



Oregon Fish and Wildlife Commission



Date: October 22, 1999

SUBJECT Oregon Commercial Dungeness Crab Fishery

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COMMISSION ACTION REQUESTED The Commission will review the status of the Oregon commercial Dungeness crab fishery. No action is requested.

DOCUMENTS INCLUDED

1. Agenda Item Summary
2. Staff Report (Executive Summary page 3)
3. Letter from Stephen Sanders, Dept. of Justice, dated 3-5-99

RELATED STATUTES N. A.

RELATED RULES N. A.

<i>Read and Approved by:</i>		
Division Chief	REDACTED FOR PRIVACY REDACTED FOR PRIVACY	Date <u>Sept 28, 1999</u>
Attorney General	—	Date —
Director	REDACTED FOR PRIVACY	Date <u>Sept 29, 99</u>

Agenda Item Summary

BACKGROUND

This is an annual review of the status of Oregon's ocean commercial crab fishery. There are no rule amendments proposed at this time. Updates are presented in this report to cover the following areas:

- ◆ 1998-99 Commercial Crab Fishery
- ◆ 1998-99 Summer Commercial Crab Fishery
- ◆ Crab Pot Biodegradable Twine and Escape Panel
- ◆ Oregon Crab Pot Limitation Discussion and Implementation of Washington's Pot Limit Plan

PUBLIC INVOLVEMENT

None, this is a status report only.

DRAFT MOTION

None

EFFECTIVE DATE

**OREGON COMMERCIAL DUNGENESS CRAB FISHERY
STATUS REPORT**

**prepared for
Oregon Fish and Wildlife Commission**

Astoria, Oregon

October 22, 1999

Prepared by

**Oregon Department of Fish and Wildlife
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Outline of Staff Report

	Page
I. Executive Summary.....	3
II. Review of 1999 Fishery.....	5
• History of fishery regulations	
• Catch, effort and value	
III. 1999 Summer Dungeness Crab Fishery.....	7
• Description, history and markets	
• May 1999 Commission action	
• Review of fishery	
IV. Crab Pot Biodegradable Twine and Escape Panel.....	9
V. Oregon & Washington Crab Pot Limit Discussion.....	10
• Overview-Oregon and Washington	
• Review and status of Oregon discussions in 1999	
• Washington pot limit program	
• Discussion	
Appendix A – Fishery Status-Tables and Figures.....	14
Appendix B – Pot Limit Implementation-Washington Plan	

EXECUTIVE SUMMARY

This report reviews the status of Oregon's ocean commercial Dungeness crab fishery. Specific updates are presented that review the 1998-99 ocean commercial crab fishery, the 1999 summer ocean commercial crab fishery, an update on pot biodegradable twine implementation for the 1999-00 fishing season and the current implementation of Washington's crab pot limitation program for the 1999-00 season and impacts to Oregon fishermen and fisheries.

1998-99 Commercial Crab Fishery

- Commercial crabbers landed 9.1 million pounds, about 2 million pounds above both the 1996-97 and 1997-98 seasons landings of 7 million pounds. The recent season catch was 87% of the most recent 10 years average and about 3% above the historic average season landings.
- Newport, Astoria, and Brookings were the leading ports of landing, representing 72% of all deliveries.
- Landings by month continue to be skewed towards the start of the season. Since 1984, no less than 67% of the annual catch has been harvested during December and January. For the past three seasons more than 82% was harvested in this eight week period.
- An estimated 306 vessels participated in 1998-99, similar to the 1997-98 season. About 116,000 pots were estimated to be ready for fishing based on the start of season vessel "hold" inspections and similar to the 117,000 pot average over the past five season opening (1994-1998).
- Overall ex-vessel price/pound was similar for the 1998-99 and prior 1997-98 season; \$1.78 and \$1.76, respectively. While 1998-99 prices lagged over the previous year, during the December-February period, they were much stronger during the spring months (March-June) and very strong during the summer period (July-August).

1998-99 Summer Commercial Crab Fishery

- May 1999 Commission adopted more restrictive regulations to lower potential for expansion of summer live softshell crab fishery. Action included 1,200 vessel landing limit per week for period of second Monday in June (June 14 this year) through end of the season August 14 and a reduction in the summer (June 1-August 14) catch ceiling from 10% to 7% of the previous December-May crab Oregon harvest.
- Summer 1999 fishery (June 1-August 14) landed 201,000 pounds, a 55% reduction from the 1998 summer season catch of 450,000 pounds. Summer catch was 2.2% of the of the December-May catch; only 32% of the potential catch ceiling limit. Lower catches reflected the initiation of landing limits and concentrated crabbers on high quality hardshell crab for local/coastal consumer markets.
- Ex-vessel price per pound was very strong over 1998, and generally ranged from \$0.40 to \$1.19 per pound more depending on month.

Crab Pot Biodegradable Twine and Escape Panel

- May 1999 action by commission dropped allowance of a cotton/polyester blend twine to be used in crab pots as an option to 100% natural cotton twine. Revised regulations bring Oregon into similar rules with Washington and California.
- Staff notified entire Oregon Dungeness crab fleet, twine manufactures and suppliers on change.

Oregon Crab Pot Limitation Discussion & Implementation of Washington's Pot Limit Plan

- Oregon pot limit proposals submitted by industry as legislative house bills (two submitted) died in committee in the spring of 1999. Oregon currently has no ocean commercial crab pot limit.
- Washington will be implementing a 'Coastal Dungeness Crab Even Flow harvest Management Plan' beginning with the start of the 1999-00 season off Washington. A pot limit of 500 pots per vessel will be implemented for the upcoming season, with a 3-tier limit schedule established for the 2000-01 season based on 1996-97 and 1997-98 "a base year" landing records.
- Several impacts possible on Oregon's crab fishery and fishermen.

**OREGON DEPARTMENT OF FISH AND WILDLIFE
STAFF REPORT**

**OREGON COMMERCIAL DUNGENESS CRAB FISHERY
STATUS REPORT**

PREPARED FOR OREGON FISH AND WILDLIFE COMMISSION

October 22, 1999

Astoria, Oregon

II. REVIEW OF 1999 FISHERY

History of Fishery Regulations

The West Coast Dungeness crab fishery is managed as a "recruitment" fishery. No quota is set, but rather, all crab of a certain size and sex are available for harvest. The fishery is primarily managed by "3S" regulations: size, sex and season. Size and sex regulations insure high levels of annual reproduction, protects all females from harvest and adult males below the commercial minimum size of 6.25 inches. Season regulations are designed to insure that the harvest occurs well after molting, allowing a period of time to protect newly-molted softshell crabs of legal size ("recruits") while they harden-up and reach an acceptable meat content. The traditional approach of West Coast harvest strategies has been to close the season during the period when the majority of adult male crabs are softshelled, in order to optimize the annual yield from the crab resource. However, both Oregon and Washington seasons currently extend into a period when molting activity and softshell abundance is typically high (July and August).

The setting of season regulations has been an active issue since the early days of the crab fishery. As early as 1911, there were regulations which recognized the months of July, August and September as the time when crabs were in poorest condition. In 1948, season closure and opening criteria were established on the basis of at-sea sampling. When more than 10 percent softshells were present, the season was closed. Since then, fixed season dates have been established, modified and extended. In 1984, following several years of high-volume fishing on low quality crabs at the end of the season, the Commission set the season closure date to the current August 14. Late-season ("summer") landings and effort declined for several years but soon began to increase. In 1992, the Commission enacted a summer harvest quota, requiring the Director to close the season if landings after May 31 exceed ten percent of the previous December through May total landings. This regulation was effective with the 1993 summer season. The ten percent limit was approached but not exceeded during the 1993-1998 summer seasons.

In 1999, the Commission enacted additional summer fishery regulations to discourage the potential for expansion of a softshell fishery, higher levels of fishing effort and increased sorting and associated mortality. Regulations restrict landings to 1,200 cumulative pounds per vessel per week during the

period of the second Monday in June to August 14, with total landings during this period limited to a catch ceiling of 7 percent of the previous December-May harvest. This action preserved a modest historic low volume summer fishery directed towards available hardshell crab and coastal consumer markets.

Catch, Effort and Value

Oregon's annual crab landings have fluctuated in an approximately cyclical manner over the last fifty years, with peaks in the 15 to 18 million pound range and lows of about 3 to 5 million pounds (Figure 1). This pattern is expected in a fishery that relies on a single year "recruit" class for most of its harvest. The long term harvest (since the 1947-48 season) is about 8.9 million pounds and about 10.4 million in the most recent 10 years (since 1988-89 season). The 1998-99 season harvest totaled about 9.1 million pounds (Table 1), slightly more than 2 millions pounds above each of the two most recent seasons (1996-97 and 1997-98) and 87% of the most recent 10 year average. It was slightly above (103%) the historic average.

The 1998-99 landings were led by Newport followed closely by Astoria with 2.4 million pounds and Brookings with 1.6 million pounds (Figure 2). Collectively, these three ports accounted for 72% of all Oregon landings for the season. Although port landings were somewhat similar in the landing profile of the 1997-98 season, large gains were observed at Newport, Coos Bay (Charleston), Port Orford and Brookings. Port Orford, in particular, had 1998-99 landings that were 289% above the previous season.

Since 1984, no less than 67 percent of the annual catch has been harvested during December and January. In each of the last three seasons more than 82 percent has been harvested during these months.

The 306 vessels participating in 1998-99 season dropped slightly (3%) from the 1997-98 season total of 314 and was 8% below the 331 vessels fishing during the three complete seasons prior to 1998-99. The number of pots fished by Oregon vessels in this past season is estimated at 116,000 and compares closely to an average 117,000 pots estimated during vessel hold inspection over the past five December openings (1994-1998). By comparison, the 10 year December average (1988- 1997) was 111,000 pots (Table 1).

A comparison of 1998-99 monthly ex-vessel price per pound is shown in Table 2. Overall, the average 1998-99 price per pound was similar to the prior season, \$1.78 and \$1.76, respectively. Prices lagged slightly during December, January and February, but were much stronger during the spring months (March-June) over the previous season. Summer 1999 (July-August) prices were very strong over summer 1998, more than a \$1.00 per pound difference each month, reflecting new 1999 summer fishery regulations that de-emphasized higher volume and lower priced product landed in the live softshell crab fishery in recent summers.

III. 1999 SUMMER DUNGENESS CRAB FISHERY

Description, History and Markets

Crab fishing and marketing operations during the Oregon winter-spring period crab fishery is characterized by a fairly consistent ex-vessel price structure and uniform quality. During the summer fishery (June 1-August 14) market product has historically been more diverse with crab quality and price varying widely. The summer fishery's exploitation rates are lower and some hardshells are still being caught through July. In the last two decades, in most years, there are few old hardshells (skip molts) available, and new recruits are not of sufficient quality to support significant catches for the hardshell markets. In occasional years, however, crab molt and harden-up relatively early so that by mid-July there is an opportunity to market substantial quantities. The quality is still not up to winter standards but finds market acceptance at a time when domestic supplies of fresh crab are limited.

While the remaining hardshell crabs caught in summer command a very high price, lesser-quality crabs that have recently molted are harvested and sold at lower prices. For example, price per pound in August of 1998 ranged from \$1.06 to more than \$3.00. Monthly average prices in recent seasons are presented in Table 2. Obviously, the minimum acceptable quality varies between buyers. Recently, a developing market demand for live softshell crabs has defined the lowest price range, whereas "recovery fishing" for the crab meat market previously brought the lowest summertime prices in the past.

Although many vessels maintain a relatively high quality "hardshell" crab standard through the end of the season, others have obtained markets for softshell crabs that sell for low prices. Approximately half of the crab delivered during the 1997 and 1998 summer seasons were softshelled, marketed at sharply lower prices than the prevailing price for hardshells.

Historically, the summer fishery was unregulated with only seasonal fishing periods limiting potential catch. In 1992, Commission action placed a 10 percent ceiling on catch (beginning with the 1993 summer season) based on 10 percent of the previous December-May landings. This limit was intended to prevent large-scale impacts to the future resource while allowing summer deliveries to continue for small-scale high unit value markets.

A more complete discussion of the summer season fishery, development of the live softshell fishery, issues of sorting and bycatch mortality and Commission action (May 1999) to limit summer fishing is described in the May 1999 staff report to the Commission.

May 1999 Commission Action

In May 1999, the Commission adopted new summer regulations for the Oregon ocean Dungeness crab fishery aimed at reducing the potential for an increasingly larger summer live softshell crab fishery, and the recent expansion of the fishery in developing West Coast markets for this product. Specifically, the Commission adopted:

- A weekly cumulative landing limit of 1200 pounds per vessel during the period of the second Monday in June (June 14 in 1999) through August 14, the end of the season. There was no limit on the number of weekly deliveries. A catch week is defined as Monday-Sunday.

