

# Rules of the Road for Gathering Shellfish on Your Own!



Each year, thousands of residents and visitors flock to ocean beaches and estuaries with shovels, rakes and buckets in hand to take part in the West Coast's vibrant bivalve shellfish sport fishery. Consumers should be aware of some potential food safety issues associated with bivalve shellfish (i.e. clams, oysters, scallops, mussels, cockles, geoduck), other molluscan shellfish (i.e. whelks and periwinkles) and crab. These animals are highly sensitive to the quality of their marine environment. Because they feed themselves by filtering microscopic organisms from the water, harmful bacteria, viruses and biotoxins from their surroundings can build up in their tissues and cause illness in people who consume them. Shellfish with toxins or bacteria don't look or taste any different from non-threatening shellfish. Regardless of season, check before you dig!

**Commercially harvested shellfish** must meet rigorous health standards established by the state. At seafood markets and grocery stores throughout the year, consumers can purchase nutritious, delicious, and safe shellfish that have been certified!

	Common Name	Cause	Type	Symptoms	Species
<b>Biotoxins from Harmful Algal Blooms</b>	Paralytic Shellfish Poisoning (PSP)  "Red Tides"	Saxitoxin / <i>Alexandrium catenella</i> (dinoflagellate)	Neurotoxin	15% chance of rapid death. Early symptoms include tingling lips and tongue within minutes. Shortness of breath. No antidote.	<b>All shellfish, especially geoduck</b> Cannot be cooked out! Crab feed on other shellfish, so crab gut can contain unsafe levels of PSP, although the toxin is not known to accumulate in crab meat. To be safe, clean crab thoroughly, removing all butter, and discard the gut.
	Diahretic Shellfish Poisoning (DSP)	Okadaic Acid / <i>Dinophysis</i> (dinoflagellate)	Gastrointestinal	Diarrhea, nausea, vomiting, abdominal pain	<b>All shellfish</b> Cannot be cooked out!
	Amnesic Shellfish Poisoning (ASP) "Domoic Acid"	Domoic Acid / <i>Pseudo-nitzschia</i> (diatom)	Neurotoxin	Within 24 hours of eating: Diarrhea, nausea, vomiting, abdominal pain; more severe cases include neurological damage	Typically more present on coast (ex. razor clams and crabs). Cannot be cooked out!
<b>Bacteria</b>	Vibriosis (Vibrio)  More common in summer months	<i>V. parahaemolyticus</i> and <i>V. vulnificus</i> (lives in brackish water)  Keeping product cold with ice will reduce bacteria levels	Gastrointestinal	Symptoms appear 15 hours - 4 days later. Intestinal disease. Diarrhea, abdominal cramps, nausea, vomiting, headache, fever/chills	<b>All shellfish</b> Vibrio is destroyed by cooking shellfish to internal temp of 145°F for 15 seconds. Vibrio can also infect via water and wound exposure.
<b>Virus</b>	Norovirus / Food Poisoning  More common in winter months due to increased runoff	Norovirus: storm water runoff, septic tanks, sewage treatment plants, boats dumping wastes in harvest areas	Gastrointestinal	Symptoms after 12 hours - 2 days. Diarrhea, nausea, vomiting, abdominal pain	<b>All shellfish, primarily raw oysters</b> excludes geoduck Can be cooked out! Noroviruses are found in the stool or vomit of infected people. They are very contagious and can spread easily from person to person.

# Biotoxin Myths & Misconceptions... True or False?

Test your biotoxin knowledge..... some answers may surprise you!

1. *Paralytic Shellfish Poisoning (PSP) is only present in red or muddy colored water.*

False. Red or muddy water has little correlation with PSP, Amnesic Shellfish Poisoning (ASP) or Diarrhetic Shellfish Poisoning (DSP); in fact it's possible for shellfish to be absolutely safe if the water is red. Conversely, high levels of toxin can be present when the water appears clear.

2. *A good test to see if shellfish are toxic is to touch one to your tongue. If your tongue tingles, it's toxic. If it doesn't, it's ok to eat.*

False. This is not a reliable test (in fact it's dangerous). True. If your tongue tingles, the shellfish is HIGHLY toxic, and you may have just put yourself in danger of serious paralytic shellfish poisoning. False. If your tongue doesn't tingle, the shellfish can still be extremely toxic and cause serious illness.

3. *Toxic shellfish look different than non-toxic shellfish.*

False. Toxic and non-toxic shellfish look absolutely the same.

Biotoxins can be short-lived or life-threatening. If symptoms have appeared, get the victim to a medical facility, fast. For some people, especially young children, the elderly, pregnant women and those with weakened immune systems, biotoxins can be even more serious.

4. *Antidotes for biotoxins are readily available.*

False. There is no antidote for PSP, ASP or DSP. This is why it's so important to call your health care provider if you have symptoms. The only treatment for severe cases is the use of life support systems until the toxin passes from your system.

5. *If you view the shellfish advisories in your state a few days before you plan on harvesting shellfish, you'll be ok.*

False. Biotoxin levels can change rapidly, and there can be several closures in the course of one day. Check these resources just prior to harvesting to be sure the area you're going to is safe.

6. *Cooking shellfish in boiling water will remove toxins, making them safe to eat.*

False. Unlike bacterial pathogens such as Vibrios, biotoxins do not cook out of shellfish (no matter how long you boil them!)

7. *You should only harvest shellfish in months that have the letter "R" in them.*

False. This is a common misconception. The fact is, shellfish can be toxic (or safe) at any time of the year. Before modern refrigeration, shellfish would spoil in the warm summer months (those without an "R" in them).

## Learn more about current health advisories in your state!

**Washington:** visit [www.doh.wa.gov/ShellfishSafety](http://www.doh.wa.gov/ShellfishSafety) or call 1-800-562-5632

**Oregon:** visit [www.oregon.gov/ODA/programs/FoodSafety/Shellfish/Pages/ShellfishClosures.aspx](http://www.oregon.gov/ODA/programs/FoodSafety/Shellfish/Pages/ShellfishClosures.aspx) or call 1-800-448-2474

**California:** visit [www.cdph.ca.gov/Programs/CEH/DRSEM/Pages/EMB/Shellfish/Shellfish-Program.aspx](http://www.cdph.ca.gov/Programs/CEH/DRSEM/Pages/EMB/Shellfish/Shellfish-Program.aspx) or call 1-800-553-4133

**Alaska:** visit [www.dec.alaska.gov/eh/fss/](http://www.dec.alaska.gov/eh/fss/) or call 1-87-SAFE-FOOD