

**Pre-Season Testing Protocol for the
Tri-State Coastal Dungeness crab Commercial Fishery**

Revised August, 2011

I. Purpose

The Washington Department of Fish and Wildlife (WDFW), Oregon Department of Fish Wildlife (ODFW) and the California Department of Fish and Game (CDFG) will conduct a coast wide test fishery in the area from Point Arena California to the U.S. Canadian border. Meat recovery results from the test fishery will be used as a basis for recommendations to agency policy leaders in each state regarding the commercial Dungeness crab season opening date. The intent is to employ a standardized and consistent protocol for coordinating the season opening date based upon coastwide crab quality. Agency decision-makers will consider the test fishing data to coordinate an organized season opening structure in the event that season delays due to poor quality crab are necessary.

II. Test Fishery Procedures

- a. Each state agency will determine the number and location of test areas necessary to collect data that is sufficient to be representative of the primary range of the fishery. Detailed information on test areas and station locations will be provided by each state to the other Tri-State Crab member states and PSMFC a minimum of two weeks prior to conducting the test fishery. Each test area is made up of 1-3 test station(s) centered on major crabbing ports in each state. Each test station is made up of three strings of six pots at three pre-determined depths. The test areas, stations and target depths are listed in each state's appendix. California statute requires testing to be conducted and funded by an entity authorized by the CDFG.
- b. Vessels and processors involved in the testing program will be selected based on consultation between State agency personnel and industry representatives. Persons on board testing vessels will be limited to captain, crew, and state or other authorized observers.
- c. A string of pots will be deployed at each station at depths of 15, 30, and 45 fathoms. If those depths are not acceptable, deviations should be noted and explained in the station location appendix.
- d. Six pots (standard commercial Dungeness crab pots) will be used at each station. Pots will be soaked for 24 hours (a shorter or longer soak may be necessary due to weather conditions). All legal-sized male crabs from each pot string, regardless of shell condition, will be collected for meat recovery. Crab will be kept in water until they are drained in preparation for weighing. Catch (number of crab) per pot will not be recorded. Crab collected from a single test area (all stations combined) will be combined and processed as a group to generate a single meat recovery

percentage for each test area. Each test area will be assessed individually to meet the minimum meat recovery criteria as specified in sections III and IV and not averaged together. If the total boat weight of all the crab from a single test area is less than 300 pounds that sample will not be valid and that test area must be re-sampled as soon as possible.

- e. Crabs from each test station may be collected as part of each state's domoic acid test, if such test will be conducted.
- f. Test-fishing and domoic acid test results will be provided to each state and PSMFC as soon as possible.

III. Meat Recovery Testing Procedures

- a. All crab collected for meat recovery testing will be included regardless of condition.
- b. If crabs are transported to a processing facility, they will be transported in a closed container or vehicle.
- c. Crab will be weighed 30 min from offload of the vessel and this number will be reported as boat weight. The boat weight will be used to calculate meat recovery for test results. For every test area the amount of time between offload and weighing will be recorded and an explanation provided if crab were drained longer than 30 minutes.
- d. Crab used in the meat recovery test will be backed and cooked (not steamed) in fresh water for 12 minutes.
- e. Crab meat will be picked out, **including tips**. Crab meat will be brined (90%), cleaned, rinsed, and weighed to obtain packed weight.
- f. Packed weight is divided by boat weight to calculate the meat recovery percentage. A summary of the data by test area from each testing entity will be made available to the other agencies and the public as soon as possible.

IV. Season Opening Criteria

- a. The decision to open the season on December 1 or to delay the opening will be made by consultation among WDFW, ODFW and CDFG. Meat yield from a high quality crab in the region north of Cascade Head may not be the same as the meat yield from a high quality crab in the region south of Cascade Head and as such, the Tri-State agreement to recommend opening the season on December 1 is based on the meat recovery criteria as follows:

- i. **North of Cascade Head:** Meat recovery rate for each test area to reach 23% (rounded to the nearest integer) by the 2nd round of testing or projected to reach 23% (rounded to the nearest integer) on or before December 1 using the 2nd and 3rd rounds of testing.
- ii. **South of Cascade Head:** Meat recovery rate for each test area to reach 25% (rounded to the nearest integer) by the 2nd round of testing or projected to reach 25% (rounded to the nearest integer) on or before December 1 using the 2nd and 3rd rounds of testing.

