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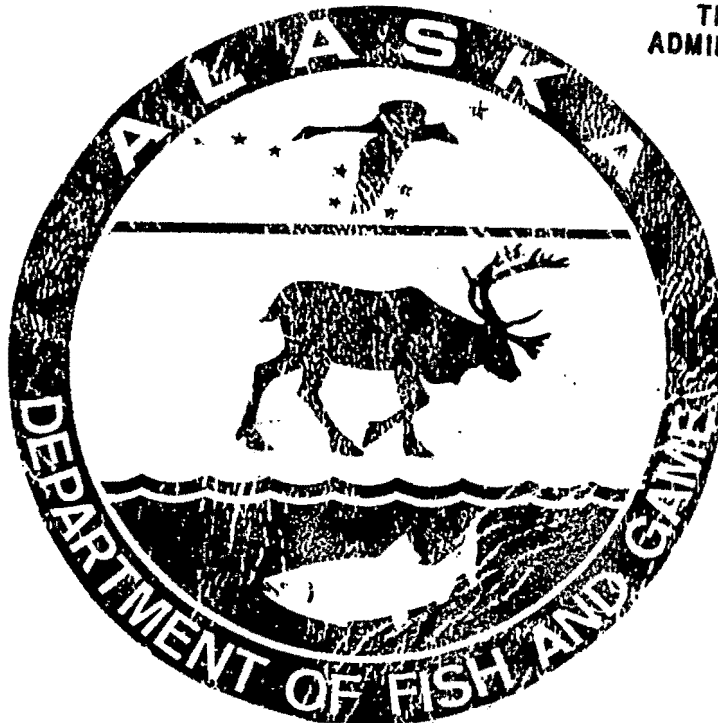
ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES

PRINCE WILLIAM SOUND AREA
ANNUAL SHELLFISH MANAGEMENT REPORT

1988 547

RECEIVED
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EXXON VALDEZ OIL SPILL
TRUSTEE COUNCIL
ADMINISTRATIVE RECORD



Area Shellfish Management Biologist...Wayne Donaldson
Regional Shellfish Management Biologist.....Al Kinker
Fish and Wildlife Technician III...Charles Trowbridge
Clerk Typist III.....Jo Nala

Area Office
P.O. Box 669
Cordova, Alaska 99574

of the commercial fishery.

The highest recorded harvest occurred in 1972 when 300,000 pounds were landed. The lowest harvest occurred in 1965 when 5,500 pounds were taken. Catch reporting by species did not begin until the 1979-80 season (Appendix Table 2). The recent five year average annual harvest (1984 - 1988) is 55,000 pounds. King crab have been harvested both in a directed fishery and as an incidental catch during the Tanner crab fishery.

The Alaska Board of Fisheries, at the spring 1988 meeting, adopted a guideline harvest range of 40,000 - 60,000 pounds for brown king crab in the Prince William Sound Area. This range was adopted to help stabilize the legal segment of the brown king crab stock from recent declines in average size, weight and distribution.

The regulatory season opens throughout Prince William Sound on October 1 and closes on December 20. A second season opens on January 5 and closes by regulation March 15. This split season allows a two week period between seasons when gear must be removed from the fishing grounds. This closure was designed to eliminate preemption of grounds prior to the Tanner crab fishery which until 1988 began on January 5. The Alaska Board of Fisheries established a season opening for Tanner crab on January 15 at the 1988 meeting. In 1990, the Department will propose a delay in the January season for king crab to coincide with the Tanner crab opening.

1988-89 SEASON SUMMARY

Fishing opened by regulation on October 1, 1988 to brown king crab in the central and western portion of Prince William Sound (Figure 3). Due to the continued low abundance of the red and blue king

crab stocks, fishing for these species remained closed.

Brown king crab fishing was open in the entire management area, except for eastern Prince William Sound. Six vessels registered to fish with the first deliveries occurring in late October. Effort on the grounds did not begin until mid October. The entire management area closed by Emergency Order # 2-S-E-13-88 on November 14, 1988 (Table 8). The brown king crab harvest was 48,442 pounds, taken by five vessels which made 14 landings. Catch by statistical area is listed in Table 1. The 1988 harvest represents a 30% reduction in biomass from the 1987-88 season harvest.

