

Office of Environmental Health Hazard Assessment



Matthew Rodriguez
Secretary for
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Edmund G. Brown Jr.
Governor

MEMORANDUM

TO: Charlton H. Bonham, Director
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FROM: Lauren Zeise, Ph.D. 
Acting Director

DATE: November 6, 2015

SUBJECT: DOMOIC ACID THREAT TO PUBLIC HEALTH

Test data recently received by the Office of Environmental Health Hazard Assessment (OEHHA) from the Department of Public Health laboratories are consistent with my November 3, 2015 determination, made in consultation with the Director of the California Department of Public Health (CDPH), that domoic acid in Dungeness and Rock crab poses a human health risk. These data are also consistent with OEHHA's recommendation to close the Rock crab fishery and delay the Dungeness crab season from the Oregon border to the southern Santa Barbara County line. The most recent test data, along with the data that provided the basis for OEHHA's November 3, 2015 recommendation, provide thorough and adequate scientific evidence that the consumption of Rock and Dungeness crab poses a human health risk from high levels of domoic acid, an acutely toxic substance. More specifically, the threat to public health and safety arises from the potential human consumption of crabs with high levels of domoic acid following the scheduled commercial fishery opening date for Dungeness crab of November 15, 2015, and the year round rock crab fishery.

Domoic acid poisoning in humans may occur within minutes to hours after consumption of affected seafood and can result in signs and symptoms ranging from vomiting and diarrhea to permanent loss of short-term memory (Amnesic Shellfish Poisoning), coma, or death.

California Environmental Protection Agency

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Current federal action levels for domoic acid are 20 parts per million (ppm) for all fish, with the exception of 30 ppm in the viscera of Dungeness crabs. Available data in Dungeness and rock crabs from the California coast north of Point Conception show that a significant percent of samples exceed one or both of these criteria, with levels in one yellow rock crab sample reaching 190 ppm and numerous other samples exceeding 100 ppm.¹ Rock crab samples collected November 3 near Santa Barbara also show levels of domoic acid above the federal action level.

In consultation with the Director of the California Department of Public Health, OEHHA finds that consumption of Dungeness and rock crabs is likely to pose a significant human health risk as a result of high levels of domoic acid. As such, OEHHA recommends that the Rock crab fishery be closed and the Dungeness crab season be delayed from the Oregon border to the southern Santa Barbara County line.

OEHHA anticipates making a recommendation to open a fishery or lift a closure based on further domoic acid testing conducted in crabs at each of the sampling locations, to include two sets of samples, collected at least seven days apart.

If you have questions, please contact me at Lauren.zeise@oehha.ca.gov or (916) 322-6325.

¹ Although the samples collected recently from Fort Bragg fall below action levels, domoic acid levels in crabs north and south of this area are elevated. Thus, further sampling from Fort Bragg is warranted before consumption of crabs from this area can be considered safe.

Summary of Domoic Acid Levels in Crabs

Port	Sample collection date(s) (Dungeness crab viscera only unless otherwise specified)	Number of Samples	Result-range	Average ppm	% of samples exceeding action level (>30 ppm for viscera)
Crescent City	9/23/15	6	<2.5-120 ppm	37 ppm	66%
	10/29/15	6	28-140 ppm	66 ppm	91%
Trinidad	9/11/15	6	23-140 ppm	95 ppm	83%
	10/26/15	8	39-97 ppm	66 ppm	100%
Eureka	9/15/15	6	30-120 ppm	76 ppm	100%
	10/27/15	12	37-140 ppm	67 ppm	100%
Ft. Bragg	10/30/15	6	<2.5-15 ppm	6.5 ppm	0%
Bodega Bay	10/20/15	6	21-40 ppm	30 ppm	50%
	10/31 - 11/1/15	6	28-91 ppm	45 ppm	83%
Half Moon Bay/SF	10/26/15	12	16-130 ppm	56 ppm	83%
Monterey	9/16/15 (Red Rock Crab)	4	16-86 ppm	45 ppm	75%
	9/16/15 (Yellow Rock Crab)	1	190 ppm	190 ppm	100%
	9/16/15 (Dungeness)	2	6.8-74 ppm	40 ppm	50%
	10/31-11/1/15	?	Pending	Pending	Pending
Morro Bay	10/26/15	?	Pending	Pending	Pending
Santa Barbara	11/3/15 (Rock Crab)	6	<2.5-68 ppm	35 ppm	50%

Charlton H. Bonham
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cc: Karen L. Smith, Director
California Department of Public Health

Matthew Rodriguez, Secretary
California Environmental Protection Agency