V. Test Fishing and Process for Setting the Season Opening Date

a. First Round of Test Fishing

- i. WDFW, ODFW and California will all conduct a test fishery targeted for completion by the end of October. This test fishery will establish a baseline meat recovery percentage from crab sampled over the primary range of the fishery. The meat recovery results for each test station will be provided to each state and PSMFC as soon as possible. If necessary, a conference call will be scheduled to discuss the results and next steps.

b. Second Round of Test Fishing

- i. WDFW will conduct a second round of test fishing for all Washington test areas targeted for completion by November 15. ODFW and California will complete a second round of test fishing for any test area that did not meet the minimum meat recovery criteria in the initial test, also targeted for completion by November 15. The meat recovery results for each test area will be provided to each state and PSMFC as soon as possible.

- ii. The results of the second round of test fishing will be used to determine if there are test areas that did not meet the minimum meat recovery criteria and if additional testing is necessary.

1. **If every test area meets the minimum meat recovery criteria:** Agency managers will agree to recommend that the season will open on December 1.
2. **If there are test areas that do not meet the minimum meat recovery criteria:** Agency managers will recommend additional testing and whether the third round of testing can be completed by November 26.
3. **If the second round of test fishing cannot be completed by November 26:** Agency managers will recommend that the season will be delayed until December 15 to complete additional testing.

iii. A Tri-State conference call will be scheduled as soon as possible following the second round of test fishing (or in the event the second round was not completed) for agency policy leaders to discuss the results of the second round of test fishing and decide on the course of action. During the call the policy leaders will mutually decide to either; open the season on December 1, complete a third round of test fishing by November 26 or delay the season until December 15.

1. In the event of differences in meeting the minimum meat recovery criteria in areas in the south or to the north agency policy leaders can mutually agree to follow the procedures outlined in Section VI to divide the coast where appropriate and establish two fishing zones with differing opening dates.

c. Third Round of Test Fishing

i. If a third round of test fishing is necessary, all areas that did not meet the minimum meat recovery criteria in the second round of testing will be retested with November 26 or December 10 as the targeted date of completion. The meat recovery results for each test area from the third round of test fishing will be provided to each state and PSMFC as soon as possible.

1. A minimum of 10 days must elapse between the date that pots from the second round of testing were picked up and the date that the pots are set for the third round of testing. This schedule will also be used in the event that additional tests are necessary beyond the third round of testing.

ii. The results of the second and third test fishery(s) will be used, as appropriate, to estimate a rate of improvement in meat recovery in order to project the meat recovery rate on December 1 or any date thereafter. The rate of improvement will be determined by a simple linear projection using two points; the two most recent meat recovery results.

MR = Meat recovery percentage D = Duration (Days)

Daily Improvement Rate = $(MR_{(3)} - MR_{(2)})/D$

Projected Meat Recovery for any date in the future can be determined by using the Daily Improvement Rate.

1. If every test area is projected to meet the minimum requirements using the second and third test fishery results on or before December 1 or December 15 if a delay was implemented: Agency managers will recommend the season open on December 1 or December 15.

2. If there are test areas that do not meet the minimum criteria until after December 15: Agency managers will recommend to set the season start date when all of the test areas are projected to meet the minimum meat recovery requirements.
 3. If the third round of test fishing cannot be completed by December 10: Agency managers will recommend that the season will be delayed until additional testing can be accommodated.
- iii. A Tri-State conference call will be scheduled as soon as possible following the completion of the third round of test fishing to discuss the results and next steps. During the call policy leaders will mutually decide to either; open the season on December 1 or December 15, or delay the season further, or conduct additional testing.
1. In the event of differences in meeting the minimum meat recovery criteria in areas in the south or to the north, agency policy leaders can mutually agree to follow the procedures outlined in Section VI to divide the coast where appropriate and establish two fishing zones.
 2. If the season opening is delayed further, the delay will not be later than January 15.

