

# Office of Environmental Health Hazard Assessment



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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:** March 28, 2016

**SUBJECT:** RECOMMENDATION ON OPENING OF ROCK CRAB FISHERY NEAR  
CHANNEL ISLANDS, WITH THE EXCEPTION OF ONE AREA

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The Office of Environmental Health Hazard Assessment (OEHHA) has determined, in consultation with the California Department of Public Health (CDPH), that consumption of rock crab taken from state waters (three nautical miles from shore) around the Channel Islands no longer poses a significant threat for domoic acid exposure, with the exception of an area between Santa Rosa and Santa Cruz islands defined below.

This determination is based on data from repeated sampling of rock crab taken from California waters and analysis of these samples by CDPH laboratories.

The current federal action levels for domoic acid in Dungeness crab are 20 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 rock crab caught from state waters in areas around the Channel Islands since February 7 none tested above the action level of 30 parts per million (ppm); one sample tested at the action level.

However, we recommend that one area between Santa Rosa and Santa Cruz Islands remain closed to rock crabbing because of very high levels found in rock crab viscera collected from that area on February 7. We have not made a determination that

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consumption of crab taken from this area and an appropriate buffer zone (coordinates identified above) poses an inconsequential risk. Testing of crab from this area will continue. This area is bounded by straight lines connecting the following points in the order listed:

- Point 1: 34° 7.75' N latitude 120° 0.00' W longitude;
- Point 2: 34° 7.75' N latitude 119° 50.00' W longitude;
- Point 3: 33° 53.00' N latitude 119° 50.00' W longitude;
- Point 4: 33° 53.00' N latitude 120° 0.00' W longitude; and
- Point 5: 34° 7.75' N latitude 120° 0.00' W longitude

For the reasons described above, OEHHA, in consultation with CDPH, now finds that consumption of rock crab taken from state waters around the Channel Islands, with the exception of the area bounded by the coordinates listed above, does not pose a significant human health risk from high levels of domoic acid. As such, OEHHA recommends the opening of the rock crab fishery in state waters around the Channel Islands, with the exception of the area bounded by the coordinates listed above, 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.

In conjunction with the reopening, OEHHA and CDPH are advising that people not eat the crab viscera – 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.

The sampling results for rock crab caught in waters around the Channel Islands are provided in the table below.

Rock crab north of 35° 40' N Latitude (near Piedras Blancas Light Station in San Luis Obispo County) continue to have elevated domoic acid levels; the existing closure for commercial and recreational rock crab fishing in these areas should remain in place. Similarly, commercial and recreational fishing of Dungeness crab from state waters north of the Sonoma/Mendocino County line remains closed due to elevated levels of domoic acid in those crabs. 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

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(Amnesic Shellfish Poisoning), coma, or death. Monitoring and analysis of Dungeness and rock crabs in areas that remain closed are continuing by CDFW, CDPH, and OEHHA to determine when the crab fisheries in these areas can safely be opened. Monitoring and analysis of Dungeness and rock crabs in areas that remain closed are continuing by CDFW, CDPH, and OEHHA 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.

### Sampling Results for Channel Islands

Channel Islands around Santa Barbara	Sample Collection Date	Number Of Samples	Viscera Sample Results: Range	Average Level In Viscera	Samples Exceeding Action Level (30 ppm in Viscera)
Block #711 South side Santa Rosa Island	11/1/15	6	<2.5-10 ppm	4 ppm	0%
Not indicated	11/3/15	6	<2.5-64 ppm	36 ppm	50%
Block #690 North side San Miguel Island	11/6/15	7	<2.5-110 ppm	38 ppm	29%
Block #710	11/11/15	6	<2.5-160 ppm	36 ppm	16%
Block #687 North side Santa Cruz Island	11/11/15	6	<2.5-130 ppm	36 ppm	33%
Block #690 North side San Miguel Island	11/13/15	6	<2.5-170 ppm	53.5 ppm	50%
Block #711 South side Santa Rosa Island	11/22/15	6	<2.5-10 ppm	1.7 ppm	0%
Block #686 North side Santa Cruz Island	11/22/15	6	<2.5-8.4 ppm	4.3 ppm	0%
Block #690 North side San Miguel Island	11/23/15	6	4.2-1000 ppm	235 ppm	33%
Block #687 North side Santa Cruz Island	12/2/15	6	4.5-190 ppm	79 ppm	50%
Block #711 South side Santa Rosa Island	12/2/15	6	3-120 ppm	36 ppm	50%
Block #690 North side San Miguel Island	12/3/15	6	<2.5-93 ppm	46 ppm	50%
Block #690 North side San Miguel Island	12/9/15	6	<2.5-4.4 ppm	0.7 ppm	0%
Block #711 South side Santa Rosa Island	12/10/15	6	2.8-170 ppm	61 ppm	67%
Block #687 North side Santa Cruz Island	12/10/15	6	<2.5-91 ppm	44 ppm	50%
Block #690 North side San Miguel Island	12/18/15	7	<2.5-14 ppm	3 ppm	0%
Block #686 North side Santa Cruz Island	12/19/15	6	<2.5-210 ppm	39 ppm	17%
Block #689 North side San Miguel and Santa Rosa Islands	12/19/15	6	<2.5-8.8 ppm	3 ppm	0%
Block #710 South side Santa Rosa and Santa Cruz Islands	12/19/15	6	<2.5-86 ppm	21 ppm	17%
Block #686 North side Santa Cruz Island	12/27/15	6	<2.5-8.8 ppm	2 ppm	0%