- Regulations required that crabbers retain landing receipts or tickets on board the vessel for a period of 90 days following the date of landing and make them available for inspection by authorized agents as needed.
- A lower summer fishery catch ceiling from 10 to seven percent of the previous December through May total pounds landed statewide.

Review of Fishery

With regulations adopted by the Commission in May, the 1999 summer fishery took place under a new set of criteria as described above. The result of the 1999 fishery is described below.

Effort: Historically, the number of vessels participating in the summer fishery has fluctuated, averaging 120 vessels, about 34 percent of the active overall yearly season fleet average (358 vessels) during the period of 1985-1998 (Table 3 and Figure 3). In 1999, summer effort was 135 vessels, up slightly from 112 vessels in 1998, and 44 percent of the overall fleet participating during the 1998-99 season. Preliminary data indicates that both June and July effort was considerably higher than 1998; 44 and 16 percent, respectively, but August effort was slightly less (Table 3). Historically, the summer fishery shows a declining number of participating vessels from June into August as a typical pattern and 1999 continued that trend.

Catch: The Oregon summer ocean Dungeness crab fishery (June 1-August 14) landing history since 1977 is shown in Figure 4. Recent peaks of nearly one million pounds were reached in the first half of the 1990's, with significantly lower levels during the past three summers. Annual summer landings since 1985 averaged about 531,000 pounds through 1998. More recently, since 1990, summer landings have been somewhat higher, averaging 650,000 pounds. Landings for summer 1999 (June 1-August 14), under the new restrictive regulations, were 201,000 pounds, 55 percent below the 1998 catch of 450,000 pounds (Table 3). Overall, the 1999 summer catch was only 32 percent of the 624,000 pound catch ceiling (based on 7 percent of the December-May landings of 8,911,000 pounds). In total, the June-august 14 landings were 2.2 percent of the total 1998-99 season landings, the second lowest percentage since 1978 (Figure 4).

As expected, the restrictive 1999 summer landing limits had the greatest impacts in landing volume for ports where higher landings of live softshell crab occurred. This was particularly true for the ports of Florence and Winchester Bay (Figure 5). The drop of production in Florence was the most dramatic, falling from about 262,000 pounds in 1998 to only 14,000 in 1999, a 96 percent reduction. Other ports, such as Astoria, Garibaldi Port Orford, Gold Beach and Brookings showed considerable increases in summer landings over 1998 levels. A comparison of 1998 and 1999 summer landings by port is shown in Table 4.

Summer 1999 landings by month were considerably stronger for June over 1998, but were 77 and 84 percent below July and August levels, respectively (Figure 6 and Table 3).

Fishery Value: The 1999 summer fishery experienced a higher average ex-vessel monthly price per pound during June, July and August by \$0.40, \$1.04 and \$1.19 over 1998 prices, respectively (Table 2). This was likely due largely to the almost complete loss of lower value live softshell crab on the market during the summer. With only one exception, 1999 summer monthly price per pound values were higher than for any summer month since at least 1992 (Table). Based on June-August poundage

landed in the 1999 summer fishery and calculating value based on the average monthly price, the 1999 fishery is calculated to have a 'rough' ex-vessel value of about \$538,000 compared to \$716,000 in 1998. This was a drop of 25 percent, despite landings dropping 55 percent from 1998 levels.

IV. CRAB POT BIODEGRADABLE TWINE AND ESCAPE PANEL

In May 1999, the staff discussed with the Commission the current escape mechanism rules used for Oregon crab ocean commercial fisheries and their effectiveness at allowing crab to exit lost pots over a "short" time period. The regulations in force since 1994 had allowed the use of a single loop of either natural twine material of cotton or other material as approved by the Department. The Department proposed, and the Commission adopted, a rule to allow an added twine type consisting of a cotton/polyester blend (no more than 50% polyester content). Both twine types were required to be 120 thread count or less. The intent of either twine on pots, was to act as an escape mechanism. These could be used as part of the pot's lid hook assembly or as part of a modification of the pots' wire mesh so that as the single strand of twine breaks, the lid is unlatched or an opening in the web is created of at least 5 inches in diameter.

The Commission, at the request of the Department, took action to delete the cotton/polyester blended twine provision, beginning with the start of the 1999-00 season. Recent experimental tests by staff and crabbers had raised doubts that the blended twine would deteriorate in a short time, and, in fact, in-water tests showed no breakage up to 5 months.

Following Commission's action to delete the blended twine regulation, staff issued notices to industry alerting them of the change in regulation. First, a letter was sent on May 28, to all Oregon commercial Dungeness crab vessel limited permit holders notifying them of the change, effective for the 1999-00 season. Early notice allowed crabbers needing to make the change to natural twine time do so for the next season. Second, on June 3, a letter was sent to all biodegradable crab pot twine suppliers (Oregon) and manufactures notifying them of the change.

V. OREGON COMMERCIAL DUNGENESS CRAB POT LIMIT DISCUSSION WASHINGTON POT LIMIT & CRAB MANAGEMENT PROGRAM

Overview

Oregon

Many ocean fisheries rely on limiting participation and gear restrictions as key elements of a management plan. Oregon's ocean commercial Dungeness crab fishery has operated under a restricted permit entry system beginning with the 1995-96 season. Of approximately 450 permits issued or pending, approximately 324 vessels have actively fished during the past four seasons.

It is estimated that during the most recent four fishing seasons (1995-96 through 1998-99) about 118,000 pots (as declared by fishers during preseason vessel hold inspections) have been actively fished at the start of the season. For an earlier period of 1977 through 1989 (13 fishing seasons), an average of 83,000 pots were estimated to have been fished.

To date, no pot limit exists in the fishery.

Extensive discussions on a pot limitation have occurred over the past 2 years within Oregon's fishing industry. The Oregon Dungeness Commodity Commission (OSCC), ODFW staff and Oregon Fish and Wildlife Commission, fishermen, and, most recently, the Oregon legislature (1999 session) have all participated in this debate. To date, no consensus on this issue has been reached. A review of Oregon's pot limit discussion is described below.

Review and Status of Oregon Discussions in 1999

At the request of different constituents, Representative Terry Thompson (D-House District 4) introduced two legislative bills for consideration by the 70th Oregon legislative Assembly

House bills 2645 and 2646 would have charged the OFWC with implementation of a crab pot limit program. The two bills essentially represented a range of options-one being more restrictive or generous than the other. The intention of the proposed legislation was to provide a basis for negotiating a program should there be a consensus within the fishing industry for legislative action. On March 9, 1999, the Oregon Dungeness Crab Commission sponsored an industry workshop in Salem to review the legislation. The workshop was facilitated by former OFW commissioner Bob Jacobson, attended by Rep. Thompson, Commissioner Jeff Feldner, ODFW staff and approximately 120 Oregon crabbers representing the industry as a whole.

Prior to the meeting, Director Greer requested an opinion (attached) from Attorney General Steve Sanders as to whether the Fish and Wildlife Commission could impose crab pot limits for individual vessels and limit the total numbers of pots used in the fishery. The opinion was affirmative in response to these questions.

At the workshop, the bills in question were both heavily criticized and supported by the different groups of fishermen and ports represented. At the end of the meeting, the only consensus

emerging was a preference to rely on a more deliberative process to establish pot limits to be conducted by the Commission, rather than risk a pressured negotiation process to merge the two bills "in session." In early April, HB 2646 was amended to act as a single pot limit bill with its main intent to direct the Commission to consider developing a pot limit program. This bill eventually died in committee and was not enacted into law.

Washington

Washington has been involved in a similar debate in recent years on an overall crab resources management plan and pot limitation for its commercial Dungeness crab fishery. In 1995 it initiated a license limitation program for the 1995-96 coastal crab fishery. Oregon instituted similar vessel limitation program the same year. In early 1996, Washington submitted a "Resource Plan for the Even-flow Harvesting and Long-term Stability in the coastal Dungeness Crab Fishery" to their legislature. This plan was directed towards achieving a more even-flow harvest within a given season and long-term stability of the Dungeness crab resource (including the possibility of pot limits, vessel reduction, individual fishermen quotas, monthly/area quotas, or other measures). Several issues needed resolution to implement such a plan, including: 1) state/federal jurisdiction in federal offshore exclusive economic zone (EEZ) waters from 3-200 miles, 2) federal court actions granting up to 50% of harvestable shellfish resources to treaty tribes, and 3) full implementation of the Dungeness crab license limitation program.

Washington has reached a resolution on these issues and will implement a resource management plan with pot limitation provisions beginning December 1, 1999 for the 1999-00 ocean commercial season. This pot limitation program is based on a combination of Washington legislative mandate (1994) and by development of a pot limit management plan by the Washington Department of Fish and Wildlife (WDFW) and Washington Fish and Wildlife Commission (WFWC) implementation (August 1999).

Washington Pot Limit Program

Washington legislature enacted legislation in 1994 that established a license limitation program for its coastal Dungeness crab fishery and a mandate to WDFW to prepare a resource plan to: "achieve even-flow harvesting and long-term stability of the coastal Dungeness crab resource. The plan may include pot limits, further reduction in the number of vessels, individual quotas, monthly limits, area quotas, or other measures as determined by the department." The department had several issues to resolve (see overview above), and upon resolution of these, the Washington Fish and Wildlife Commission implemented the resource plan at their August, 1999 meeting, to be effective for the 1999-00 Washington commercial crab season. A copy of this "Coastal Dungeness Crab Even Flow Harvest Management Plan", presented to their Commission, with proposed pot limit options, is attached (Appendix B) for your review.

One of the objectives of this program was to attempt to produce a more even flow of product by attempting to limit production during the December-January period of each season to 50% of the annual production.. It is thought that a more even flow would help slow the fishery and increase the value of the product. A rationale supporting the need for a non treaty pot limit program was in the implementation of a Washington coastal treaty tribal crab fishery sharing as negotiated with coastal treaty tribes and implemented by federal court decision on shellfish sharing arrangements.

Washington wanted to assure the treaty tribes that the non-tribal fishery would not completely pre-empt grounds in tribal usual and accustomed fishery areas. Washington coastal tribes also start their fishery earlier than the non-tribal fishery. In combination, these measures help assure that treaty tribes obtain their share of the resource.

The Washington program will be implemented in two phases as follows:

December 1, 1999 – All non-treaty vessels limited to a 500 pot limit.

January 1, 2000 – A three tier pot limit schedule is established with the number of pots Determined by two “base years” of landings (1996-97 and 1997-98).

300 pots: If base years landings 0- 39,000 pounds

500 pots: If base years landings 40,000-199,000 pounds

600 pots: If base years landings > 200,000 pounds

Discussion

The Department (ODFW) has received several calls from Oregon crab fishermen in the Astoria area expressing concerns with the Washington program. Many Astoria area crabbers traditionally fish crab grounds off Washington. Only those with Washington limited entry permits can fish in Washington territorial state waters (0-3 miles) including the Columbia River. Oregon crabbers holding only Oregon limited crab permits may legally fish off Washington in federal EEZ waters (3-200 miles) but must land crab back in Oregon. These access arrangements were established by acts of Congress which allow Pacific coast states to extend their jurisdiction over federal waters in lieu of a federal fishery management plan for Dungeness crab under the jurisdiction of the Pacific fishery Management Council (PFMC).

While the concerns expressed by Oregon crabbers have been expressed differently, comments we have received essentially revolve around two questions:

1. Do the Washington crab pot limits apply to Oregon crabbers fishing off Washington and landing back in Oregon?
2. Can the surplus of pots created by the Washington program be deployed off Oregon by Washington fishermen and could Oregon control this surplus because it may dilute harvest yield for Oregon crabbers fishing off Oregon that particularly in and below the Columbia River?

To answer these questions, we have reviewed a Washington attorney General's office opinion on Washington's program. We have also reviewed the available Congressional record from the 1998 Dungeness Crab Conservation and Management Act renewing west coast states' extended crab jurisdiction off their coasts beyond three miles. Finally, we have consulted with the Oregon Department of Justice legal Council. Upon completing these inquires we have concluded the following to the questions raised:

Question 1: Washington crab pot limits will apply to Oregon vessels, including both those with a Washington access permit and those only holding an Oregon limited entry permit who fish off Washington (outside of state waters) and deliver catch to Oregon.

Initially, Department staff were skeptical about such a conclusion as we regarded "pot limits" merely as another form of access limitation. However, the congressional record strongly established the intent that a state may establish management measures so long as all fishers were treated equally and so long as they fished legally, meaning fishers had a limited entry permit issued by any West Coast state. Statements in the record by Senators Murray (Washington), Gorton (Washington), and Wyden (Oregon) emphasized the point with nearly identical language. Furthermore, the House subcommittee report specifically states the objective of equal treatment of fishers in federal waters. Finally, testimony by the Oregon Crab Commission and several Oregon crabbers on the legislation was unanimous in support of its passage.

Question 2: Washington fishers may fish excess gear in Oregon Waters.