Justification for the closure was based on the attainment of the midpoint of the guideline harvest range and fishery performance through the date of the closure announcement. The Department notified the fleet, prior to the season, that it intended to target the midpoint of the range if trends in recruitment, average size and weight were similar to recent seasons. Dockside samples during the fishery indicated that recruit crabs accounted for 21% of the harvest. The recruitment level in 1987 was 20% while in 1986 the level was 38%. The average size was 6.6 inches in carapace length and the average weight was 6.6 pounds (Figure 4).

Dockside sample data indicates the brown king crab fishery is fully developed. Since the brown king crab fishery began in 1982, average size of commercially caught crabs has declined from 7.3 inches carapace length in 1982 to 6.6 inches in 1988. Average weight also declined from 9.7 pounds in 1982 to 6.6 pounds in 1988.

Brown king crab sold for \$4.00/pound. The ex-vessel value for the season was \$194,000. The average pot lift was worth \$76.

1989-90 MANAGEMENT OUTLOOK

The Department plans to open the brown king crab season on October 1, 1989. The Department will once again target the midpoint of the guideline harvest range as a preseason harvest estimate. Dockside samples and interviews will be used to adjust the harvest level, based on recruitment, average size, total weight and catch distribution. The catch is expected to be comprised of crabs similar in size to the 1988-89 season as prerecruit abundance was reported to not be increasing. Effort levels are expected to be similar to the past few seasons.

Some fishermen report decreased amounts of sublegal crabs on the grounds. If the 1989 season indicates that prerecruit abundance is low then a conservative approach to total harvest should be taken. It is apparent that this stock is small, in total number and the geographic distribution of commercial quantities. Long range production levels for this stock are unknown at this time.

Blue king crab is scheduled to remain closed for the 1988-89 season based on the 1986-87 season fishery performance. Increased recruitment due to immigration is highly unlikely. There is a low probability that the stock is related to other blue king crab populations in the state due to geographic isolation. While fishing during the last regulatory season in 1986-87, fishermen reported few undersize male and female blue king crabs thus a recovery of the stock is not expected for at least two more seasons.

Red king crab will be assessed during the annual Tanner crab survey. Interviews with both commercial brown king crab and subsistence crab fishermen will be used to gain an impression of the strength of the red king crab population. Red king crab survey catches remain very low. No fishery is anticipated until a healthy increase in the red stock occurs.

COMMERCIAL Fishing

Alaska Department of Fish & Game

emergency order

under authority
of AS 16.05.060

No: 2-S-E-01-92

Issued at Cordova
January 6, 1992

Effective Date: January 15, 1992

Expiration Date: April 1,
1992 unless superseded by
subsequent emergency order

EXPLANATION:

This emergency order closes the entire Prince William Sound Registration Area (E) to the commercial harvest of Tanner crab during the 1992 fishing season.

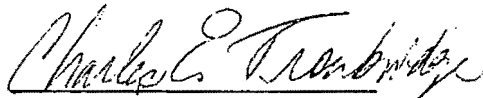
REGULATION:

5 AAC 35.310. FISHING SEASONS. is therefore amended to read:

5 AAC 35.310. FISHING SEASONS. Male Tanner crab may not be taken or possessed.

Carl L. Rosier
Commissioner

by delegation to:


Charles E. Trowbridge
Prince William Sound
Shellfish Biologist

JUSTIFICATION:

The Prince William Sound tanner crab fishery has been closed since the 1988 season due to the low abundance of both legal and sexually mature male crab. The Department of Fish and Game's 1991 Tanner crab pot survey indicates continued low abundance of legal males and sparse recruitment of sublegal males into the legal stock of Tanner crab in the Prince William Sound Management Area.

The index of legal males in the Northern and Hinchinbrook Districts was 3.4 crabs/pot in 1991 as compared to 7.8 in 1990 and 7.6 in 1989. Crabs which attained legal size in 1991 (recruit crabs) also remained at a very low level. The survey index of recruit crabs was 0.1/pot in 1991 as compared to 1.9/pot in 1990 and 1.7/pot in 1989.