Channel Islands around Santa Barbara	Sample Collection Date	Number Of Samples	Viscera Sample Results: Range	Average Level In Viscera	Samples Exceeding Action Level (30 ppm in Viscera)
Block #689 North side San Miguel and Santa Rosa Islands	12/27/15	6	<2.5-2.8 ppm	0.5 ppm	0%
Block #690 North side San Miguel Island	12/27/15	6	<2.5-24 ppm	9 ppm	0%
Block #710 South side Santa Rosa and Santa Cruz Islands	12/27/15	6	<2.5-8.4 ppm	2 ppm	0%
Block #686 North side Santa Cruz Island	1/3/16	6	<2.5-64 ppm	15.7 ppm	33%
Block #687 North side Santa Cruz Island	1/3/16	6	3.8-120 ppm	43.9 ppm	50%
Block #689 North side San Miguel and Santa Rosa Islands	1/3/16	6	<2.5-130 ppm	33 ppm	33%
Block #690 North side San Miguel Island	1/3/16	6	<2.5-11 ppm	4.6 ppm	0%
Block #710 South side Santa Rosa and Santa Cruz Islands	1/3/16	6	<2.5-89 ppm	26.7 ppm	33%
Block #711 South side Santa Rosa Island	1/3/16	6	<2.5-6.9 ppm	2 ppm	0%
Block #686 North side Santa Cruz Island	1/10/16	6	<2.5-6.3 ppm	1.9 ppm	0%
Block #687 North side Santa Cruz Island	1/10/16	6	<2.5-180 ppm	37 ppm	17%
Block #689 North side San Miguel and Santa Rosa Islands	1/10/16	6	<2.5-4.2 ppm	1.3 ppm	0%
Block #710 South side Santa Rosa and Santa Cruz Islands	1/10/16	6	<2.5-460 ppm	99 ppm	33%
Block #711 South side Santa Rosa Island	1/10/16	6	<2.5-6.1 ppm	1.7 ppm	0%
Block #710 South side Santa Rosa and Santa Cruz Islands	1/17/16	6	2.8-31 ppm	13 ppm	17%
Block #687 North side Santa Cruz Island	1/17/16	6	<2.5-31 ppm	12 ppm	17%
Block #686 North side Santa Cruz Island	1/17/16	6	<2.5-51 ppm	18 ppm	33%
Block #689 North side San Miguel and Santa Rosa Islands	1/17/16	6	<2.5-27 ppm	9 ppm	0%

Channel Islands around Santa Barbara	Sample Collection Date	Number Of Samples	Viscera Sample Results: Range	Average Level in Viscera	Samples Exceeding Action Level (30 ppm in Viscera)
Block #710 South side Santa Rosa and Santa Cruz Islands	1/24/16	6	<2.5-7.8 ppm	1.3 ppm	0%
Block #687 North side Santa Cruz Island	1/24/16	6	<2.5-3 ppm	0.5 ppm	0%
Block #686 North side Santa Cruz Island	1/24/16	6	<2.5-3.7 ppm	1.6 ppm	0%
Block #710 South side Santa Rosa and Santa Cruz Islands	1/31/16	6	<2.5-89 ppm	15 ppm	17%
Block #687 North side Santa Cruz Island	1/31/16	6	<2.5-23 ppm	6 ppm	0%
Block #686 North side Santa Cruz Island	1/31/16	6	<2.5-13 ppm	4 ppm	0%
Block #710 South side Santa Rosa and Santa Cruz Islands	2/7/16	6	4.7-550 ppm	280 ppm	67%
Block #687 North side Santa Cruz Island	2/19/16	6	Non-detectable	<2.5 ppm	0%
Block #686 North side Santa Cruz Island	2/19/16	6	<2.5-2.8	<2.5 ppm	0%
Block #710 South side Santa Rosa and Santa Cruz Islands	2/19/16	6	Non-detectable	<2.5 ppm	0%
Block #711 South side Santa Rosa Island	2/19/16	5	Non-detectable	<2.5 ppm	0%
Block #710 South side Santa Rosa and Santa Cruz Islands	2/25/16	6	Non-detectable	<2.5 ppm	0%
Block #690 North side San Miguel Island	3/13/13	6	<2.5-30 ppm	5 ppm	0%
Block #710 South side Santa Rosa and Santa Cruz Islands	3/13/16	6	Non-detectable	<2.5 ppm	0%
Block #689 North side San Miguel and Santa Rosa Islands	3/23/16	6	<2.5-26 ppm	7 ppm	0%
Block #690 North side San Miguel Island	3/23/16	5	<2.5-8.5 ppm	3 ppm	0%