VI. Procedure for Establishing Fishing Zones

- a. If the season opening is delayed due to poor meat recovery rates, the states will take mutually supportive administrative action to divide the coastal fishery north of Point Arena, CA into two fishing zones—northern and southern. Due to differences in meeting the meat recovery criteria, the opening dates for the fishery may differ in the two fishing zones.
- b. The boundary between the two zones will take traditional fishing patterns into account so as to minimize disruption. The boundary will be set by mutual agreement of WDFW, ODFW and CDFG. The boundary will not be set south of the Oregon-California border in order to conform to California statutes.
- c. Fishers may elect to fish in either zone. However, a vessel used for fishing in the southern zone may not be used for fishing crab in the northern zone until 30 days after the northern zone has opened. The fisher must declare on the pre-season hold inspection certificate (or by the method specified by state management authority) the zone in which the vessel will fish. During the 30 days following the opening of the northern zone, a fisher who has declared for the southern zone may land or transport crab into the northern zone only after following the notification procedures established by the port of landing state management authority before entering the northern zone. All vessels must comply with the respective state

limited entry provisions in the port of landing. The same scenario, but for opposite zones, would apply if the northern zone opened prior to the southern zone.

- d. Gear-setting periods immediately prior to season opening dates will be allowed as describe by each State's regulations.

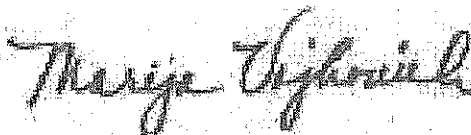
Signature Page for the
**Pre-Season Testing Protocol for the
Tri-State Coastal Dungeness crab Commercial Fishery**

Revised September, 2011

The undersigned agree to the current protocol.

10/7/11

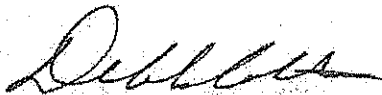
Date



Marija Vojkovich, Regional Manager, Marine Region
California Department of Fish and Game

10/5/11

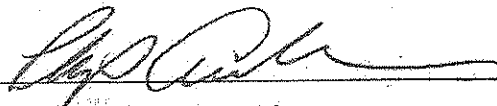
Date



Debbie Colbert, Deputy Director for Administration
Oregon Department of Fish and Wildlife

10/10/11

Date



Philip Anderson, Director
Washington Department of Fish and Wildlife

Appendix: Oregon

OREGON CRAB QUALITY TESTING PROCEDURES

Updated September 23, 2011

In partnership with the Oregon Dungeness Crab Commission, ODFW will conduct pre-season testing in accordance with the Tri-State testing protocols for softshell crab prior to the Ocean Dungeness Crab Fishery opening each year.

Crab will be collected in six test areas off the Oregon coast. Each area consists of two stations where strings of six pots will be set at approximately 15, 30, and 45 fathoms centered around the locations listed below. Each pot will be a standard commercial 38 inch crab pot and will be baited with two baiters filled with approximately 1 pound of squid each. For each depth, all legal-sized male crab will be collected. All crab will be combined and processed for a single meat recovery rate for each area, according to Tri-State protocols. The meat recovery by test area will be made available to each of the states and PSFMC for posting on their website as soon as possible. The total poundage by test area for each round of testing will be available to permit holders upon request. Six legal male crabs from each test station (1 from each pot) will be collected as part of the Oregon Department of Agriculture (ODA) domoic acid tests as needed. Secondly, the contents of two pots per string will be further examined by the ODFW at-sea observer to assist in collecting data about the quantity and species composition of the bycatch caught in the fishery. The sex and carapace widths of all of the Dungeness crab and the amount and species composition of all other bycatch will be recorded for each of these pots. This additional information will be available upon request after the first 30 days of the Ocean Dungeness Crab fishery. Lastly, genetic samples (one posterior leg) from female and undersized male crab will be retained and brought back to port for future population genetic analyses.

TEST AREAS

Astoria area: Peter Iredale and Seaside

Centered around (46° 11'N 124° 10'W) and (46° 01'N 124° 03'W)

Garibaldi area: Nehalem River and Netarts

Centered around (45° 42'N 124° 02'W) and (45° 24'N 124° 03'W)

Newport area: Cascade Head and Alsea Bay

Centered around (45° 03'N 124° 06' W) and (44° 23'N 124° 12'W)

Coos Bay area: Winchester Bay and Coos Bay

Centered around (43° 44'N 124° 14' W) and (43° 27'N 124° 20' W)

Floras Cr. area: Centered around (42° 55'N 124° 35' W)

P. Orford area: Centered around (42° 39'N 124° 30' W)

Brookings area: Pistol River and OR/CA border

Centered around (42° 16'N 124° 27' W) and (42° 02'N 124° 21'W)

Appendix: Washington

WASHINGTON CRAB QUALITY TESTING PROCEDURES

Updated August 16, 2011

Test Fishing Procedures

The Washington Department of Fish and Wildlife (WDFW) will conduct a test fishery to determine the percentage of meat recovered from a sample of Dungeness crab starting in late October. WDFW will conduct two test fisheries, the target start for the first test is the last week of October, and the second test will be conducted with a target date for completion of November 15.