The index of prerecruit-1 crabs also remained at a low level. The Northern District average catch was 0.2 crabs/pot during 1991, 2.1 in 1990 and 5.1 in 1989. Prerecruit-1 crabs captured in the Hinchinbrook District also remained low at 0.3 crabs/pot.

A trawl survey was conducted immediately prior to the pot survey. This survey corroborated findings of the pot survey in the Northern and Hinchinbrook Districts, yielding an estimate of legal male abundance of approximately 105,045 crab, a figure which contrasts sharply with the most recent 3-year (1986-88) harvest average of approximately 172,000 crab. The average harvest from these districts since the full development of this fishery in 1976 is 455,464 crab. This survey did indicate some strength in the prerecruit-2 and prerecruit-3 size classes in these areas.

The trawl survey was also used to assess abundance of tanner crab in offshore waters of the Management Area and indicated that no prerecruitment or recruitment has occurred in these areas.

Therefore, due to the continued low abundance of legal crab and in order to avoid the handling mortality attendant in a fishery as well as conserve the remaining stock for future production and rebuilding, the commercial Tanner crab fishery in the Prince William Sound Registration Area will not open in 1992.

DISTRIBUTION:

Commercial Processors, Commissioner of Fish and Game, Director of Commercial Fisheries, Commercial Fisheries Regional Supervisor, Director of Fish and Wildlife Protection, Palmer Detachment Commander Fish and Wildlife Protection, Fish and Wildlife Protection Officers, Lt. Governor, Assistant Attorney General, Magistrate Weltz, Members Board of Fisheries, U.S. Coast Guard, CAMA, Radio Station KLAM, Cordova Times, Subsistence Section Anchorage.

COMMERCIAL Fishing

Alaska Department of Fish & Game

emergency order

under authority
of AS 16.05.060

No: 2-S-E-04-93

Issued at Cordova, April 2, 1993

Effective Date: 12:00 noon
May 1, 1993

Expiration Date: December 15, 1993
unless superceded by subsequent
emergency order.

EXPLANATION:

This emergency order closes all waters of the western portion of the Prince William Sound Management Area (known as the Traditional Harvest Area) to commercial shrimp fishing for the 1993 season.

REGULATION:

5 AAC 31.210. (b) (1) is amended to read:

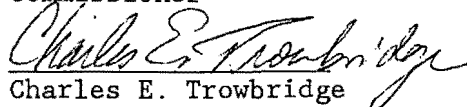
5 AAC 31.210. (b) (1) Shrimp may be taken by pots only as follows:

(1) In those waters north of a line from Cape Puget to Point Elrington to Cape Cleare and west of a line from Montague Point to Bidarka Point (Traditional Harvest Area) there will be no open season in 1993.

(2) In those waters east of a line from Montague Point to Bidarka Point and south of a line from Cape Puget to Cape Cleare from January 1 through December 31 under conditions of a permit issued by the commissioner.

Carl L. Rosier
Commissioner

by delegation to:


Charles E. Trowbridge
Area Shellfish Biologist

JUSTIFICATION:

The spot shrimp stock in the Traditional harvest area of Prince William Sound remains in a depressed condition. The entire Traditional harvest area has been closed since the fall of 1991.

Since full development of the fishery in 1980 and prior to oilspill closures in 1989, catches ranged from 75,173 to 242,678 pounds of whole shrimp with an average harvest of 179,000 pounds. The number of vessels participating during this period ranged from 23 to 86 with an average of 67.

During the most recent commercial season in the fall of 1991, 15 vessels harvested 17,255 pounds of shrimp in 45 days of fishing. Sixty-five percent of the fishermen participated in the voluntary logbook and catch reporting program. Season catches were indicative of stock condition since effort was spread over the majority of the traditional harvest area. Catch-per-unit-of-effort (CPUE) was low at 0.86 lbs. whole shrimp per pot (0.43 lbs. tails). Reports indicated that large shrimp comprised a higher proportion of the catch than that seen in the Spring 1990 season and that the capture of unsalable small shrimp had declined significantly from previous seasons. This decrease in the capture of small shrimp is most likely attributable to the fact that this is the first fishing season in which the 7/8" rigid mesh escape panels have been in use.