While not a satisfactory answer for Oregon crabbers fishing only below the Washington-Oregon border, this conclusion is unavoidable. If and to the extent surplus Washington gear is fished off Oregon, Washington crabbers will benefit and Oregon crabbers will suffer some reduction in harvest. Our conclusion is driven by the equal treatment objective of the legislation. Nothing in our management regulations prevents any Oregon crabber from adding gear. Thus we cannot prevent Washington crabbers from using their surplus gear in the EEZ outside Oregon's territorial sea (state waters). The only solution to this problem is to develop an Oregon pot limit program to equalize harvesting opportunity.

The situation is, however, not entirely bleak for Oregon crabbers in the Astoria area who may be most affected by the potential for increased competition.

1. We estimate that the surplus gear may be < 8,000 pots
2. Surplus pots belong to many vessels located along the whole Washington coast. Not all will be able or want to run to Oregon to deploy their surplus gear.
3. The season start date and 64 hour pre season gear set window is the same in both states. Logically, Washington crabbers would set gear first in Washington then have to run to Oregon to set additional gear. However, it is possible to hire vessels to set gear simultaneously.
4. Nothing prevents Oregon crabbers from setting gear here *and* off Washington.
5. Finally, if Washington is successful with its program of even flow, Oregon crabbers fishing off Washington could also take advantage of a longer production period.

Appendix A

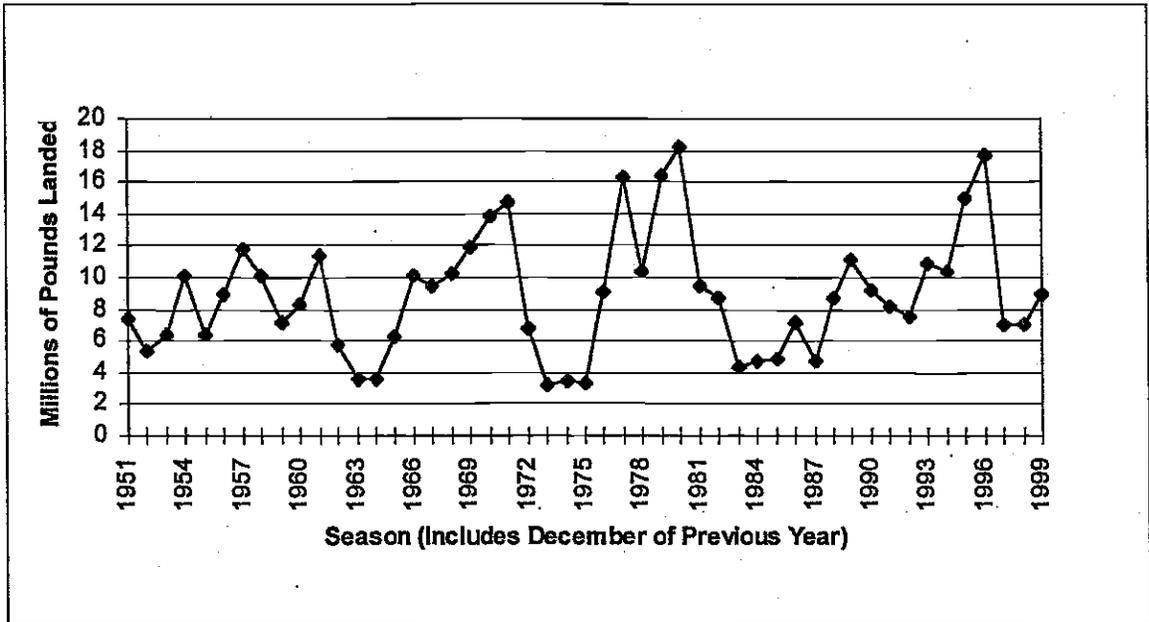


Figure 1. Total seasonal landings in the Oregon commercial Dungeness crab fishery, 1951-1999

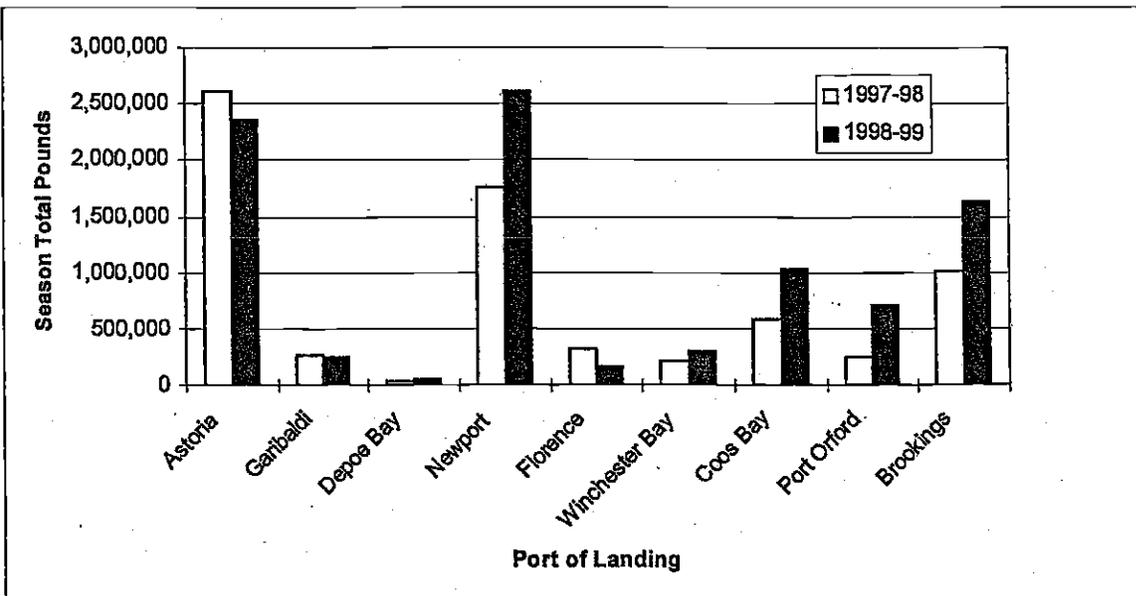


Figure 2. Oregon commercial Dungeness crab landings (in pounds) by port for the 1997-98 and 1998-99 seasons.

Table 1. Historical effort and catch in the Oregon commercial Dungeness crab fishery, 1947-48 through 1998-99 seasons.

Season	Number of Vessels	Number of Pots	Pounds Harvested	Thousands of Pounds per Boat
1947-48	67	8,000	10,044,000	150
1948-49	35	4,000	9,354,000	267
1949-50	29	4,000	6,252,000	216
1950-51	63	13,600	7,478,400	119
1951-52	83	15,700	5,407,675	65
1952-53	71	13,500	6,413,275	90
1953-54	83	16,200	10,131,125	122
1954-55	89	19,600	6,413,100	72
1955-56	92	18,900	8,910,600	97
1956-57	68	19,200	11,737,800	173
1957-58	75	21,300	10,103,000	135
1958-59	105	21,800	7,125,525	68
1959-60	103	20,800	8,296,125	81
1960-61	110	24,400	11,359,000	103
1961-62	103	38,400	5,813,000	56
1962-63	121	24,600	3,620,975	30
1963-64	95	23,000	3,586,335	38
1964-65	100	22,100	6,221,000	62
1965-66	81	25,000	10,187,000	126
1966-67	87	27,100	9,428,000	108
1967-68	90	28,600	10,215,000	114
1968-69	105	29,200	11,965,000	114
1969-70	143	33,500	13,849,000	97
1970-71	193	49,600	14,735,000	76
1971-72	205	54,900	6,780,000	33
1972-73	310	52,000	3,143,000	10
1973-74	300	50,000	3,462,000	12
1974-75	300	50,000	3,335,000	11
1975-76	220	55,000	9,099,000	41
1976-77	346	68,500	16,301,800	47
1977-78	452	91,400	10,378,600	23
1978-79	444	102,700	16,351,820	37
1979-80	519	98,600	18,242,530	35
1980-81	450	112,500	9,505,818	21
1981-82	458	127,600	8,716,537	19
1982-83	395	104,000	4,327,469	11
1983-84	324	84,000	4,680,013	14
1984-85	317	90,300	4,900,725	15
1985-86	339	91,600	7,142,302	21
1986-87	329	88,700	4,680,464	14
1987-88	327	85,200	8,654,480	26
1988-89	345	91,900	11,163,330	32
1989-90	452	151,400	9,256,730	20
1990-91	368	86,426	8,248,017	22
1991-92	374	94,826	7,547,596	20
1992-93	354	102,310	10,863,817	31
1993-94	386	111,887	10,343,000	27
1994-95	425	114,150	15,050,590	35
1995-96	346	124,483	17,696,936	51
1996-97	332	122,396	7,037,181	21
1997-98	311	113,238	7,086,053	23
Historic Average	234	59,645	8,875,309	64
Most Recent 10 Yr Avg.	369	111,302	10,429,325	28
1998-99	306	116,421	9,111,581	30

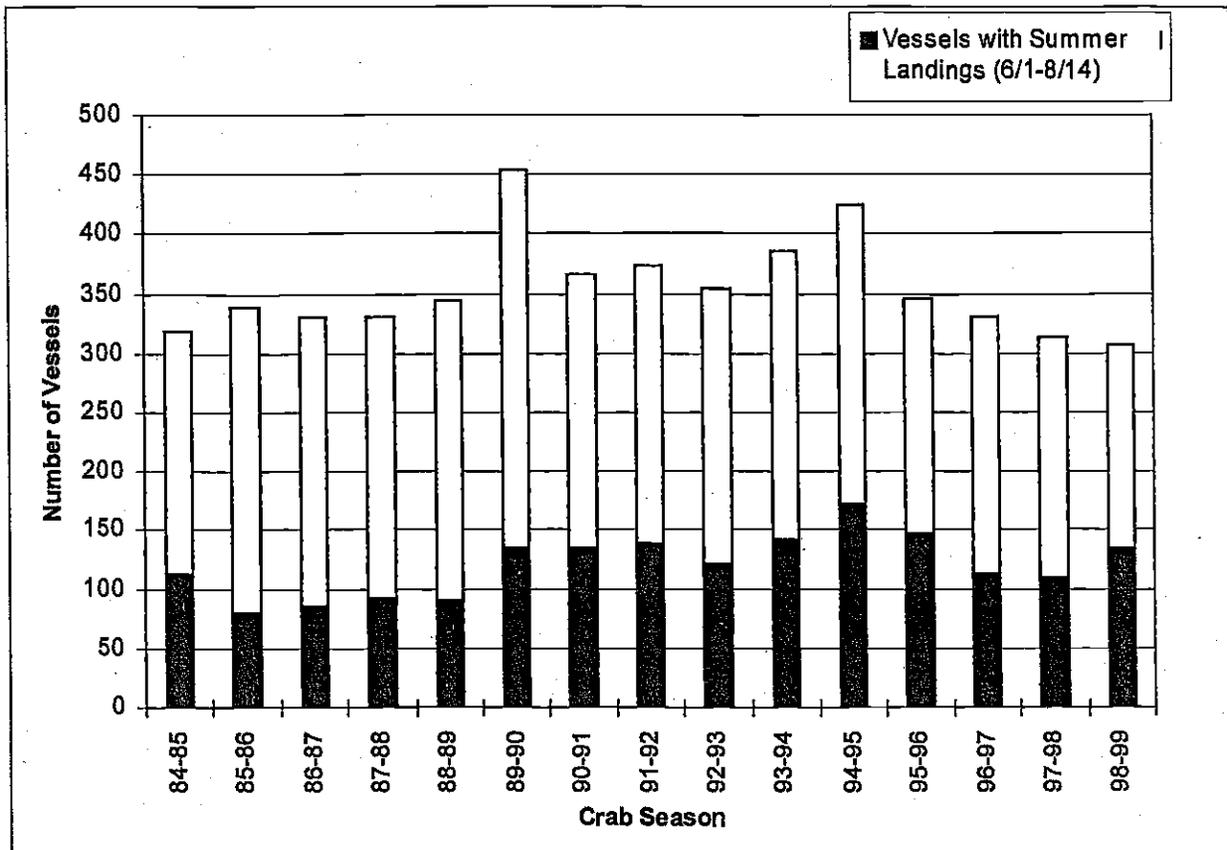


Figure 3. Numbers of commercial vessels landing Dungeness crab in Oregon, 1984-85 through 1998-99 seasons.

