

WAC 220-660-370 Bank protection in saltwater areas. RCW

77.55.141 applies to single-family residence bank protection that will not result in a permanent loss of critical food fish and shellfish habitat. RCW 77.55.021 applies to nonsingle-family residence bank protection and single-family residence bank protection that does not comply with the criteria in RCW 77.55.141. The department may deny bank protection applications processed under RCW 77.55.021 that do not provide proper protection of fish life. Appropriate methods to design marine bank protection are available in the department's *Marine Shoreline Design Guidelines*, as well as other published manuals and guidelines.

(1) **Description:** A bank protection structure is a permanent or temporary structure constructed to protect or stabilize the bank. Bank protection methods are either hard or soft techniques. Soft approaches attempt to mimic natural processes by using biotechnical methods such as live plantings, rootwads and large woody material (LWM), and beach nourishment. Usually, soft approaches are designed to be less impacting to fish life. Hard approaches armor the bank with material such as rock, concrete, or wood intended to prevent erosion of the bank. Some projects use both hard and soft approaches. To be considered soft, at least eighty-five percent of the total project area must be constructed with naturally occurring materials in a manner that mimics the natural shore processes taking place in the vicinity of the project. In addition, the remaining fifteen percent of the total project area must not interrupt sediment delivery to the beach (e.g., must not bulkhead a feeder bluff). The total project area extends cross-shore from MLLW to the OHWL, and long-shore from a line perpendicular to the shoreline at the beginning of one end of construction to the other end.

(2) **Fish life concerns:** Bank protection structures alter the beach and disrupt nearshore ecosystem processes and physical conditions. This alteration can cause a loss of the beach spawning habitat for Pacific sand lance and surf smelt and a loss of migration, feeding, and rearing habitat for juvenile salmon. To protect fish life, the department protects the beaches where critical food fish or shellfish habitat occur and the nearshore zone geomorphic processes that form and maintain this critical habitat.

(3) **Bulkheads and other bank protection design:**

(a) If the OHWL is changed since an existing bank protection structure was built, and OHWL reestablishes landward of a bulkhead protection structure, the department will consider this reestablished OHWL to be the existing OHWL for permitting purposes. If an application for an HPA is submitted for repairs within three years of the breach, the bank protection structure may be repaired or replaced in the original footprint.

(b) Use the least impacting technically feasible alternative. The common alternatives below are in order from most preferred to least preferred:

- (i) Remove the bank protection structure;
- (ii) No action - Control upland drainage;
- (iii) Protect, enhance, and replace vegetation;
- (iv) Relocate improvements or structures;
- (v) Construct a soft structure by placing beach nourishment and large woody material;
- (vi) Construct upland retaining walls;
- (vii) Construct a hard structure such as bulkhead and rock revetment landward of the OHWL; and

(viii) Construct a hard structure such as a bulkhead and rock re-
vetments at the OHWL.

(c) Upon receipt of a complete application, the department will
determine the applicable RCW under which to process the application.

(i) A new, replacement, or repaired single-family residence bulk-
head in saltwater areas must not result in the permanent loss of crit-
ical food fish or shellfish habitat to be processed under RCW
77.55.141.

(ii) If construction of a new single-family residence bulkhead or
other bank protection project, or replacement or repair of an existing
single-family residence bulkhead or other bank protection project wa-
terward of the existing structure will result in the permanent loss of
critical food fish or shellfish habitat, the department must instead
process the application under RCW 77.55.021. However, the construction
of all bulkheads or other bank protection must not result in a perma-
nent loss of surf smelt or Pacific sand lance spawning beds.

(d) An HPA application for a new bulkhead or other bank protec-
tion work or the replacement or rehabilitation of a bulkhead or other
bank protection structure that extends waterward of the existing
structure must include a site assessment, alternatives analysis and
design rationale by a qualified professional (such as a coastal geolo-
gist, geomorphologist, etc.) for the proposed project and selected
technique. The department may grant an exemption depending on the
scale and nature of the project. In addition, this requirement does
not apply to projects processed under RCW 77.55.141. This report must
include:

(i) An assessment of the level of risk to existing buildings,
roads, or services being threatened by the erosion;

(ii) Evidence of erosion and/or slope instability to warrant the
stabilization work;

(iii) Technical rationale specific to the design developed;

(iv) An analysis of the benefits and impacts associated with the
chosen protection technique; and

(v) An explanation of the technique chosen, design parameters,
types of materials, quantities, staging, and site rehabilitation.

(e) The department may require the design of bank protection
projects to incorporate beach nourishment, large woody material or na-
tive vegetation as mitigation.

**(4) Single-family residence bulkhead projects processed under RCW
77.55.141:**

(a) Locate the waterward face of a new bulkhead at or above the
OHWL. Where this is not feasible because of geological, engineering,
or safety concerns, the bulkhead may extend waterward of the OHWL the
least distance needed to excavate for footings or place base rock, but
no more than six feet waterward of the OHWL.

(b) Do not locate the waterward face of a replacement or repaired
bulkhead further waterward than the structure it is replacing. Where
removing the existing bulkhead will result in environmental degrada-
tion such as releasing deleterious material or problems due to geolog-
ical, engineering, or safety concerns, the department will authorize
the replacement bulkhead to extend waterward of, but directly abut-
ting, the existing structure. In these instances, the design must use
the least-impacting type of structure and construction method.

(5) Bank protection projects processed under RCW 77.55.021:

(a) Locate the waterward face of a new bulkhead at or above the
OHWL. Where this is not feasible because of geological, engineering,
or safety concerns, the bulkhead may extend waterward of the OHWL the

least distance needed to excavate for footings or place base rock, but no greater than six feet. Soft shoreline stabilization techniques that provide restoration of shoreline ecological functions may be permitted waterward of the OHWL.

(b) Do not locate the waterward face of a replacement or repaired bulkhead further waterward than the structure it is replacing. Where removing the existing bulkhead will result in environmental degradation such as releasing deleterious material or problems due to geological, engineering, or safety concerns, the department will authorize the replacement bulkhead to extend waterward of, but directly abutting, the existing structure. In these instances, the design must use the least-impacting type of structure and construction method.

(6) Bulkhead and other bank protection construction:

(a) The department may require a person to establish the horizontal distance of the structure from a permanent benchmark(s) (fixed objects) before starting work on the project. The benchmarks must be located, marked, and protected to serve as a post-project reference for ten years.

(b) A person must not conduct project activities when tidal waters cover the work area including the work corridor, except the area occupied by a grounded barge.

(c) No stockpiling of excavated materials containing silt, clay, or fine-grained soil is approved waterward of the OHWL.

(d) The department may allow stockpiling of sand, gravel, and other coarse material waterward of the OHWL. Place this material within the designated work corridor waterward of the bulkhead footing or base rock. Remove all excavated or stockpiled material from the beach within seventy-two hours of construction.

(e) Backfill all trenches, depressions, or holes created during construction that are waterward of the OHWL before they are filled by tidal waters.

[Statutory Authority: RCW 77.04.012, 77.04.020, and 77.12.047. WSR 15-02-029 (Order 14-353), § 220-660-370, filed 12/30/14, effective 7/1/15.]