The CPUE of the Fall 1991 season and the department's fall, 1991 survey are comparable at 0.86 and 0.87 pounds of whole shrimp per pot. Sport fishermen using pots with small mesh reported a lack of small shrimp in the catch. The Department's fall, 1991 survey which also utilized pots with small mesh, indicated very limited recruitment of small males to the catchable segment of the stock. Although the relative number of females appears to have increased, indicating that some of the growth potential has been realized, the overall weight of the per-pot catch remained low.

During the department's fall 1992 survey, catch per pot remained low at .9 pounds of whole shrimp per pot. Results of the survey indicated that some limited recruitment of small males is occurring in the western and southwestern portions of PWS; however, the number of females was low at 1.0 per pot. Very little recruitment of small males was evident in the northern portion of PWS; however, the number of females was higher at 2.7 per pot. These data are consistent with trends evident in the 1991 commercial season and the department's 1991 survey.

Two methods of enhancing the remaining stock of spot shrimp are to reduce fishery removals of the reproductive segment of the stock and to allow for continued growth of the smaller males and transitionals. Therefore, in order to allow the continued rebuilding of the spot shrimp stock, the commercial spot shrimp fishery in the waters of western Prince William Sound will remain closed in 1993.

COMMERCIAL Fishing

Alaska Department of Fish & Game

emergency order

under authority
of AS 16.05.060

No: 2-S-E-15-89

Issued at Cordova
September 29, 1989

Effective Date: October 1, 1989

Expiration Date:
March 16, 1990
unless superseded by
subsequent emergency
order

EXPLANATION:

This emergency order closes the entire Prince William Sound Registration Area (E) to the commercial harvest of all species of king crab during the 1989 - 1990 fishing season.

REGULATION:

- 5 AAC 34.210. FISHING SEASONS is therefore amended to read
- 5 AAC 34.210. FISHING SEASONS. Male king crab may not be taken or possessed

Don W. Collinsworth
Commissioner

by delegation to:

Wayne K. Donaldson
Wayne K. Donaldson
Prince William Sound
Shellfish Biologist

JUSTIFICATION:

Aerial surveys conducted by the Alaska Department of Fish & Game on September 18 and 26 and observations from a chartered research vessel on September 2 have located oil in Knight Island Passage and adjacent bays. Knight Island Passage is the primary harvest area for brown king crab in Prince William Sound.

Approximately 15 small to medium size sheens, including sheens

located in anchorages traditionally used by the brown king crab fleet have been located.

The brown king crab fishery, like other crab fisheries, depends upon the capture by pots and subsequent live holding of legal size males before they are sold to processors. The live holding of male crabs requires a fresh supply of sea water to be supplied to the crabs until the fishing vessel reaches port. Due to the length of time necessary to gear up and recover fishing gear and the fact that winter storms can move oil into the fishing areas, monitoring the area on a timely basis is impractical. Due to oil which persists in the area of known fishing for brown king crab there is an appreciable likelihood that the adulteration of crab or fouling of gear and vessels will occur. Therefore, the fishing season for brown king crab will not open during the 1989 - 1990 fishing season.

The red and blue king crab fisheries will not open due to low abundance of both species of crab. The Department's 1989 index survey in Orca Bay and Hinchinbrook Entrance produced only two females and four males. The most recent commercial harvest of red king crab occurred during the 1984-85 season. That fishery produced only 235 pounds.

An exploratory blue king crab fishery for 30 days in 1986 produced less than 200 pounds with five vessels participating. Dockside interviews indicated that both the legal and sublegal stock segments were depressed, therefore, in order to conserve the remaining red and blue king crab stocks for future production and rebuilding, the red and blue king crab fisheries will remain closed during the 1989 - 1990 fishing season.