Table 2. Average Ex-vessel prices by month for Oregon commercial Dungeness Crab, 1992 - 99

Month	1992	1993	1994	1995	1996	1997	1998	1999
December*	\$1.23	\$1.00	\$1.14	\$1.40	\$1.26	\$1.63	\$1.65	\$1.55
January	\$1.20	\$1.01	\$1.15	\$1.65	\$1.16	\$2.12	\$2.17	\$1.79
February	\$1.24	\$1.05	\$1.28	\$1.99	\$1.31	\$2.56	\$2.53	\$2.38
March	\$1.33	\$1.15	\$1.45	\$2.00	\$1.44	\$3.04	\$2.30	\$2.46
April	\$1.56	\$1.32	\$1.54	\$2.01	\$1.60	\$3.21	\$2.26	\$2.58
May	\$1.55	\$1.37	\$1.57	\$2.00	\$1.66	\$3.13	\$2.35	\$2.75
June	\$1.44	\$1.31	\$1.52	\$1.97	\$1.75	\$2.96	\$2.33	\$2.73
July	\$1.34	\$1.31	\$1.45	\$1.79	\$1.74	\$2.36	\$1.50	\$2.54
August	\$1.25	\$1.22	\$1.46	\$1.61	\$1.71	\$2.00	\$1.47	\$2.66
Season Average	\$1.25	\$1.05	\$1.21	\$1.65	\$1.27	\$1.89	\$1.76	\$1.78

* December of previous year

Table 3. Summer (June 1 - August 14) participation and landings in the Oregon commercial Dungeness crab summer fishery, 1984-85 through 1998-99.

Season	Season Total Number of Vessels	Number of Summer Vessels (6/1-8/14)	Percent of Fleet in Summer Fishery	Number of Vessels Landing in June	Number of Vessels Landing in July	Number of Vessels Landing in August	Average Number of Summer Deliveries per Vessel
84-85	318	113	36%	102	74	50	7
85-86	339	81	24%	71	52	30	8
86-87	330	85	26%	70	60	52	9
87-88	330	92	28%	72	47	45	7
88-89	345	90	26%	69	58	45	9
89-90	454	135	30%	102	87	78	10
90-91	367	135	37%	108	102	94	11
91-92	374	138	37%	103	114	93	11
92-93	354	122	34%	84	103	91	13
93-94	386	142	37%	127	107	96	12
94-95	424	173	41%	127	131	101	10
95-96	346	147	42%	120	116	100	10
96-97	331	113	34%	88	80	71	9
97-98	314	112	36%	84	74	66	14
98-99	306	135	44%	121	86	61	7

Season	Pounds Landed in Summer Fishery (6/1-8/14)	Percent of Landings in the Summer Fishery	Number of Summer Deliveries	June Landings in Pounds	July Landings in Pounds	August Landings in Pounds
84-85	162,293	3%	736	66,930	49,072	46,291
85-86	224,076	3%	646	108,697	72,523	42,856
86-87	319,025	7%	786	89,247	147,485	82,293
87-88	351,707	4%	643	143,986	137,713	70,008
88-89	528,175	5%	832	187,504	239,226	101,445
89-90	542,162	6%	1,389	177,542	221,934	142,686
90-91	555,781	7%	1,435	184,387	234,626	136,768
91-92	809,322	11%	1,540	206,182	346,772	256,368
92-93	960,839	9%	1,559	224,876	379,469	356,494
93-94	885,060	9%	1,685	202,537	372,064	310,459
94-95	681,977	5%	1,652	185,773	283,825	212,379
95-96	604,756	3%	1,505	258,553	210,026	136,177
96-97	364,571	5%	1,044	68,422	154,641	141,508
97-98	449,661	6%	1,538	48,744	220,574	184,502
98-99	201,205	2%	1,017	121,930	49,758	29,517

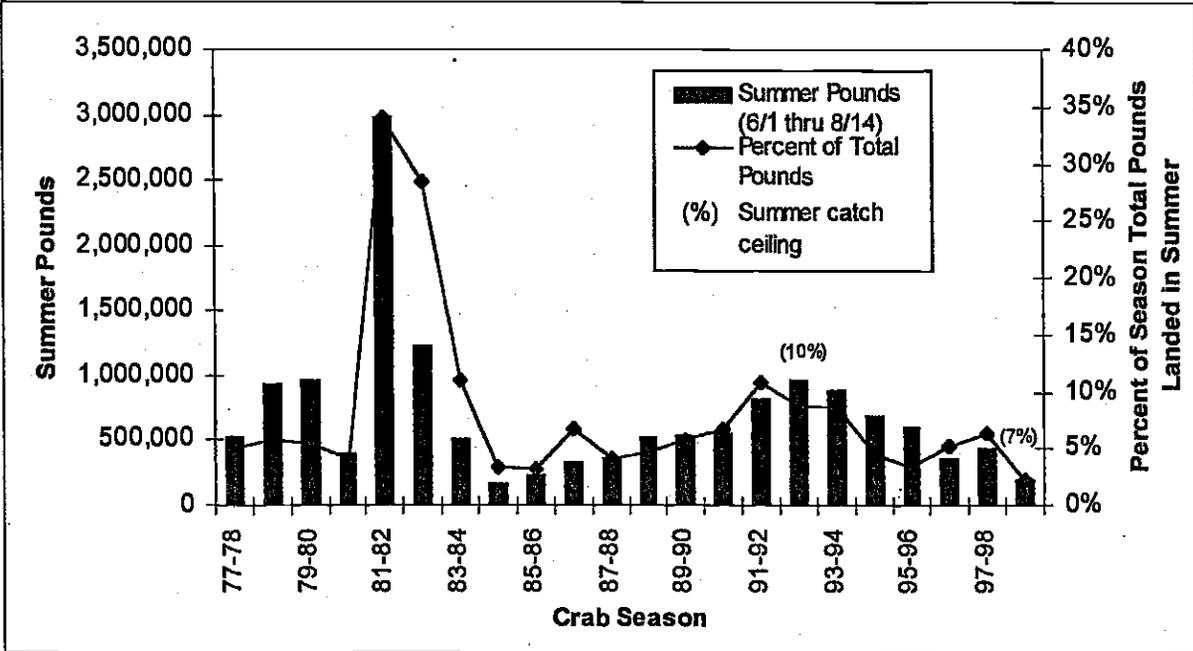


Figure 4. Summer (June 1 – August 14) landings in the Oregon commercial Dungeness crab fishery, 1977-78 through 1998-99

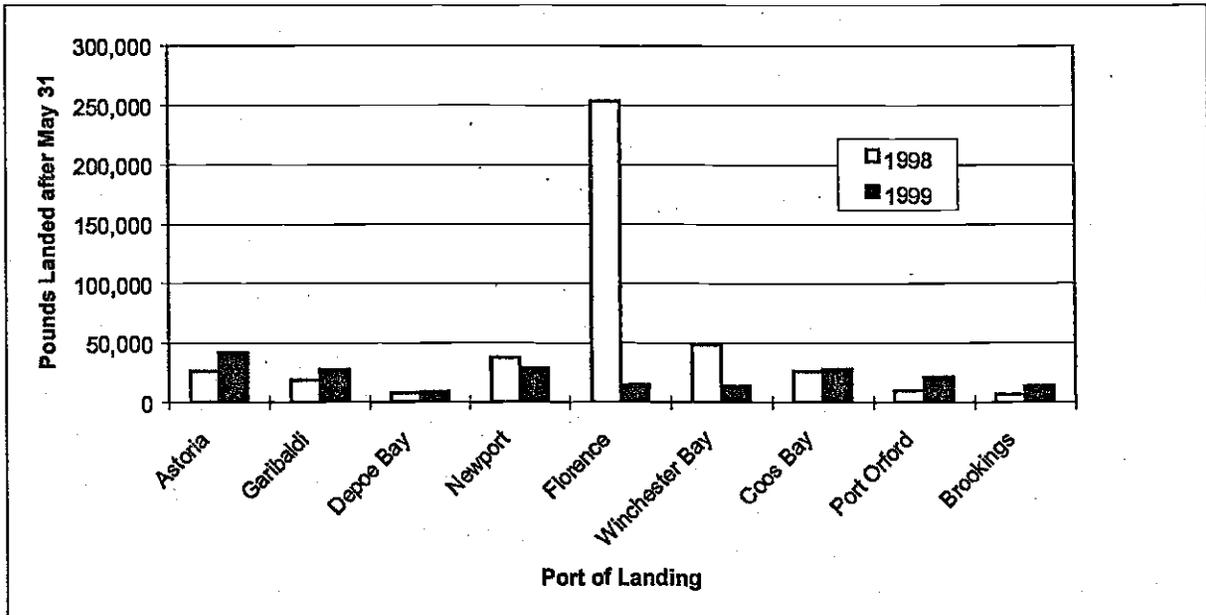


Figure 5. Oregon commercial Dungeness crab summer June 1 - August 14 landings (in pounds) by port for the 1997-98 and 1998-99 seasons.

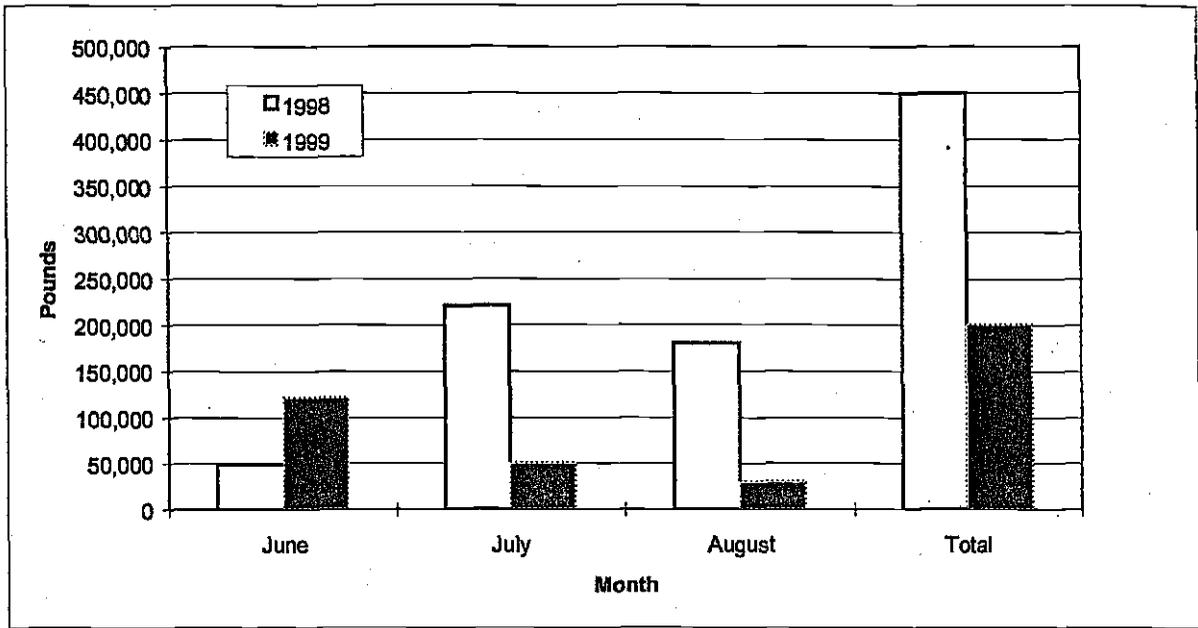


Figure 6. Commercial landings of Dungeness crab in the 1999 Oregon summer fishery (June 1 - August 14)



Washington
Department of
**FISH and
WILDLIFE**

Coastal Dungeness Crab Even Flow Harvest Management Plan

July 21, 1999

Prepared by Steve Barry, Heather Reed,
and Michele Robinson

Philip Anderson, Editor



1. INTRODUCTION

In 1994, the Washington State Legislature enacted legislation which established a license limitation program for the coastal Dungeness crab fishery (Second Engrossed Substitute House Bill 1471). As a result of this legislation, RCW 75.20.480 was created which states:

Coastal Dungeness crab resource plan.

The department [of fish and wildlife], with input from Dungeness crab-coastal fishery licensees and processors, shall prepare a resource plan to achieve even-flow harvesting and long-term stability of the coastal Dungeness crab resource. The plan may include pot limits, further reduction in the number of vessels, individual quotas, monthly limits, area quotas, or other measures as determined by the department. The plan shall be submitted to the appropriate standing committees of the legislature by December 1, 1995. [1994 c 260 § 20.]

In February 1996, the Department of Fish and Wildlife submitted its Resource Plan for Even-flow Harvesting and Long-term Stability in the Coastal Dungeness Crab Fishery to the Senate and House Natural Resources Committees. In developing that resource plan, Department staff met with two crab industry workgroups—one representing processors and one representing fishers. After much discussion, the industry representatives and Department staff concluded that there were three outstanding issues which prevented them from accomplishing their task: 1) the question of whether the offshore crab resource would be under federal or state jurisdiction; 2) the effect of the federal court order granting up to 50 percent of the harvestable shellfish resources to the treaty tribes; and 3) the license limitation program had not been fully implemented. Until these factors had been resolved, the Department and the industry recommended delaying further development of an even-flow harvest plan.

These three factors have since been resolved to a certain extent. Since 1996, the Department has negotiated Dungeness crab annual management agreements with each of the coastal treaty tribes to implement the federal court decision by Judge Rafeedie, and by the end of 1996, the license limitation program had been fully implemented. In 1998, Congress extended the state's authority to manage the Dungeness crab fishery in the exclusive economic zone adjacent to Washington until September 30, 2001.

