

# Office of Environmental Health Hazard Assessment



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Edmund G. Brown Jr.  
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## MEMORANDUM

**TO:** Charlton H. Bonham, Director  
California Department of Fish and Wildlife  
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Michael Yaun, Acting Executive Director  
California Fish and Game Commission  
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**FROM:** Lauren Zeise, Ph.D.   
Acting Director

**DATE:** May 19, 2016

**SUBJECT:** RECOMMENDATION ON OPENING OF THE LAST REMAINING AREA  
CLOSED TO DUNGENESS CRAB FISHING

The Office of Environmental Health Hazard Assessment (OEHHA) has determined, in consultation with the California Department of Public Health (CDPH), that consumption of Dungeness crab taken from state waters north of 40° 46.15' N Latitude (a line extending due west from the west end of the north jetty at the entrance of Humboldt Bay) and south of 41° 17.60' N Latitude (a line extending due west from the mouth of Redwood Creek, Humboldt County) no longer poses a significant threat for domoic acid exposure. This determination is based on data from repeated sampling of Dungeness crab in this area and analysis of these samples by CDPH laboratories for domoic acid. This is the last area in the State that remains closed to Dungeness crab fishing due to domoic acid levels in crab.

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. The current federal action levels for domoic acid in Dungeness crab are 20 parts per million (ppm) in the body meat and 30 ppm in the viscera. In contrast to levels seen earlier, levels of domoic acid in viscera samples of Dungeness crab taken since May 1 from state waters between 40° 46.15' N Latitude and 41° 17.60' N Latitude all fall below the action level of 30 ppm, with one exception. Viscera from one of the 18

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Dungeness crab samples collected from the Southern Trinidad area in three sampling events since May 1, 2016 contained 38 ppm, which is 27% over the action level for viscera. None of the crabs taken in the prior sampling (May 1) or in the subsequent sampling (May 15) had domoic acid levels above the action level. Also, at each of the other sampling locations sampled north (Trinidad North) and south (Eureka at Samoa) of this point, at least two sets of samples taken at least seven days apart show low or non-detectable levels of domoic acid. Finally, all 6 crab collected from Trinidad South on May 15 tested below the action level for viscera.

For the reasons described above, and because of earlier findings on Dungeness crab taken from central and southern California waters, OEHHA, in consultation with CDPH, now finds that consumption of Dungeness crab taken from these areas does not pose a significant human health risk from high levels of domoic acid. As such, OEHHA recommends the opening of the Dungeness crab fishery in these areas – in a manner consistent with the emergency regulations adopted by the Fish and Game Commission and the California Department of Fish and Wildlife (CDFW) on November 5 and 6, 2015, respectively.

OEHHA and CDPH recommend that people not eat the crab viscera – that is the internal organs, also known as “butter” or “guts” of crabs. We are also recommending that water or broth used to cook crabs be discarded and not used to prepare dishes such as sauces, broths, soups, or stews. The viscera usually contain much higher levels of domoic acid than crab body meat. When whole crabs are cooked in liquid, domoic acid may leach from the viscera into the cooking liquid. This recommendation is intended to avoid harm in the unlikely event that some crabs taken from an open fishery have elevated levels of domoic acid. These recommendations will be provided in an advisory on domoic acid in crab being released concurrently by CDPH today.

Monitoring and analysis by CDFW, CDPH, and OEHHA of rock crab in areas that remain closed (above 36° 58.72' N Latitude and between Santa Rosa and Santa Cruz islands) are continuing to determine when the crab fisheries in these areas can safely be opened.

If you have questions, please contact me at [Lauren.Zeise@oehha.ca.gov](mailto:Lauren.Zeise@oehha.ca.gov) or (916) 322-6325.

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Charlton H. Bonham and Michael Yaun  
May 19, 2016  
Page 3

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**Sampling Results for Key Areas**

Port	Sample Collection Date	Number Of Samples	Viscera Sample Results: Range	Average Level In Viscera	Samples Exceeding Action Level (30 ppm in Viscera)
Trinidad	9/11/15	6	23-140 ppm	95 ppm	83%
	10/26/15	8	39-97 ppm	66 ppm	100%
	11/17/15	15	17-65 ppm	36 ppm	60%
	12/16/15	6	8.4-37 ppm	17.5 ppm	17%
	12/26/15 (Trinidad North)	6	<2.5-49 ppm	20.2 ppm	17%
	12/26/15 (Trinidad South)	6	7.4-38 ppm	19.4 ppm	17%
	1/23/16 (Trinidad North)	6	<2.5-31 ppm	13 ppm	17%
	1/23/16 (Trinidad South)	6	8.5-29 ppm	17 ppm	0%
	2/2/16 (Trinidad North)	6	15-48 ppm	28 ppm	33%
	2/2/16 (Trinidad South)	6	4.9-25 ppm	16 ppm	0%
	2/11/16 (Trinidad North)	6	6.8-34 ppm	24 ppm	50%
	2/11/16 (Trinidad South)	6	8.5-36 ppm	21 ppm	33%
	2/20/16 (Trinidad North)	6	7-25 ppm	15 ppm	0%
	2/20/16 (Trinidad South)	6	9.9-30 ppm	17 ppm	17%
	2/29/16 (Trinidad North)	6	2.8-82 ppm	30 ppm	33%
	2/29/16 (Trinidad South)	6	<2.5-56 ppm	24 ppm	33%
	3/17/16 (Trinidad North)	6	6.4-35 ppm	16 ppm	17%
	3/17/16 (Trinidad South)	6	<2.5-41 ppm	14 ppm	17%
	3/24/16 (Trinidad North)	6	2.8-28 ppm	11 ppm	0%
	3/24/16 (Trinidad South)	6	7.9-40 ppm	17 ppm	17%
	4/1/16 (Trinidad North)	6	6.4-27 ppm	13 ppm	0%
	4/1/16 (Trinidad South)	6	5.8-16 ppm	10 ppm	0%

Port	Sample Collection Date	Number Of Samples	Viscera Sample Results: Range	Average Level In Viscera	Samples Exceeding Action Level (30 ppm in Viscera)
Trinidad	4/9/16 (Trinidad South)	6	5.6-58 ppm	16 ppm	17%
	4/18/16 (Trinidad South)	6	2.9-20 ppm	11 ppm	0%
	4/24/16 (Trinidad South)	6	7.9-54 ppm	20 ppm	17%
	5/1/16 (Trinidad South)	6	9.9-25 ppm	18 ppm	0%
	5/8/16 (Trinidad South)	6	6.1-38 ppm	16 ppm	17%
	5/15/16 (Trinidad South)	6	<2.5-14 ppm	6 ppm	0%
Eureka	11/23/15 (Samoa)	6	13-53 ppm	36.5 ppm	83%
	12/16/15 (Samoa)	6	12-63 ppm	24.7 ppm	17%
	12/30/15 (Samoa)	6	3.7-33 ppm	17.8 ppm	17%
	1/21/16 (Samoa)	6	<2.5-12 ppm	7.9 ppm	0%
	2/2/16 (Samoa)	6	8.7-27 ppm	14 ppm	0%