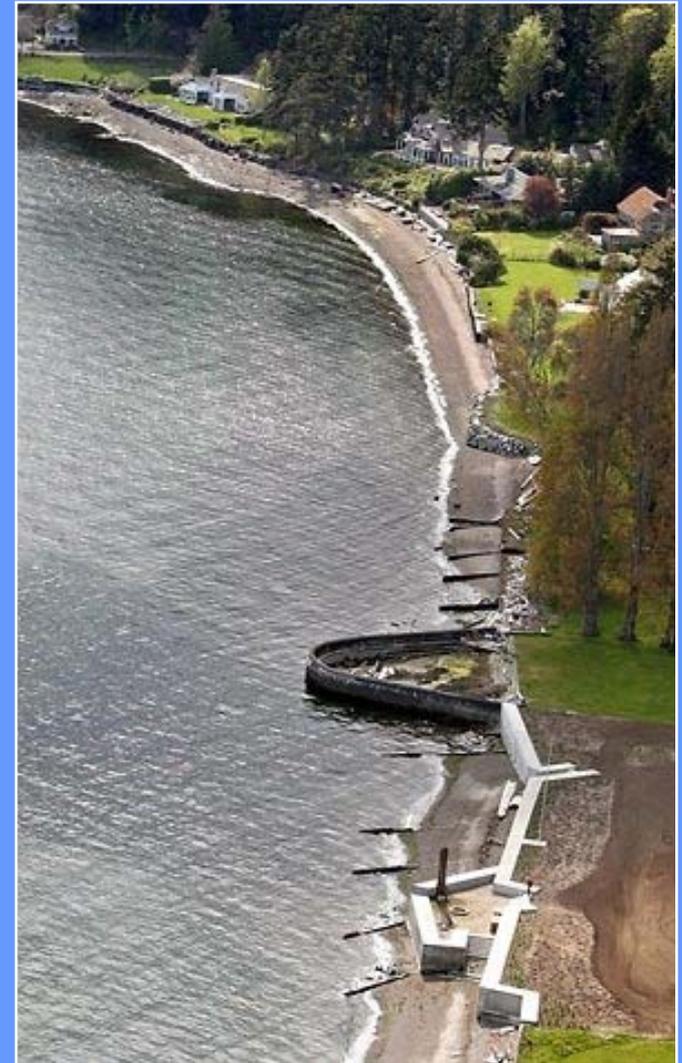


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This presentation not peer reviewed.

# Shoreline Armoring in Puget Sound and the Washington State Hydraulic Code



Shoreline Armoring Workshop

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Randy Carman



# Hydraulic Code - Early History

- 1943 - Hydraulic Code enacted by Wash. Legislature
- regulatory mechanism to protect fish life & habitat from impacts of "hydraulic projects"
- need HPA if: "...use, divert, obstruct, or change flow or bed of river or stream, or utilize waters of state"
- RCW 77.55 and WAC 220-110

# Hydraulic Code - 1943

RCW Chapter 40. Section 1. In the event that any person, firm, corporation or government agency desires to construct any form of hydraulic project or other project that will use, divert, obstruct, or change the natural flow or bed of any river or stream or that will utilize any of the waters of the state or materials from stream beds, such person, firm, corporation or government agency shall submit to the Department of Fisheries and the Department of Game full plans and specifications of their proposed construction or work, complete plans and specifications for the proper protection of fish life in connection therewith, the approximate date when such construction or work is to commence and shall secure the written approval of the Director of Fisheries and the Director of Game as to the adequacy of the means outlined for the protection of fish life in connection therewith and as to the propriety of the proposed construction or work and time thereof in relation to fish life, before commencing construction or work thereon. If any person, firm, corporation or government agency shall commence construction on any such works or project without first providing plans and specifications subject to the approval of the Director of Fisheries and the Director of Game for the proper protection of fish life in connection therewith and without first having obtained written approval of the Director of Fisheries and the Director of Game as to the adequacy of such plans and specifications submitted for the protection of fish life, he, it or they shall be guilty of a gross misdemeanor. If any such person, firm, corporation or government agency be convicted of violating any of the provisions of this act and continues construction on any such works or project without fully complying with the provisions of this act, such works or projects are hereby declared a public nuisance and shall be subject to abatement as such.

# Early History

- 1971 - WDF adopts guidelines for marine bulkhead construction
- served as "policy guidance" only
- submitted to other local, state, and federal agencies to supplement their requirements
- WDF not issuing HPAs for projects in marine waters

# Marine Bulkheads - 1971

(protection of shellfish & juvenile salmon prey)



1971 bulkhead criteria for vertical bulkhead construction.



1971 bulkhead criteria for sloping bulkhead construction.

**Provision:** Bulkhead shall extend no more than 100 ft. seaward of mean higher high water (MHHW)

# Early bulkhead configuration



# Early History

- 1972-74 - WDF investigates surf smelt spawning
- 1974 - new guidelines adopted to protect surf smelt spawning beaches (~60 miles)
- for documented spawning beaches, new criteria generally at or near MHHW
- 1977 - WDF extends authority to marine waters

# Current Regulations

- 1991 - Washington Legislature passes the Marine Beach Front Protective Bulkhead law
- Statute language includes:
  - ❑ “In order to protect property of marine shoreline owners...”
  - ❑ “The department shall issue a hydraulic permit...”

## Current Regulations (cont.)

### ➤ Statute language (cont.):

❑ "new bulkhead shall be located only as far waterward as necessary for footings or base rock"

❑ "under no circumstances more than six feet waterward of OHWL"

❑ "bulkhead replacement shall be placed along the same alignment, unless removal results in geological, engineering, or safety issues"

❑ "construction shall not result in the permanent loss of critical foodfish or shellfish habitat"

## Current Setting

➤ WDFW faces conflicting mandates:

protect fish life & habitat AND permit SFR bulkheads

property protection & human safety vs. no net loss

standard, 100ft. rock bulkhead can cover 600 sq. ft. of beach habitat

## Current Setting

➤ WDFW lacks regulatory authority to:

- address the "need" for a bulkhead
- require alternatives to traditional bulkheads
- address cumulative impacts

# Armoring the Shoreline

HPAs for Jan. 2005-Dec. 2007:

- 233 new bulkheads (~4.4 miles)
- 11 removals
- 389 replacements