The coastal Dungeness crab fleet has significantly grown since the mid-1980's. This has greatly accelerated the catch rates which has resulted in most of the harvest occurring very early in the season. In 1994, 50 percent of the harvest occurred in the first six weeks of the nine-month season. By 1996, 50 percent of the harvest was occurring in the first two weeks of the season. This increasing harvest rate in the months of December and January makes it difficult to meet our mandate relative to 50/50 sharing of the harvestable resource with the treaty tribes.

As a result of concern over the increasing catch rate and the resolution of those three factors, Department staff and industry members agreed to meet to discuss the development of an even-flow harvest regime. The Department formed a Coastal Dungeness Crab Advisory Group and held a series of meetings which were open to the public to discuss goals, objectives, and management strategies.

2. COASTAL DUNGENESS CRAB ADVISORY GROUP

The Coastal Dungeness Crab Advisory Group is comprised of 20 members—17 fishers and 3 processing representatives. Advisors are selected based on various criteria, including:

- experience in the coastal Dungeness crab fishery
- affiliation/membership to a larger group (to maximize stakeholder participation)
- size of the vessel used (to ensure small and large boat representation)
- area fished (for broad geographical representation)

Of the fishing representatives, 10 are from the Westport area, four are from the Columbia River area, and three reside in the Puget Sound area; of the processors, two are based in Westport and one is located in the Columbia River area. There are also representatives from the Washington Dungeness Crab Association and the Columbia River Crab Fishermen's Association on the advisory group.

The Coastal Dungeness Crab Advisors are:

Rex Anderson Westport	Tom Kelley Westport	Ernie Summers Grayland
Dan Ashby Aberdeen	Terry Krager Chinook	Louis Summers Westport
Dale Beasley Ilwaco	Joe McKenzie Anacortes	Larry Thevik Ocean Shores
Chris Doumit Cathlamet	Doug Merino Olympia	Ron Tucker Tokeland
Dwight Eager Chinook	Joe Merino Westport	Harold Williams Westport
Robert Greenfield Chinook	Richard Prettyman Bellingham	Dave Wolfenberger Westport
Ron Johnson Ferndale	Jim Spooner Grayland	

3. PUBLIC INVOLVEMENT PROCESS

The Department has held six advisory group meetings which were open to the public on February 19, March 3, March 24, June 9, July 1, and July 16. The February 19 meeting was held at the Natural Resources Building in Olympia, and the March, June, and July meetings were held at the Department's office in Montesano. The following are summaries of those meetings:

February 19, 1999

Attendees: Department staff and 44 stakeholders

- Discussed "even flow" management process; distributed copies of the Legislative mandate and discussed options for developing "even flow" regime
- Discussed the following proposed goal and objectives for the process:

Goal - To provide a sustainable Dungeness crab fishery of high quality product consistent with the "even flow" legislative mandate

Objectives

1. Reduce December-January harvest rate
 2. Improve economic yield
 3. Develop fair and equitable management strategies
 4. Utilize best biological information
 5. Reduce differences between Indian and non-Indian regulations
 6. Coordinate with other government entities as appropriate
- Discussed other options which could be used in place of pot limits or combined with a pot limit system—these included:
 - eliminating the 64-hour pre-season gear-setting period
 - eliminating the barging of pots by non-licensed vessels
 - institute a license buyback program
 - further limit the number of boat length extensions allowed
 - eliminate alternate operators
 - allow permit stacking
 - Discussed pot limit options and the data needed to develop those options for review at the next advisory group meeting

Pot Limit Options

- no limit
- fixed equal pot limit for all vessels
- graduated pot limit based on one or more of the following:
 - length of the vessel
 - gross tonnage of the vessel
 - catch history
 - hold inspection reports (number of pots fished)

March 3, 1999

Attendees: Department staff and 41 stakeholders

- Reviewed goal and objectives of the process and reviewed results of the last meeting
- Reviewed the data and the pot limit options
- Discussed the pros and cons of each pot limit option
- Narrowed down list of options by eliminating the graduated pot limits based on length of the vessel and gross tonnage of the vessel
- Suggestions for across the board pot limits included 300, 400, and 500 pots
- Discussed extension of the interim authority of the Department to manage Dungeness crab out to 200 miles (authority expires September 30, 2001)

March 24, 1999

Attendees: Department staff and 53 stakeholders

- Reviewed goal and objectives of the process and reviewed results of the last meeting
- There was general acceptance that "even flow" would be represented by taking no more than 50% of the total non-treaty harvest in December and January
- Reviewed the data and pot limit options
- Compared the results of the different options to past years' effort and harvest levels
- Narrowed down list of pot limit options and discussed use of monthly limits as an option

Final Options

- Across the board pot limit using 400, 500, and 600 pots
- Tiered pot limit based on hold inspection data (number of pots fished)
- Tiered pot limit based on catch history
- Tiered monthly limit based on catch history
- Discussed scope of Department's legislative authority relative to the suboptions
- Discussed need for interstate coordination, particularly with Oregon
- Discussed legislative mandate (RCW 75.30.480) which required the Department to submit an even flow plan to the legislature and the Department's report to the Senate and House Natural Resources Committees recommending that further development of an even flow harvest plan be delayed until certain legal issues could be resolved.
- With those factors now resolved, we identified the next step to be for Department staff to develop a draft even flow harvest management plan

June 9, 1999

Attendees: Department staff and 15 stakeholders

- Reviewed discussions from March 24, 1999, meeting
- Distributed draft Even Flow Harvest Management Plan and identified sections which were needed and not yet completed
- Asked the advisors to review the draft plan and provide comments at the next meeting
- Discussed enforcement concerns and the need for pot tags and buoy tags
- Brian Edie, Fish Program, gave a presentation on license buyback program considerations; an industry buyback subcommittee was identified to further scope out the development of a buyback program
- Discussed the need for and importance of inter-state coordination
- Advisors proposed to move forward with some type of pot reduction even in the absence of coordination with Oregon and California
- Reviewed Administrative Procedures Act requirements and Fish and Wildlife Commission process

July 1, 1999

Attendees: Department staff and 11 stakeholders

- Discussed Even Flow plan implementation challenges and rule adoption options
- Reviewed pot limit options and identified problems with using hold inspection data as basis for tiered limits; agreed that catch history was better basis for tiered limits
- Agreed to use 1996/97 and 1997/98 catch history information; agreed that a cumulative catch of 75,000 pounds for that period was too high for determining tier levels

July 16, 1999

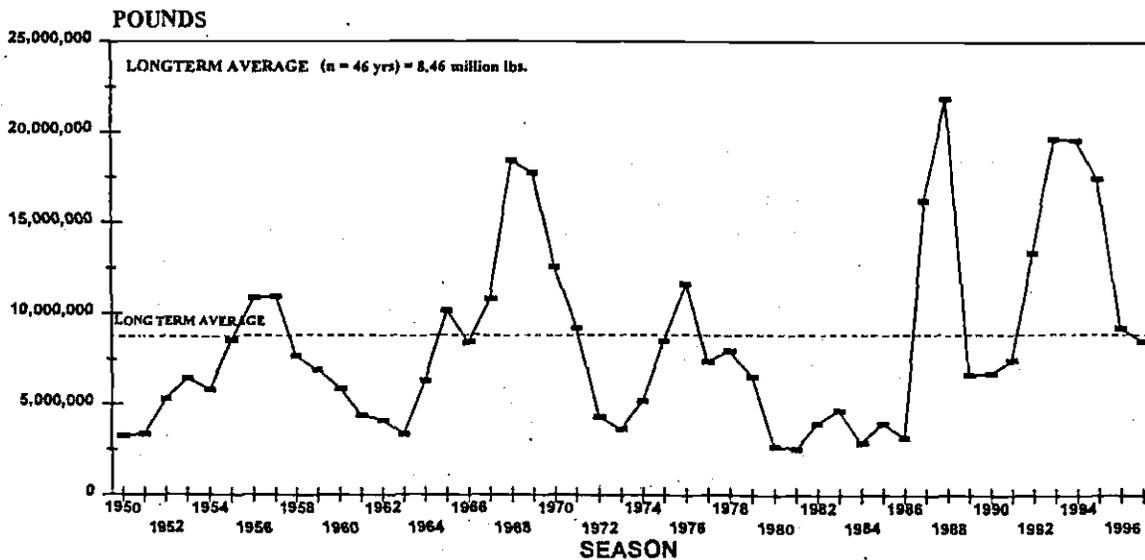
Attendees: Department staff and 13 stakeholders

- Provided a copy of the CR-101 and discussed the Fish and Wildlife Commission rule adoption process
- Stated that this would be the last attempt to get regulations in place for the 1999/2000 season
- Considered different pot limit options with tiers based on catch history; discussed pros/cons of a 600-pot tier and permit stacking sub-option; reached agreement to select Option 3 as the preferred alternative
- Asked advisors to submit their written comments on the draft Even Flow plan by July 21

4. HISTORY OF THE FISHERY

Dungeness crab are found in commercial abundance from Kodiak, Alaska to San Francisco, California. The coastal-Dungeness crab resource is healthy despite large fluctuations in harvest from season to season. Since 1950, the Washington coastal fishery has produced between 2.6 and 21.9 million pounds per season and averaged about 8.5 million pounds per season (Figure 1). Resource managers expect that variation in oceanographic conditions will continue to cause seasonal abundance to fluctuate as it has in the past, but barring the onset or persistent adverse environmental conditions, are optimistic about the future of the resource.

Figure 1. Washington coastal Dungeness crab fishery landings by season since 1950.



Fleet size and the estimated number of crab pots employed in the fishery for each season since 1982 are shown in Figure 2. Generally, as the fleet size varies, the number of pots employed in the fishery responds accordingly. However, only since the 1994 season has the trendline for the number of pots exceeded that of fleet size. This reflects the "race for fish" nature of the fishery in recent years.

Fishing effort in the crab fishery can best be expressed in "pot-months." A pot-month is defined as one pot fishing for one month. Estimates of total fishing effort expressed in pot-months and total season catch since 1982 are shown in Figure 3. The response of fleet size and fishing effort to crab abundance is clearly apparent. Fleet size and fishing effort increase during and immediately following years of high crab abundance, but fishing effort remains high for several seasons after crab abundance declines.

The response of individual fishers to increased competition has been to increase their fishing capacity either by obtaining a larger vessel or by increasing the number of pots fished, or both. In some cases, fishers employ more pots than they can fish efficiently and expose themselves to greater risk by fishing during adverse weather conditions. Growth in the size of the fleet and

Figure 2. Number of boats and pots in the coastal crab fishery since the 1982 season.