DISTRIBUTION:

Commercial Processors; Commissioner of Fish and Game, Director of Commercial Fisheries, Commercial Fisheries Regional Supervisor, Director of Fish and Wildlife Protection, Fish and Wildlife Protection Officers, Lt. Governor, Assistant Attorney General, Magistrate Weltz, Members Board of Fisheries, U.S. Coast Guard, CAMA, Radio Station KIAM; Cordova Times, Subsistence Section Anchorage; broadcast on SSB 2509 and VHF 7.

COMMERCIAL FISHERIES

Emergency Order

ALASKA DEPARTMENT
OF FISH & GAME

Under Authority of AS 16.05.060

No. 2-S-E-07-89

Issued at Anchorage: April 24, 1989.

Effective Date: April 30, 1989
12:00 Noon

Expiration Date: December 31, 1989
unless superseded by a subsequent
Emergency Order.

Closed due to oil

EXPLANATION:

This Emergency Order closes the Northern District of Prince William Sound to commercial fishing for Dungeness crab as of 12:00 noon April 30, 1989.

The Northern District of Prince William Sound includes all waters of statistical Area E west of a line from Salmo Point to a point on the mainland at 60° 37' 54" N. Lat., 145° 45' W. Long., north of a line from Makaka Point to a point on Hinchinbrook Island at 60° 28' 54" N. Lat., 146° 22' 51" W. Long., north of a line from Cape Hinchinbrook to Seal Rocks (60° 10' N. Lat., 146° 50' W. Long), and west of the longitude of Seal Rocks (60° 10' N. Lat., 146° 50' W. Long.).

The Orca Inlet District opens to Dungeness crab fishing only by Emergency Order and is presently closed due to low abundance of Dungeness crabs. The Copper River District is presently open to Dungeness Crab fishing and will remain open by regulation until May 20, 1989. At this time there has been no oil near the area where that fishery takes place.

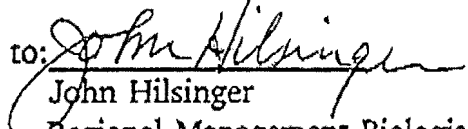
REGULATION:

5 AAC 32.210. FISHING SEASONS. is amended to read:

5 AAC 32.210. FISHING SEASONS. Male Dungeness crabs may be taken or possessed only as follows:

(2) Northern District: January 1, 1989 through 12:00 Noon April 30, 1989;

by delegation to:


John Hilsinger
Regional Management Biologist
Region II

COMMERCIAL Fishing

Alaska Department of Fish & Game

emergency order

under authority
of AS 16.05.060

No: 2-S-E-09-92

Issued at Cordova September 18, 1992

Effective Date: October 1, 1992

Expiration Date: March 16, 1993
unless superseded by subsequent
emergency order.

EXPLANATION:

This emergency order closes the entire Prince William Sound Management Area (Area E) to the commercial harvest of all species of king crab for the 1992 - 1993 registration year.

REGULATION:

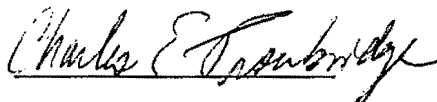
5 AAC 34.210. FISHING SEASONS. is therefore amended to read:

5 AAC 34.210. FISHING SEASONS. Male king crab may be taken only as follows:

(1) in PWS, Area E the commercial harvest of all species of king crab is closed until 12:00 noon, October 1, 1993.

Carl L. Rosier
Commissioner

by delegation to:



Charles E. Trowbridge
Area Shellfish Biologist

JUSTIFICATION:

In September 1991 the department announced its intent to open the western portion of Prince William Sound to the commercial harvest of all species of king crab. The department also identified the informational nature of the fishery citing a lack of survey information as well as fishery performance data due to closures based upon low abundance.

The 1991 season was the first time since the 1984-85 season that all species were open to harvest. Commercial fishing for red and blue king crabs has been closed since '84-85 and '85-86, respectively, due to low abundance. The brown king crab season in '90-91 closed after the first half of the regulatory season due to low catch.

The 1991-92 season was open from October 1 through November 27. The fishery had six participants and all three species of king crabs were targeted. Although specific catch information is held confidential due to only two vessels reporting catch, fishery performance data indicate that all king crab stocks are severely depressed with little potential for recruitment in the near term.

