WAC 220-660-140 Residential and public recreational docks, piers, ramps, floats, watercraft lifts, and buoys in freshwater areas. The requirements in this section apply to location, design, and construction of permanent and seasonal docks, piers, ramps (gangways), floats, watercraft lifts, and mooring buoys.

(1) **Description:** Docks are structures that are fixed to the shoreline but floating upon the water. Piers are fixed, piling-supported structures. Floats (rafts) are floating structures that are moored, anchored, or otherwise secured in the water that are not directly connected to the shoreline. A ramp is a structure that connects a pier or shoreline to a float and provides access between the two. Pilings usually associated with these structures are timber, steel, reinforced concrete, or composite posts that are driven, jacked, or cast vertically into the bed. A watercraft lift is a structure that lifts boats and personal watercraft out of the water. A mooring buoy is a structure floating on the surface of the water that is used for private and commercial vessel moorage.

(2) **Fish life concerns:**

(a) Over-water and in-water structures can alter physical processes that create or maintain habitat that supports fish life. These processes include light regime, hydrology, substrate conditions, and water quality. However, light reduction is a main impact to fish life at critical life stages. Light reduction, or shading, by over-water or in-water structures reduces survival of aquatic plants. Aquatic plants provide food, breeding areas, and protective nurseries for fish life.

(b) Shallow water provides juvenile fish a refuge from predators like larger fish. Over-water and in-water structures can alter movement of juvenile salmon, steelhead, and other fish species. Structures grounding on the bed can physically block migration and cause other impacts. The light/dark contrast of shading/no shading of over-water and in-water structures can affect migration behavior. Fish respond by moving into deeper water which increases the risk of predation. These structures may increase the exposure of juvenile salmon, steelhead, and other small fish to predators by providing predator habitat.

(3) **Residential and public recreational dock, pier, ramp, float, watercraft lift and buoy design - General:**

(a) The design and location of structures must follow the mitigation sequence to protect freshwater habitats of special concern.

(b) Design and locate structures to protect fish spawning areas.

(c) Design and locate structures to protect juvenile salmonid migration, feeding, and rearing areas where shading impacts are a concern.

(i) Limit the width of residential piers and docks to six feet wide for the first 30 feet from the shoreline (measured from mean low water). Limit the width of recreational piers to the minimum width needed to accommodate the intended use.

(A) In certain river systems alternative residential pier and dock criteria may apply.

(B) For the Columbia River, limit the width of residential piers and docks to six feet wide for the first 50 feet from the shoreline. Docks must have 20 feet of water depth below them (both criteria measured at mean low water).

(ii) Piers must extend far enough from the shoreline so floats do not impact juvenile salmonid migration, feeding, and rearing areas. Grounding of floats is approved in reservoirs and impoundments only at times of the year when the water level is dropped.

(iii) The underside of pier must be at least one and one-half feet above the OHWL elevation unless prohibited by local land use regulations.

(iv) The department will require residential pier, dock, ramp and float designs to include grating. The department may require public recreational pier, dock, ramp and float designs to include grating.

(A) North/south oriented piers (338 to 22 degrees, or 158 to 202 degrees) greater than four feet in width must have at least 30 percent of the entire deck surface covered in functional grating. The grating must be installed parallel to the length of the pier for the entire length of the pier.

(B) Northeast/southwest, northwest/southeast and east/west oriented piers (23 to 157 degrees, 203 to 337 degrees) must have at least 50 percent of the entire deck surface covered in functional grating regardless of width. The grating must be installed parallel to the width of the pier, evenly spaced along the entire length of the pier.

(C) In water bodies with a high density of piers and docks, the department may require that grating cover entire deck surface of the pier or dock.

(D) Limit the width of residential ramps to four feet wide. Limit the width of public recreational ramps to the minimum width needed to accommodate the intended use. Cover the entire ramp surface with grating.

(E) A dock or float six feet wide or narrower must have at least 30 percent of the deck surface covered in functional grating. A dock or float wider than six feet (up to eight feet wide) must have at least 50 percent of the deck surface covered in functional grating. The grating material's open area must be at least 60 percent. In some water bodies the department may require a higher proportion of grating. Locate flotation under the solid decked area only. Orient grating so the lengthwise opening maximizes the amount of light penetration. Any objects that are not part of the structure on, above, or below the grating should not block light penetration.

(F) If only the minimum deck surface area described in (c)(iv) of this subsection is grated, the grating material's open area must be at least 60 percent unless the grating covers more than the minimum deck area. If the grating covers more than the minimum deck surface area, the grating material's open area can be reduced to at least 40 percent open area.

(d) If artificial nighttime lighting is used in the design, use low-intensity lights that are located and shielded to prevent light from attracting fish, unless there are safety constraints.

(e) Flotation for the structure must be fully enclosed and contained in a shell. Flotation containing expanded or extruded plastic foam must be enclosed in a shell made of plastic with a minimum thickness of 0.15 inches, concrete, aluminum, or steel. The shell must prevent breakup or loss of the flotation material into the water. The shell must not be readily subject to damage by ultraviolet radiation and abrasion.