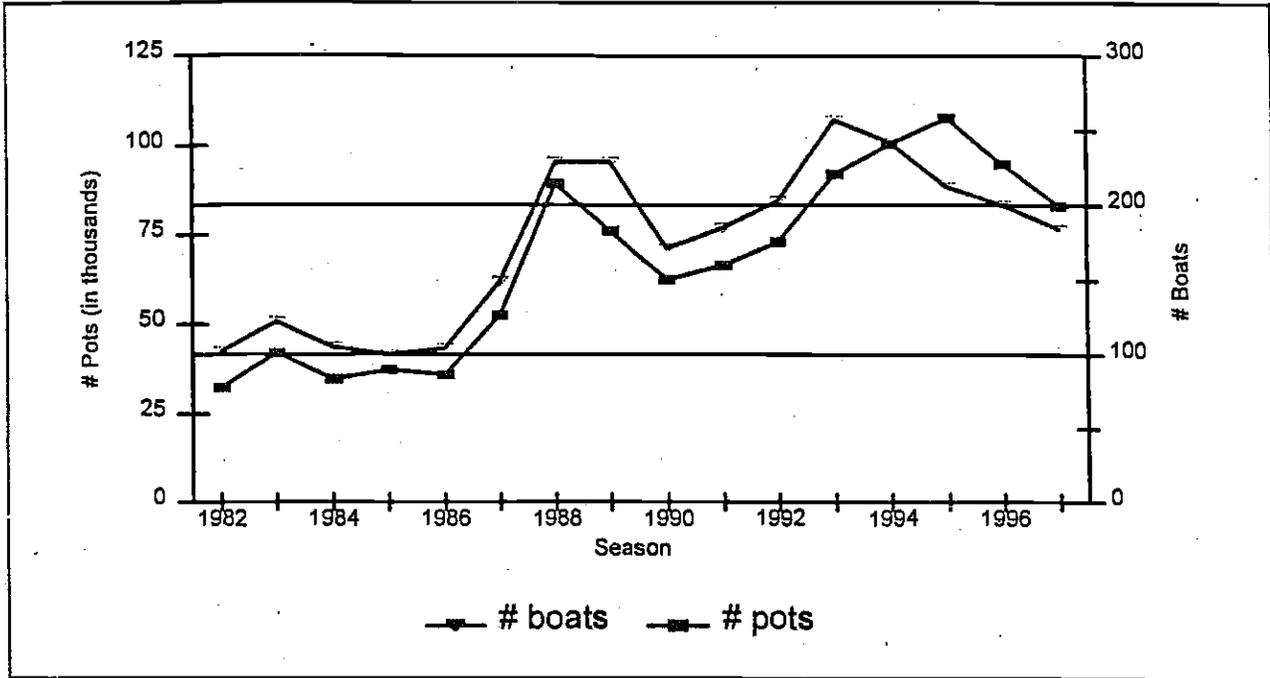
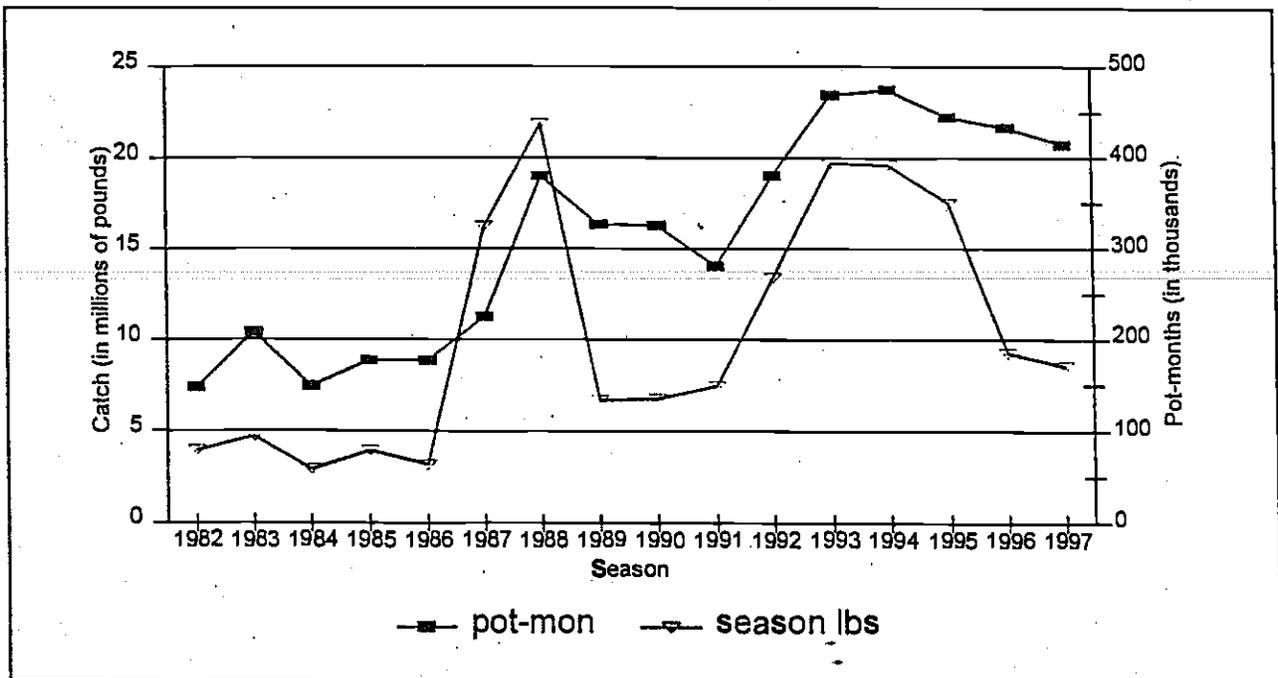
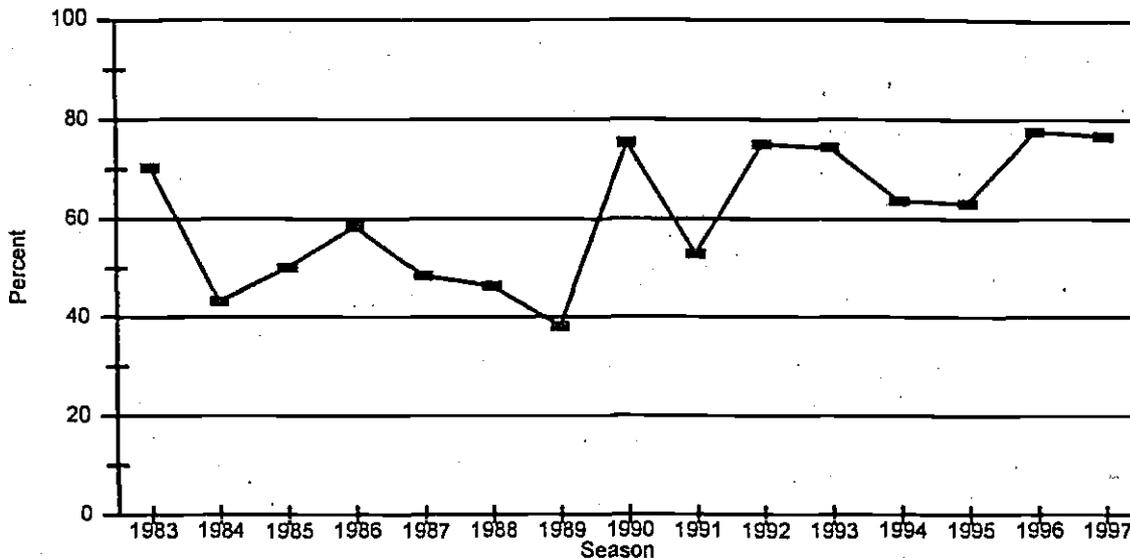


Figure 3. Fishing effort (in pot-months) and total catch of the coastal crab fishery since 1982.



fishing effort since 1990 has resulted in a large proportion of the annual catch being taken in the first two months of the season. In recent years, approximately 75% of the total harvest has been taken during the first two months of the season compared to about 50% in the mid-1980's. (Figure 4). Simply stated, the fishery has become a "derby" whereby each fisher is attempting to catch as much of the resource as quickly as possible.

Figure 4. Percent of total non-treaty catch taken in December and January.



5. MANAGEMENT AUTHORITY

With the absence of a federal fishery management plan (FMP), the Magnuson-Stevens Fishery Conservation and Management Act (FCMA) was amended in 1996 to provide specific, but limited, interim authority to the states to manage the Dungeness crab fishery in the EEZ until October 1, 1999. The Pacific Fishery Management Council has consistently supported the states having regulatory authority over crab in federal waters, and backed an intense lobbying effort by the states and industry which resulted in a 1998 amendment to the FCMA that expanded state authority and extended the authority until September 30, 2001. This action removed the key obstacle that prevented completion of the "Resource Plan for Even-flow Harvesting", on an interim basis, by providing the states with jurisdiction over all non-treaty vessels fishing in the EEZ adjacent to the state.

The Department's authority to manage the coastal crab fisheries is derived from its legislative mandate to "preserve, protect, perpetuate, and manage the food fish and shellfish in state waters and offshore waters," and to "conserve the food fish and shellfish resources in a manner that does not impair the resource." WDFW is also mandated to "maintain the economic well-being and stability" of the state's fishing industry and to "promote orderly fisheries" (RCW 75.08.012). The Fish and Wildlife Commission adopts fishery regulations under the scope of their authority to adopt rules (RCW 75.08.080) in state waters and in the federal Exclusive Economic Zone (3-200 miles offshore) (RCW 75.08.058).

6. STATE REGULATIONS

The basic fishery management strategy to protect the health and reproductive vitality of the crab resource is known as the "3-S" strategy, which stands for size, sex, and season. The minimum size limit (6 1/4" in carapace width) protects mature, male crab for at least one year after they become sexually mature, thereby insuring a breeding stock is available each year. Harvest of female crab is prohibited and the fishing season is closed in the fall (September 16-November 30) to coincide with the time that recruitment molting usually occurs, thereby protecting softshelled crab which are very vulnerable to mortality from handling and sorting during fishing operations.

7. TREATY TRIBAL FISHERIES

In December 1994, a federal court decision by Judge Edward Rafeedie affirmed the entitlement of Washington treaty tribes to shellfish. The four coastal treaty tribes affected by the decision are the Quinault, Hoh, Quileute, and Makah Tribes. The four tribes' usual and accustomed area (U&As) include Grays Harbor and ocean waters from Point Chehalis (just south of the entrance to Grays Harbor) to the U.S.-Canada border. Approximately 50% of the productive crab fishing grounds off the Washington coast are located north of Grays Harbor. Only the Makah Tribe has an adjudicated western (seaward) boundary for its U&A; the ruling placed the boundary at approximately 40 miles offshore. The Quinault, Quileute, and Makah Tribes each have fishers active in the crab fishery. The combined tribal fleet is currently estimated to total about 30 vessels. Tribal catch data is contained in Table 1.

The first state/tribal coastal Dungeness crab fishery management plans required under federal court order were implemented for the 1995-96 season (*see Table 1). Since pre-season estimates of crab abundance are not feasible, management plans have provided the tribes with harvest opportunity by setting tribal season openings prior to the non-treaty fishery opening and by establishing Special Management Areas that are closed to non-treaty fishers for a period of time after the non-treaty fishery has opened. A 200 pot limit is in place for both treaty and non-treaty fishers in Grays Harbor.

Table 1. Combined catch of the four coastal treaty tribes since the 1990-91 season.

Season	Tribal Catch (lbs)
1990-91	101,830
1991-92	41,016
1992-93	216,381
1993-94	171,662
1994-95	200,484
1995-96*	594,572
1996-97	729,655
1997-98	1,019,560

8. MANAGEMENT ALTERNATIVES

Department staff assembled pot limit and monthly landing limit options for analysis. The monthly landing limit option is designed to limit harvest in December and January to 50% of the total catch of an average season. The pot limit options are designed to achieve even flow and include a single limit for all fishers, and tiered limits based on either catch history or hold inspections (number of pots fished).

Within the single limit option, there are two suboptions—one which would allow fishers to increase the amount of gear used up to the limit, and another which would “freeze” those fishers at the pot limit they have historically fished. For example, if the single pot limit was set at 400 pots for everyone, and 10 crab fishers historically fished only 200 pots each, they may be allowed to increase the amount of pots they fish up to 400. This has been the subject of much discussion with many fishers opposed to allowing increases in gear for some while others have to reduce the amount they currently fish.

There are currently 231 coastal Dungeness crab commercial license holders; of those, only 170 have fished in both of the past two seasons (1996/97 and 1997/98).

We made the following estimates about Oregon-based fishers who fish off of Washington’s coast, but these estimates were not included in the analysis of the four options:

1. 19 vessels fishing using a total of approximately 12,000 pots
2. Approximately 15-17 of those vessels currently fish off of Washington’s coast
3. 17 of the 19 vessels report using 500 or more pots and 2 use 450-500 pots each
4. The number of Oregon vessels fishing off of Washington will likely increase if a pot limit/ monthly landing limit is in effect

Option 1 - Single pot limit

<u>Pot Limit</u>	<u>Resulting Total # of Pots</u>
400 pots	60,000 - 68,000 pots
500 pots	68,000 - 85,000 pots
600 pots	73,000 - 102,000 pots

NOTE: The minimum number in the range is based on the number of pots currently fished; therefore, this calculation assumes that fishers are not allowed to increase the amount of gear fished. The maximum number assumes that everyone increases the amount of gear fished up to the limit.

Option 2 - Tiered pot limit based on hold inspections

<u>Current # of Pots</u>	<u>New Pot Limit</u>		<u># Boats</u>		<u>Resulting Total # of Pots</u>
< 399 pots	300	x	57	=	17,100
< 499 pots	400	x	39	=	15,600
< 699 pots	500	x	60	=	30,000
> 700 pots	600	x	14	=	8,400
Total pots					78,100

NOTE: Option 2 is based on voluntary hold inspection data for the 1998/99 season (170 boats).

Option 3 - Tiered pot limit based on catch history with a phase-in period (Preferred Alternative)

12/1/99-12/31/99 A single pot limit of 500 pots would apply to all coastal commercial Dungeness crab fishers

Beginning 1/1/2000, the following tiered system would be in place:

	<u>Catch (lbs.)</u>	<u>Pot Limit</u>	<u># Boats</u>	<u># Pots</u>
Tier 1	0-39,999	300	44	13,200
Tier 2	40-199,999	500	114	57,000
Tier 3	200,000 +	600	12	7,200

This tiered system would remain in place until legislation were enacted which allowed permit stacking. If permit stacking were allowed, then the following tiered system would be in place (after 1/1/2001):

	<u>Previous Pot Limit</u>	<u>New Pot Limit</u>	<u># Boats</u>	<u># Pots</u>
Tier 1	300	300	44	13,200
Tier 2	500 or 600	500	126	63,000

NOTE: Options 3 and 4 were based on the cumulative catches per vessel for the 1996/97 and 1997/98 seasons. Calculations used only the number of vessels which fished both seasons. It has not been determined how to incorporate those vessels which fished only one of the seasons or neither of the seasons. The minimum and maximum amounts for the range used in the "Catch" column, were determined by reviewing the catch history per vessel for those seasons.

