

Historical Marine Biotoxin Trends in Washington State

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Introduction

The Washington Department of Health (WDOH) routinely monitors and manages for three marine biotoxins found in Washington State shellfish: Paralytic Shellfish Poison (PSP), Amnesic Shellfish Poison (ASP) and Diarrhetic Shellfish Poison (DSP). WDOH has placed mussel cages at strategic sites to be used as a sentinel biotoxin detection system. Samples are collected bi-weekly (yearly or seasonally) and sent for testing to the public health lab. When toxins are present, sampling frequency is increased to weekly and other Molluscan shellfish species are tested. Data is collected and entered into a database which currently has more than 101,000 entries.

Biotoxin	% waterbodies impacted
PSP	89.5%
ASP	7.6%
DSP	21.0%



Objective

How have closures changed over time in Washington State? Are they becoming more frequent, longer, or earlier in the year?

Methods

I determined closure dates for each county and waterbody using established regulatory limits for mussels only. Mussel data was used to determine all closures, except on the Pacific Coast where razor clams was used (there is no recreational harvest of molluscan shellfish on the Pacific Coast other than razor clams).



	PSP	ASP	DSP
Caused by	Dinoflagellate Alexandrium catenella	Diatom Pseudo-nitzschia	Dinoflagellate Dinophysis spp.
Toxin Produced	Saxitoxin (Neurotoxin)	Domoic Acid (Neurotoxin)	Okadaic Acid
Started Monitoring	1957	1991	2012
Regulatory Limit	80 µg per 100 g shellfish tissue	20 ppm shellfish meat tissue	16 µg per 100 g shellfish tissue

