 2016, and is scheduled to expire at the end of July 2021. The draft permit and accompanying fact sheet, which explains the technical basis for the permit, are available for review and public comment from **Wednesday, March 3, 2021, through Friday, April 16, 2021, at 11:59 pm**. Ecology will host two public workshops and public hearings on the draft permit.

Purpose of the Permit

The statewide permit provides coverage for boatyards that discharge stormwater runoff from areas with industrial activity directly to the ground, to a surface waterbody, or to a storm sewer system that drains to a surface waterbody. This general permit also regulates process wastewater from pressure washing in boatyards, unless the wastewater is discharged to a municipal sanitary sewer operated by a sewer authority (POTW) with a delegated pretreatment program. Under Federal and State water quality laws (Federal Clean Water Act and State Water Pollution Control Act), a permit is required for the discharge of stormwater or wastewater from these facilities.

Copies of the Draft Permit and Fact Sheet

The draft permit and fact sheet will be available online at Ecology's [Boatyard General Permit webpage](#)¹¹ by end of day on March 3, 2021. You may also request physical copies from Matthew Tietjen at matthew.tietjen@ecy.wa.gov or (360) 407-6401.

Ecology Contact

James Hovis

WA State Department of Ecology

P.O. Box 47696

Olympia, WA 98504-7696

Telephone: (564) 999-3244

Email: james.hovis@ecy.wa.gov

Assistance for Persons with Disabilities

To request ADA accommodation for disabilities, call Ecology at 360-407-7285 or visit [Ecology's ADA Accessibility web page](#)¹². People with impaired hearing may call Washington Relay Service at 711. People with speech disability may call TTY at 877-833-6341.

En Español

Para información en español, por favor comuníquese con Gustavo Ordóñez al (360) 407-6619.

Submitting Written Comments

Ecology will accept written comments on the draft permit and fact sheet from **March 3, 2021, through April 16, 2021 by 11:59 pm**. Ecology prefers online comment submission via the eComment

¹¹ <https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Boatyard-general-permit>

¹² <https://ecology.wa.gov/About-us/Accessibility-equity/Accessibility>

form (link below) on the permit webpage. Written comments by mail must be postmarked by **April 16, 2021**. Comments should reference specific permit text when possible.

[Online eComment form](#)¹³ (preferred)

By mail (See address information above)

Public Workshops and Hearings

The purpose of the workshop is to explain the general permit and to answer questions prior to the formal public hearing. The purpose of the hearing is to provide an opportunity for people to give formal oral testimony and written comments on the proposed draft permit. Oral testimony will receive the same consideration as written comments.

The public hearing will begin immediately following the public workshop and will conclude when public testimony is complete.

The Boatyard General Permit hearings will occur at the following dates and times:

Evening: Monday, April 12, 2021,

5:00 pm

Webinar

[Join the Webinar](#)^{14*}

Morning: Tuesday, April 13, 2021,

10:00 am

Webinar

[Join the Webinar](#)^{15*}

*Workshops and hearings offered via webinar allow individuals to view the presentation and provide testimony via computer or mobile device. *Ecology is not currently offering in-person hearings due to COVID-19 safety concerns.*

Issuing the Permit

After Ecology receives and considers all public comments, we will make a final decision on permit issuance. Ecology expects to make a decision on the general permit in **June 2021**. If you have questions, please contact James Hovis, Boatyard General Permit Writer, at james.hovis@ecy.wa.gov or (360) 407-6588.

The response to comments will also be posted on [Ecology's boatyard webpage](#)¹⁶.

Right to Appeal

Permittees and the public have a right to appeal this permit to the Pollution Control Hearings Board (PCHB) within 30 days of the date of issuance of the final permit. The appeal process is governed by

¹³ <http://wq.ecology.commentinput.com/?id=MYQsb>

¹⁴ <https://watech.webex.com/watech/onstage/g.php?MTID=ed53ef308d59f82ad60b67d9adb2ab3db>

¹⁵ <https://watech.webex.com/watech/onstage/g.php?MTID=e462a6dcadec11f6d91f96fdf2bd53d6f>

¹⁶ <https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Boatyard-general-permit>

Chapter 43.21B RCW and Chapter 371-08 WAC.

To appeal you must do the following within 30 days of the date of issuance of this permit:

- File your appeal and a copy of this permit with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this permit on Ecology in paper form by mail or in person (see addresses below). Email is not accepted.

Appealing parties must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

Street Addresses

Department of Ecology

Attn: Appeals Processing Desk 300
Desmond Drive SE
Lacey, WA 98503

Pollution Control Hearings Board

1111 Israel Road SW
Suite 301
Tumwater, WA 98501

Mailing Addresses

Department of Ecology

Attn: Appeals Processing Desk
P.O. Box 47608
Olympia, WA 98504-7608

Pollution Control Hearings Board

P.O. Box 40903
Olympia, WA 98504-0903

APPENDIX D - RESPONSES TO COMMENTS

This Response to Comments addresses comments received on the formal draft of the Boatyard General Permit and addresses changes made to the formal draft based upon comments received. It is included as Appendix D to the Fact Sheet for the Boatyard General Permit and will be published as a separate document on the permit webpage. The public comment period for this permit began on March 3, 2021 and lasted until 11:59 p.m. of April 16, 2021, as noted in Appendix C.

Look for the Response to Comments document on the [Boatyard General Permit webpage](#)¹⁷.

¹⁷ <https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Boatyard-general-permit>