170 boats fished both 1996/97 and 1997/98
 42 boats fished 1996/97 only; 15 boats fished 1997/98 only

Option 4 - Tiered monthly landing limit based on catch history

	<u>Catch (lbs.)</u>	<u>Monthly landing limit</u>	<u># Boats</u>	<u>Total lbs.</u>
Tier 1	0-9,999	1,200	11	13,200
Tier 2	10-24,999	2,950	19	56,050
Tier 3	25-49,999	6,500	24	151,200
Tier 4	50-74,999	10,400	29	301,600
Tier 5	75-109,999	14,500	36	522,000
Tier 6	110-169,999	23,500	34	799,000
Tier 7	170-209,999	31,200	9	280,800
Tier 8	210-249,999	38,800	3	116,400
Tier 9	250,000+	43,500	5	217,500
			Total pounds	2,457,750

9. ANALYSIS OF MANAGEMENT ALTERNATIVES

Current Fishing Effort

Vessel hold inspections are conducted the day prior to the season opening to prevent illegal pre-season fishing. By regulation, fishers cannot land crab in Washington during the first 30 days of the season without an inspection certificate. During the hold inspection, fishers are requested to provide the amount of pots they fish. Based on the voluntary data obtained from 170 vessels during hold inspections in 1998, the estimated total number of pots employed at the opening of the 1998-99 season was 76,437. The average number of pots per vessel is 450. Some fishers have indicated this estimate is understated due to intentional mis-reporting of number of pots fished. This estimate does not include pots employed by the treaty tribes or by Oregon-based vessels fishing off Washington. Based on information supplied by the Oregon Department of Fish and Wildlife, there are approximately 15 to 19 Oregon-based vessels with between 10,000 and 13,000 pots that regularly fish off Washington but land the majority of their catch in Oregon. X

Latent Fishing Effort

The 1995 fishery license limitation program created 231 permanent licenses. As noted above, only 170 received vessel hold inspections prior to the opening of the 1998-99 season. About 20 licenses are held by non-residents which may be active in another state's fishery. In addition, there are about 5 licenses which usually become active later in the season. This leaves about 35 inactive licenses. Although the majority of these licenses are designated on smaller boats, they represent a latent source of fishing effort. Depending on the extent of fishing effort reductions, it is reasonable to expect that a number of these licenses will become active over time.

Alternatives

The four management options have been analyzed to determine their effectiveness to: 1) reduce fishing effort and/or catch during the first two months of the season relative to the current level of the fishery, and 2) fairly and equitably distribute the impact among the various segments of the fleet (see Appendix A). Sub-options may be used in conjunction with any of the options (see Section 10).

Option 1

600 pot limit: Based on current hold inspection data, 20% of the fleet fishes 600 or more pots. Only 14% of the fleet (24 boats) would be reduced while 79% (135 boats) of the fleet could increase. There would be a 3% reduction if these 135 boats were frozen at their current level. The most probable result is that fishing effort will increase because of the highly competitive nature of the fishery.

500 pot limit: 34% of the fleet (57 boats) would be reduced, 10% unaffected, and 56% could increase. The number of pots could potentially increase by 11%. A freeze at current level for boats now fishing less than 500 pots would result in an 11% decrease. Fishing effort may likely exceed the current level by over 5,000 pots within two or three years because some fishers may increase fishing effort and some "new" effort may emerge from latent licenses.

400 pot limit: 58% of the fleet (99 boats) would be reduced, 8% unaffected, and 34% could increase. The number of pots would be reduced by 11% (16,400 pots) and by 22% if fishers were frozen at current level. Compared to the status quo estimate of about 76,400 pots, it is probable that a long-term reduction in total number of pots would occur, but the reduction could be offset substantially by the re-entry of latent effort.

There are several problems with using the number of pots reported during hold inspections as the basis for a pot limit. The number of pots fished is not required to be provided during hold inspections and, as noted above, and California does not require pre-season vessel hold inspections. In addition, some fishers believe that in many instances pot data provided by fishers to WDFW has been significantly understated.

Option 2

Depending on whether or not fishers in tier 1 are "frozen" at the number of pots they currently fish or are allowed to increase to the assigned pot limit (300), option 2 reduces the number of pots by 7% to 11% from current level. Pot reductions would affect 70% of fishers in tiers 2-4, but most reductions would be small. Tier 4 (600 pot limit) would be the most affected; the 24% average reduction for this tier is more than double that of tiers 2 and 3. This option also has the same problems outlined in Option 1.

Option 3 (Preferred Alternative)

This option assigns vessels to one of three pot limit tiers developed from catch data for the 170 vessels that fished during both the 1996-97 and 1997-98 seasons. If all vessels would increase to the pot level allowed for their tier, there would only be a slight overall reduction in pots fished. An 11% overall reduction would result if all vessels were frozen at their current level.

Catch history is considered to be a more direct, measure of the level of a fisher's participation in the fishery than is number of pots fished. This option appears to more evenly distribute the reductions across the fleet when compared to Option 1.

The qualifying period for this option is from 12/1/96 to 9/15/97 and from 12/1/97 to 9/15/98. In addition to the catch histories of the 170 boats that were used to develop the pot limit tiers for this option, there are an additional 57 vessels that landed crab during only one of the two seasons. In some cases, when permits were transferred, the catch history of the permit will be used to calculate the pot limit. For permits which had a catch of zero for that period (no participation in the coastal crab fishery), a pot limit of 300 will be assigned.

Option 4

Tiered catch quotas for December and January were developed based on catch data for the 1996-97 and 1997-98 seasons; each of the 170 vessels that participated in the fishery during both of these two seasons was assigned to one of 9 tiers based on the vessel's catch history. Crab abundance was slightly above average for the 1996-97 season and average for the 1997-98 season. The December non-treaty catch in 1996 was about 5.1 million pounds, and about 5.0 million pounds in 1997; the January non-treaty catch dropped to about 1.5 million pounds in 1997 and to about 0.75 million pounds in 1998. Total December-January catches for the two seasons were about 6.6 and 5.8 million pounds which represents approximately 77% of the total non-treaty seasonal catch. If Option 4 had been in place for the past two seasons, it would have reduced the December-January catch rate to about 60% of the total with a catch deferral (i.e., until February) of about 1.6 million pounds (26.7%) in 1997 and about 0.8 million pounds (13.7%) in 1998.

Relative to the assigned monthly quotas, the December-January catch of vessels in each tier would be reduced by 14% (Appendix A.). When compared to actual December-January average catches for each tier, the quotas would result in catch reductions for 68% of the fleet and for at least 50% of the vessels in each tier.

Compared to the three pot limit options, Option 4 provides direct, measurable assurance that the December-January harvest rate will be reduced during seasons of above average crab abundance, and most evenly distributes the burden of catch reductions. In the event that fleet size increases due to reentry of latent licenses and/or transfer of fishing effort from Oregon or California, the quotas assigned to each tier would have to be reduced in order to maintain the 2.5 million pound overall monthly quota. Close coordination with Oregon will be required to insure monthly catch quotas are not exceeded.

10. ANALYSIS OF SUB-OPTIONS

Elimination of the 64-hour pre-season gear-setting period

The pre-season gear-setting period was established over 25 years ago which allows fishers to set baited pots three days in advance. Those pots cannot be fished and fishers cannot possess crab until the season opens. Elimination of the gear-setting period will reduce the harvest pace of the fishery during the first week or two of the season, but is unlikely to have any measurable effect on the harvest rate over the course of the first two months of the season.

Eliminate pot barging

Some fishers use other vessels that are not designated on a coastal crab fishery license to deploy pots during the gear-setting period. A recent survey found that about 28% of fishers (41 out of 144) employ a vessel for this purpose. Elimination of pot barging may slow the harvest pace during the first week or two of the season, but is unlikely to affect the rate over the first two months of the season.

Prohibit vessel length extensions

RCW 75.30.430 prohibits the designation or substitution of a vessel on a license that exceeds the hull length of the original permitted vessel by more than 10 feet. It also limits the number of vessel re-designations of 10 feet or less to once every five consecutive crab seasons. There is an exception for emergency purposes. The Oregon license limitation program contains comparable restrictions. Modifying the RCW to completely stop vessel length increases would be an effective means of slowing growth in vessel fishing capacity of the fleet.

Allow license stacking

This proposal was originally intended to work in concert with the single pot limit option, but could be applied to any of the four primary options. With license stacking, a fisher would essentially be allowed to fish more pots or to an increased monthly quota by acquiring a second license. This proposal provides fishers with a means of increasing their fishing effort or catch quotas while reducing the number of licenses and pots in the fishery.

License buyback program

Industry members, particularly from the Columbia River area, have indicated strong support for a license buyback program to further reduce the number of coastal crab fishery permits. WDFW views a license buyback program as a key component of a long term effort to reduce overcapitalization. This will eliminate latent fishing effort and reduce the fleet size to a level commensurate with the capacity of the resource. WDFW will support industry initiatives to design and implement a license buyback program. A special projects coordinator has been assigned by WDFW to assist the industry committee. There are many factors to consider when designing a buyback program—the primary one being identifying a funding source. It is unclear what entity would provide the funds to buyback the crab licenses—whether the industry would be willing to raise monies or whether state or federal funding would be available as a loan or grant to the industry. After these factors have been thoroughly flushed out, then the simplest process may be to approach the State Legislature with the necessary legislation

Other factors to consider when designing a buyback program include:

- Determining the appropriate number of licenses to “buyback”
- Calculating the value of the licenses to determine the total cost of the program
- Identifying a method of financing the program (e.g., state loan re-paid through higher license fees)

11. IMPLEMENTATION OF THE PREFERRED ALTERNATIVE

The Washington Department of Fish and Wildlife (WDFW) will implement the provisions of this plan consistent with the Administrative Procedures Act. The Department has begun the implementation process by filing a CR-101 with the Code Reviser's Office. This will enable WDFW to have these rule changes effective by the start of the 1999/2000 season.

The Fish and Wildlife Commission adopted a Department policy on November 1, 1996; WDFW staff will recommend changes to this policy at the Commission meeting on August 6 in order to be consistent with the Department's Even Flow Harvest Management Plan. Following the Commission meeting, WDFW will file a CR-102 and hold a public hearing to solicit comments on the proposed rule. Following the hearing, the Commission or Director will consider the rule for adoption.

The CR-102 will contain the specifics of the proposed regulations, including provisions which will:

- Establish a 500 pot limit for all Dungeness crab permit holders (WA, OR, or CA) fishing adjacent to the Washington coast in the month of December 1999
- Beginning January 1, 2000, establish a tiered pot limit consisting of 300, 500, and 600 pots, based on a permit's cumulative catch for the time: 12/1/96-9/15/97 and 12/1/97-9/15/98, for all Dungeness crab permit holders (WA, OR, or CA) fishing adjacent to the Washington coast
- Allow the setting of baited pots by an unlicensed vessel only when the Dungeness crab permit holder who owns the pots being deployed is on board the vessel, from 11/28/99-11/30/99
- Establish a maximum Dungeness crab pot size of 13 cubic feet

These regulations will constitute the first step of a comprehensive long-term plan to provide a sustainable Dungeness crab fishery of high quality product consistent with the "even flow" legislative mandate. The Department plans to coordinate its efforts with the states of Oregon and California to facilitate the institution of the pot limit and ensure compliance by out-of-state vessels. Beginning January 1, 2001, pot and buoy tags will also be required.

In the long-term, the Department plans to reduce the tiered pot-limit system from three tiers to two tiers—the 300 pot-tier would remain and the 500 and 600 pot-tiers would be consolidated into a 500 pot-tier (i.e., those fishers who were in the 600 pot-tier would have to reduce to 500 pots). This would be implemented together with legislation which would allow Dungeness crab fishing permits to be stacked. Over the next year, the Department will seek state legislation to allow permit stacking; in the interim, the proposed permanent rule for three tiers would remain in effect.

The Department has also begun discussions with industry members regarding a buyback program, at the industry's request, and will support industry buyback initiatives to reduce the Dungeness crab fishery's fleet capacity.

12. ENFORCEMENT

Strong financial incentives to violate regulations will be created by each of the proposed effort reduction options. Accordingly, the eventual success of any plan will depend on effective enforcement.

The pot limit options (1-3) require a credible at-sea enforcement presence virtually on a daily basis. Even if the commercial crab fishery were to be assigned the highest priority during the December-January period, current WDFW patrol staffing levels and at-sea vessel capability make it unlikely that the pot limit options can be effectively enforced. At-sea patrols will require at least three officers and the current coastal enforcement vessel has only limited operational capability during typical winter weather/sea conditions. Assistance from the United States Coast Guard (USCG) cannot be relied upon to meet regulatory compliance goals because USCG does not assign high priority to enforcement of state fishery regulations. The presence of WDFW enforcement officers during occasional USCG patrols would be required, and additional support from a vessel with pot hauling capability would be needed in the event a pot limit violation were detected.