Crab will be collected from two test stations in October. If necessary to gather additional information on crab condition in northern areas an additional station may be tested in November. For each area, three lines will be sampled. Pot strings of six pots each will be set at approximately 15, 30, and 45 fathoms along each line. Each pot will have two bait boxes both filled with approximately one pound of squid and razor clams. Pots will be soaked for a minimum of 24 hrs up to 48 hours. All legal-sized male crab in each string at all depths will be collected for meat recovery testing regardless of shell condition. Additionally, WDFW staff will randomly sample the catch for carapace width and shell condition data to maintain the historical shell condition database. Crab from each of the areas will be processed to collect a meat recovery rate for each area according to the protocols described below. Six crabs from each test station will be collected as part of the Department of Health (DOH) domoic acid test. Crab collected for DOH testing will be cooked whole in fresh water for 20 minutes. Crab per pot data will not be collected.

October Test Areas

Westport Area

Buoy 3:	46° 55'	124° 15'
Grayland:	46° 49'	124° 12'
Willapa:	46° 44'	124° 11'

Long Beach Area

Peacock Spit:	46° 15'	124° 10'
Seaview:	46° 19'	124° 09'
Cranberry:	46° 23'	124° 09'

Optional November Test Area

Northern Area

Destruction Island:	47° 40'	124° 33'
Kalaloch:	47° 36'	124° 30'
Queets:	47° 32'	124° 30'

Appendix: California

NORTHERN CALIFORNIA CRAB QUALITY TESTING PROCEDURES

Updated August 25, 2011

I. Test Fishery Procedures

Pre-season testing in California will be funded and conducted by an entity approved by CDFG in accordance with the Tri-State testing protocols for softshell crab, prior to the Ocean Dungeness Crab Fishery opening each year. Crab will be collected in four test areas off the California coast. Each area consists of two stations where strings of six pots will be set at approximately 15, 30, and 35-45 (depending on station) fathoms centered around the locations listed below. Each pot will be a standard commercial 38 inch crab pot and will be baited with two baiters filled with approximately 1 pound of squid each, or their equivalent. For each depth, all legal-sized male crab will be collected in the presence of an on-board observer authorized by CDFG. All crab will be combined and processed for a single meat recovery rate for each area, according to Tri-State protocols. The meat recovery by test area will be made available to each of the states and PSFMC for posting on their website as soon as possible. The total poundage by test area for each round of testing will be available to permit holders upon request. Six legal male crabs from each test station (1 from each pot) will be collected as part of the California Department of Public Health domoic acid tests as needed. In addition, the onboard observers may collect biological data as directed by the CDFG.

Crescent City Area:

- (1) Klamath River: N 41° 33'.00 W 124° 11'.00 15/30/45
- (2) St George Reef N 41° 46'.00 W 124° 15'.00 15/25/35

Trinidad Area:

- (3) Lagoons: N 41° 16'.00 W 124° 09'.00 15/30/45
- (4) Trinidad Head: N 41° 03'.00 W 124° 09'.00 15/30/45

Eureka Area:

- (5) LP Eureka: N 40° 50'.00 W 124° 14'.00 15/30/35
- (6) Eel river: N 40° 39'.00 W 124° 23'.00 15/25/35

Fort Bragg Area:

- (7) Usal: N 39° 48'.00 W 123° 53'.00 15/25/35
- (8) TBD

II. Additional Testing Outside the Tri-State Fishing Zones

Beginning in 2011 two test areas south of Point Arena will be established using Tri-State protocols but with testing results for informational purposes only. Test results will not be used in determining season delays.

Bodega Bay Area:

- (1) Russian River TBD
- (2) Bodega Bay TBD

Half Moon Bay Area:

- | | | |
|-----|------------------|-----|
| (3) | Farallon Islands | TBD |
| (4) | Pillar Point | TBD |