(f) The design must not include skirting including batter fencing constructed around piers, docks, or floats unless approved by the department.

(g) Embedded anchor(s) or other approved anchor(s) or piling may hold floats in place.

(h) The design should not use treated wood for the decking of the structure. The design may use treated wood for structural elements. Treated wood structural elements subject to abrasion by vessels,

floats, or other objects must incorporate design features to minimize abrasion of the wood.

(i) The structure must have been usable at the site within the 12 months immediately before the time of application submittal to be considered a replacement structure. Usable means no major deterioration or section loss in critical structural components is present.

(j) Replacement of more than 33 percent or 250 square feet of decking or replacement of decking substructure requires installation of functional grating in the replaced portion only. The grating must conform to the requirements in this section.

(4) **Piling design:**

(a) Use the smallest diameter and number of pilings required to construct a safe structure.

(b) Steel piling used to construct residential docks should not exceed six inches in diameter. Limit the diameter of steel piling used to construct public recreational docks to the minimum width needed to accommodate the intended use.

(c) The use of creosote or pentachlorophenol piling is prohibited. New and replacement piling can be steel, concrete, recycled plastic, and/or untreated or department-approved treated wood.

(d) Treated wood piling must incorporate design features to minimize abrasion of the piling from contact with vessels, floats, or other objects.

(e) All pilings must be fitted with devices to prevent perching by fish-eating birds.

(5) **Watercraft lift design:**

(a) The design of the watercraft lift/grid must follow the mitigation sequence to protect juvenile salmonid migration, feeding, and rearing areas where shading impacts are a concern.

(b) The bottom of the watercraft lift/grid must be at least one foot above the bed.

(c) Use the minimum number of pilings needed to support the watercraft lift/grid.

(6) **Mooring buoy design:**

(a) In water bodies where mooring buoy systems might damage the bed and native submerged aquatic vegetation, locate and design the buoy system to minimize damage.

(i) Locate the buoy deep enough to prevent vessel grounding.

(ii) Design and install the buoy system with mid-water floats so that anchor lines do not drag.

(iii) In areas with native submerged aquatic vegetation, use an embedment-style mooring anchor instead of a surface-style mooring anchor.

(iv) Adequately size the mooring to prevent the anchor from shifting or dragging along the bed.

(b) If the department authorizes the use of a concrete anchor, use a precast concrete anchor.

(c) The mooring buoy must have a shell that is not readily subject to damage by ultraviolet radiation and abrasion caused by rubbing against vessels, the bed, and/or waterborne debris.

(7) **Residential and public recreational docks, pier, ramp, float, watercraft lift, and buoy construction:**

(a) Operate and anchor vessels and barges during construction in a manner that protects native aquatic vegetation.

(b) Reestablish the pier or dock centerline during the construction phase using the same methodology used to establish the centerline on the construction drawings.

(c) When installing steel piling, use of a vibratory hammer or water jet to drive piling is preferred.

(d) If impact pile driving is needed, set the drop height to the minimum needed to drive the piling.

(e) Use appropriate sound attenuation to minimize harm to fish from impact pile-driving noise.

(f) To avoid attracting fish to lights at night, limit impact pile driving to daylight hours whenever feasible.

(g) The department may require the following when removing piling:

(i) Use a vibratory or water jet system to dislodge piling whenever feasible.

(ii) After removal, place the piling on a construction barge or other dry storage site. Piling removed from the substrate must be moved immediately from the water into a barge or other dry storage site. The piling must not be shaken, hosed off, left hanging to dry or any other action intended to clean or remove adhering material from the piling.

(iii) If a treated wood piling breaks during extraction, remove the stump from the water column by fully extracting the stump or cut it three feet below the substrate and cap all buried stumps with clean sediment that matches the native material.

(iv) Fill holes left by piling extraction with clean sediment that matches the native material whenever feasible.

(h) Securely anchor docks, floats, and mooring buoys.

(i) If the department authorizes the use of a concrete anchor, use a precast concrete anchor.

(j) Dispose of removed docks, piers, ramps, floats, lines, chains, cables, and mooring anchors in an upland disposal site.

(k) Place floats and buoys removed seasonally in an upland area. Do not store on the beach.

[Statutory Authority: RCW 77.04.012, 77.04.055, 77.04.020, 77.55.021, 77.55.091, 77.55.181, 77.12.047, and 34.05.328. WSR 26-15-073 (Order 26-13), s 220-660-140, filed 7/15/26, effective 8/15/26. Statutory Authority: RCW 77.04.012, 77.12.047, 77.55.021, and 34.05.328. WSR 24-12-003 (Order 24-05), § 220-660-140, filed 5/22/24, effective 6/22/24. Statutory Authority: RCW 77.04.012, 77.04.020, and 77.12.047. WSR 15-02-029 (Order 14-353), § 220-660-140, filed 12/30/14, effective 7/1/15.]