The monthly quota option (4) has a much higher probability of being effectively enforced because the primary emphasis can be concentrated shore-side. This would require a minimum of one officer at each major port rather than three officers at-sea required under the pot limit options. Cooperation from the Oregon Department of Fish and Wildlife (ODFW) will be necessary to assure that timely catch reporting data is available for catch tracking purposes. A similar system is currently in place to monitor landings of commercial groundfish. Regular monitoring of fishing activity will be required to insure Washington catch quotas are not exceeded by vessels that fish off Washington but land in Oregon. A summary of current coastal crab fishery enforcement efforts and estimates of patrol needs associated with the four options are included in Appendix B.

OPTION 1 : Single pot limit									
pot limit: 400			pot limit: 500			pot limit: 600			
boats/pots	total number of pots		boats / pots	total number of pots		boats / pots	total number of pots		
	current	potential		current	potential		current	potential	
57 < 400	14,831	22,800	96 < 500	31,202	48,000	135 < 600	52,279	81,000	
14 = 400	5,600	5,600	17 = 500	8,500	8,500	11 = 600	6,600	6,600	
99 > 400	39,600	39,600	57 > 500	28,500	28,500	24 > 600	14,400	14,400	
Total	60,031	68,000	Total	68,202	85,000	Total	73,279	102,000	
% difference	-22%	-11%	% difference	- 11%	+11%	% difference	- 4%	+ 33%	
OPTION 2: Tiered pot limit based on hold inspections									
tier	current # of pots	new limit	number of boats	number of pots fished	*max. pots fished	change in pots fished	*min. pots fished	change in pots fished	
1	< 399	300	57	14,831	17,100	+ 15%	14,111	- 5%	
2	< 499	400	39	16,971	15,600	- 8%	15,600	-8%	
3	< 699	500	60	33,576	30,000	- 11%	30,000	- 11%	
4	> 700	600	14	11,059	8,400	- 24%	8,400	- 24%	
Total			170	76,437	71,100	- 7%	68,111	- 11%	
OPTION 3: Tiered pot limit based on catch history									
tier	catch (lbs.)	new limit	number of boats	current pots fished	*max. pots fished	change in pots fished	*min. pots fished	change in pots fished	
1	0-39,999	300	44	12,190	13,200	+8%	10,426	- 14%	
2	40-199,999	500	114	56,215	57,000	-1%	51,604	- 8%	
3	200,000+	600	12	9,044	7,200	-20%	7,068	- 22%	
Total			170	77,449	77,400	- 0%	69,098	- 11%	
OPTION 4: Tiered monthly quota based on catch history									
tier	catch (lbs.)	no boats	monthly average (lbs.)		monthly quota (lbs.)		reduction by tier		
			/boat	/tier	/boat	/tier			
1	0-9,999	11	1,403	15,434	1,200	13,200	14%		
2	10-24,999	19	3,431	65,198	2,950	56,050	14%		
3	25-49,999	24	7,284	174,821	6,300	151,200	14%		
4	50-74,999	29	12,078	350,257	10,400	301,600	14%		
5	75-109,999	36	16,915	608,922	14,500	522,000	14%		
6	110-169,999	34	27,372	930,632	23,500	799,000	14%		
7	170-209,999	9	36,299	326,691	31,200	280,800	14%		
8	210-249,999	3	45,109	135,326	38,800	116,400	14%		
9	250,000+	5	50,652	253,262	43,500	217,500	14%		
Fleet Total		170		2,860,543		2,457,750	- 14%		

* maximum and minimum refer to whether or not boats which currently fish less than the new pot limit would be allowed to add pots.

COASTAL COMMERCIAL CRAB ENFORCEMENT

CURRENT ACTIVITY

<u>Issue</u>	<u>Area/Fishery</u>	<u>Enforcement Level</u>
<input type="checkbox"/> Crab size/quality (soft-shell) enforcement.	Area 60A-2, 60C,60D (Ilwaco, Chinook, Nahcotta, Tokeland)	<input checked="" type="checkbox"/> One Officer three days per week. Dockside enforcement only.
	Area 60A-1,60B (Westport)	<input checked="" type="checkbox"/> One Officer two days per week. Dockside enforcement only.
	Area 58A, 58B, 59A-1, 59A-2, 59B (LaPush, Neah Bay)	<input checked="" type="checkbox"/> One Officer one day per week. Dockside enforcement only.
<input type="checkbox"/> In-season area closures	Area 59A-1, 59A-2 (Quileute/Hoh/Quinault)	<input checked="" type="checkbox"/> Three Officers twice per season- WDFW boat patrol, plus one Officer once per season joint USCG Cutter Patrol (when closures are in effect).
<input type="checkbox"/> Gear thefts/compliance	All areas	<input checked="" type="checkbox"/> Three Officers, four boat patrols per season incorporated with other boat and dock patrols when possible.
<input type="checkbox"/> License/landing restrictions	All areas	<input checked="" type="checkbox"/> Incorporated with other dock and boat patrols - no additional on-water patrols, two flights per season.

* Due to coastal enforcement station vacancies, most patrols have been reactive responses vs. proactive. The above activity level is an average based upon the last two seasons and is below normal. The first three months of the season require combo of at-dock and at-sea Officer presence five days per/wk to effectively address all of the above, including season openers/closures.

*Additional Resource Issues December through September:

Wild salmon / steelhead protection - spring (rivers) summer (ocean) fall (rivers) winter (rivers)
 Black bear / human conflicts - spring and fall
 Cougar/ human conflicts - year around
 elk / human conflicts - spring and winter
 HPA violations and checks - year around

PROPOSED OPTIONS

<u>Proposal</u>	<u>Area/Fishery</u>	<u>Enforcement Level</u>
<input type="checkbox"/> Monthly catch quotas	Area 60A-2, 60C,60D (Ilwaco, Chinook, Nahcotta, Tokeland)	<input checked="" type="checkbox"/> One Officer five days per week dockside for first three months and then three days per week.
	Area 60A-1, 60B (Westport)	<input checked="" type="checkbox"/> One Officer five days per week dockside for first three months and then three days per week
	Area 58 & 59 (LaPush, Neah Bay)	<input checked="" type="checkbox"/> One Officer three days per week dockside for first three months and then one day per week after.
<input type="checkbox"/> Tiered pot limit	All areas total	<input checked="" type="checkbox"/> Three Officers per day boat patrol w/ min. of three boat patrols per week plus one Officer for min. one overflight per week.
<input type="checkbox"/> Uniform pot limit	All areas total	<input checked="" type="checkbox"/> Same as tiered pot limit

Permit stacking - would not alter patrols ability to enforce regulation, if proper safeguards are in place.

Most enforceable option is monthly landing limit.

Pot limits, regardless of whether different limits apply, are almost impossible to enforce due to size of ocean, gear leasing issues, bordering states and presence of non-resident fishers. Also cases would have to be made on the water. Patrol would not be able to make an arrest based on number of crab pots on the dock, on deck etc.



DEPARTMENT OF JUSTICE
GENERAL COUNSEL DIVISION

March 5, 1999

Jim Greer, Director
Oregon Department of Fish and Wildlife
2501 SW 1st Avenue
Portland, OR 97207

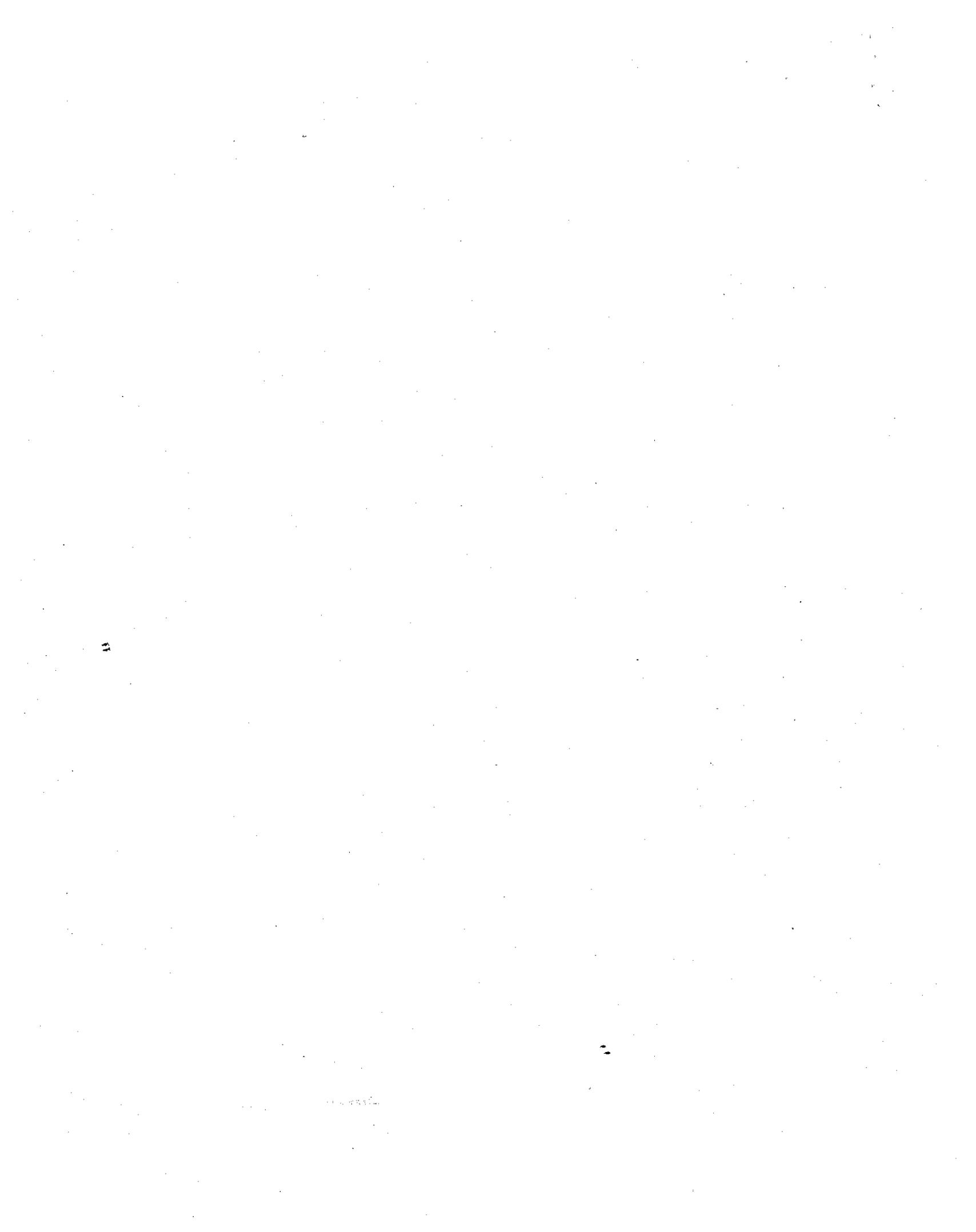
Re: Authority to limit crab pots

Dear Mr. Greer:

You asked whether the Fish and Wildlife Commission (commission) may impose limitations on 1) the number of crab pots that a single vessel could use in the limited entry Oregon ocean Dungeness crab fishery, and 2) the total number of crab pots that could be used in the fishery. It is my opinion that the commission possesses the authority to impose such limitations, by rule.

The commission's authority over the crab fishery is spelled out in ORS 508.921 to 508.941. ORS 508.921 specifically directs that "to prevent concentration of fishing effort, the State Fish and Wildlife Commission by rule shall establish a system for restricting participation in the Oregon ocean Dungeness crab fishery." The commission's system for limiting participation in the fishery "shall include any other provisions for participation that the State Fish and Wildlife Commission considers appropriate." ORS 508.941 (1). In my view, limitations on the number of pots a single vessel could employ or the total number of crab pots that could be employed in the fishery fall squarely within the authority "to prevent a concentration of fishing effort" by "restricting participation in the * * * crab fishery." No part of this statutory framework otherwise limits (or explains) the commission's authority to limit the number of allowable pots per vessel, or the total number of pots allowed in the fishery by rule. (The remainder of the statutory scheme describes the initial eligibility requirement for a limited entry permit, imposes transfer restrictions on permits and sets up a reciprocity arrangement with other states with limited entry crab fisheries).

Comparison with other limited entry fishery statutes supports the conclusion that the commission has broad authority to limit participation in the crab fishery. For example, the limited entry systems for the Columbia River gillnet fishery (ORS 508.775-796), ocean troll salmon fishery (ORS 508.801-828), ocean scallop fishery (ORS 508.840-867), and pink shrimp



Jim Greer
March 5, 1999
Page 2

fishery (ORS 508.880-913) do not have specific language directing the commission to add additional restrictions to participation in the fishery, as is found in ORS 508.921 and 508.941.

Please feel free to call with additional questions you may have about this conclusion.

Sincerely,

REDACTED FOR PRIVACY
REDACTED FOR PRIVACY

Stephen E.A. Sanders
Assistant Attorney General
Natural Resources Section

SEAS:mxc/tap/greer

