Office of Environmental Health Hazard Assessment

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MEMORANDUM

TO: Charlton H. Bonham, Director
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FROM: Lauren Zeise, Ph.D.
Acting Director *M Marty for L Zeise*

DATE: March 18, 2016

SUBJECT: RECOMMENDATION ON OPENING OF DUNGENESS CRAB FISHERY IN STATE WATERS SOUTH OF THE SONOMA/MENDOCINO COUNTY LINE

The Office of Environmental Health Hazard Assessment (OEHHA) has determined, in consultation with the California Department of Public Health (CDPH), that consumption of meat of Dungeness crab taken from state waters in all areas south of the Sonoma/Mendocino County line (38° 46.1' N Latitude) no longer poses a significant threat for domoic acid exposure. This determination is based on data from repeated sampling of Dungeness crab taken from California waters and analysis of these samples by CDPH laboratories. Dungeness crab taken from state waters north of the Sonoma/Mendocino County line continue to have elevated levels of domoic acid and should not be consumed.

Rock crab north of 35° 40' N Latitude (near Piedras Blancas Light Station in San Luis Obispo County) and around the Channel Islands (specifically Santa Cruz, Santa Rosa and San Miguel islands) also continue to have elevated domoic acid levels; the existing closure for commercial and recreational rock crab fishing in these areas should remain in place.

OEHHA and CDPH are strongly recommending 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.

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 ppm in the body meat and 30 ppm in the viscera. In contrast to levels seen earlier, levels of domoic acid in recent viscera samples of Dungeness crab caught from state waters in all areas south of the Sonoma/Mendocino County line all fall below the action level of 30 ppm, with one exception. Viscera from one of the 18 Dungeness crab samples collected from the Russian River area in three sampling events since February 27, 2016 contained 38 ppm domoic acid, which is 27% over the action level for viscera. None of the crabs taken in the sampling just prior (February 27) or in the subsequent sampling (March 16) had domoic acid levels above the action level. Also, at each of the other locations sampled north (Salt Point) and south (Southern Bodega Bay) of this point, at least two sets of samples taken at least seven days apart show low or non-detectable levels of domoic acid. Additionally, viscera from all 6 crab collected from Block 408 north of the Sonoma/Mendocino County line on March 10 tested below the action level for viscera. In the latest set of six samples collected from the Russian River area on March 16, body meat was tested, in addition to viscera, and all samples fell below their respective federal action levels.

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 meat of Dungeness crab taken from state waters in all areas south of the Sonoma/Mendocino County line 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 the areas south of the Sonoma/Mendocino County line – 38° 46.1' N Latitude – 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.

The sampling results for Dungeness crab caught in waters south of the Sonoma/Mendocino County line (including Block 408 north of the Sonoma/Mendocino County line) and north of Point Reyes in Sonoma County are provided in the table below. All but one row of data are for crab viscera; we also include data from crab meat from the 3/16/16 sampling at Bodega Bay from the Russian River area.

Monitoring and analysis of Dungeness and rock crabs in areas that remain closed are continuing by CDFW, DPH, 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 or (916) 322-6325.

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)
Bodega Bay at Sonoma/ Mendocino County Line (Block 408)	3/10/16	6	4.5-14 ppm	10 ppm	0%
Bodega Bay at Salt Point	12/30/15	6	11-29 ppm	20.8 ppm	0%
	1/25/16	6	<2.5-34 ppm	19 ppm	33%
	2/6/16	6	3.7-24 ppm	11 ppm	0%
	2/20/16	6	5-24 ppm	11 ppm	0%
Bodega Bay from Russian River area	11/16/15	6	11-34 ppm	25.8 ppm	50%
	12/1/15	6	6-69 ppm	22 ppm	17%
	12/8/15	6	6.5-100 ppm	43.6 ppm	83%
	12/17/15	6	7-38 ppm	17.5 ppm	17%
	12/30/15	6	3.1-30 ppm	13.4 ppm	17%
	1/25/16	6	3.6-13 ppm	9 ppm	0%
	2/6/16	6	3.9-66 ppm	26 ppm	33%
	2/20/16	6	4.1-35 ppm	11 ppm	17%
	2/27/16	6	<2.5-27 ppm	6 ppm	0%
	3/8/16	6	8.1-38 ppm	20 ppm	17%
	3/16/16	6	<2.5-28 ppm	10 ppm	0%
	3/16/16	6 (body meat)	All Non-Detectable	<2.5 ppm	0%
Bodega Bay from Southern Sonoma County	10/20/15	6	21-40 ppm	30 ppm	50%
	10/31-11/1/15	6	28-91 ppm	45 ppm	83%
	12/17/15	6	18-120 ppm	47.7 ppm	67%
	12/27/15	6	<2.5-54 ppm	20 ppm	17%
	1/25/16	6	<2.5-19 ppm	8 ppm	0%
	2/6/16	6	7.6-34 ppm	17 ppm	33%
	2/20/16	6	<2.5-15 ppm	5 ppm	0%
	2/27/16	6	<2.5-7 ppm	2 ppm	0%