King crab stocks in eastern PWS are surveyed by trawl gear during the annual tanner survey and are in a depressed condition as well. During the 1992 survey only two juvenile female and no male king crabs were captured during 38 trawl tows in the Orca Bay and north Montague areas.

Therefore, to conserve the remaining stock the Prince William Sound king crab fishery will not open for the 1992-93 season.

DISTRIBUTION:

Commercial Processors, Commissioner of Fish and Game, Director of Commercial Fisheries, Commercial Fisheries Regional Supervisor, Director of Fish and Wildlife Protection, Palmer Detachment Commander Fish and Wildlife Protection, Fish and Wildlife Protection Officers, Lt. Governor, Asst. Attorney General, Magistrate Weltz, Members Board of Fisheries, U.S. Coast Guard, CAMA, Radio Station KLAM, Cordova Times, Subsistence Section Anchorage.

KING CRAB FISHERY

(c) In Area D, king crab may not be taken with pots that have tunnel eye openings located on the vertical plane of the pot.

(d) During a king crab season in those waters north and east of a line from Point Manby to Ocean Cape, an aggregate of no more than 100 king and Tanner crab pots may be operated from a vessel registered to fish for king crab.

5 AAC 34.190. AREA D INSPECTION POINTS. Area D inspection points are located at Yakutat or other locations specified by the department.

ARTICLE 6. STATISTICAL AREA E (PRINCE WILLIAM SOUND)

5 AAC 34.200. DESCRIPTION OF STATISTICAL AREA. Statistical Area E has as its western boundary the longitude of Cape Fairfield (148° 50' W. long.), and its eastern boundary the longitude of Cape Suckling (143° 53' W. long.).

5 AAC 34.210. FISHING SEASONS. Male king crab may be taken only as follows:

(1) from 12:00 noon October 1 through December 20; and

(2) from 12:00 noon January 15 through March 15.

5 AAC 34.217. GUIDELINE HARVEST RANGE. The guideline harvest range for brown king crab is 40,000 to 60,000 pounds.

5 AAC 34.220. SIZE LIMITS. (a) Male red and brown king crab seven inches (178 mm) or greater in width of shell may be taken or possessed.

(b) Male blue king crab 5.9 inches (150 mm) or greater in width of shell may be taken or possessed.

5 AAC 34.225. LAWFUL GEAR. (a) King crab may be taken only with king crab pots. King crab taken by other means must be returned to the sea without further harm.

(b) Trawls with a ground line not exceeding 60 feet (18 m) may be used for taking bait.

(c) Repealed 6/30/79.

(d), (e) Repealed 6/14/80.

(f) Cone or pyramid pots with all bait and bait containers removed and all doors not secured closed may be stored in the water only from 30 days before the opening, until 30 days after the closure, of the commercial king crab season.

5 AAC 34.240. INSPECTION POINTS. Initial inspection points are located at Cordova and Valdez or at other locations specified by the department. Reinspection points are located at Cordova, Valdez, Seward or at other locations specified by the department.

ARTICLE 7. STATISTICAL AREA H (COOK INLET)

5 AAC 34.300. DESCRIPTION OF STATISTICAL AREA. Statistical Area H has as its eastern boundary the longitude of Cape Fairfield (148° 50' W. long.), and its southern boundary the latitude of Cape Douglas (58° 52' N. lat.).

5 AAC 34.305. DESCRIPTION OF DISTRICTS. Districts shall be as described in 5 AAC 21.200.

5 AAC 34.310. FISHING SEASONS. (a) Male king crab, except brown king crab, may be taken only as follows:

(1) from 12:00 noon August 1 through March 15;

(2) during periods opened and closed by emergency order, only male king crab eight inches (203 mm) or greater in width of shell may be taken.

(b) Male brown king crab may be taken only during the spring season for Tanner crab under conditions of a permit issued by the commissioner.

5 AAC 34.320. SIZE LIMITS. Male king crab seven inches (178 mm) or greater in width of shell may be taken or possessed with the following exceptions: