



# **COASTAL DUNGENESS CRAB EVEN FLOW HARVEST MANAGEMENT PLAN**

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## INTRODUCTION

In 1994, the Washington State Legislature enacted legislation that 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 that were open to the public to discuss goals, objectives, and management strategies.

## 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.

In 1999, The Coastal Dungeness Crab Advisors were:

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

## PUBLIC INVOLVEMENT PROCESS

The Department has held twenty meetings with representatives of the coastal commercial crab fishery to develop options for implementation of an even-flow harvest plan. These interactions included meetings and teleconferences with the coastal advisory group, the WDFW Commission and the director. Each meeting is summarized below:

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**
    - Reduce December-January harvest rate
    - Improve economic yield
    - Develop fair and equitable management strategies
    - Utilize best biological information
    - Reduce differences between Indian and non-Indian regulations
    - 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 sub-options
- 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

August 6, 1999

Fish and Wildlife Commission public meeting, Ocean shores

Attendees: Department staff, 15 stakeholders

- Discussed management objectives for the coastal Dungeness crab fishery
- Heard testimony from 7 industry members in support of the pot limit
- The Commission adopted the Coastal Dungeness Crab Even Flow Harvest Management Plan

October 11, 1999

Department staff and 14 stakeholders

- Discussed proposed pot limit (CR-102) and the rule adoption process
- Discussed possible implementation challenges associated with the three-tiered system
- Discussed Department proposed legislation that would allow permit stacking

October 26, 1999

Formal rule adoption hearing, Olympia, WA

- Presented the history of the Even-Flow Harvest Management Plan
- Department staff discussed the implementation challenges associated with a tiered system
- Received comments from 20 members of the coastal crab industry regarding the proposed rule

October 29, 1999

Conference call with Department staff and 18 stakeholders

- Discussed the Director's support for pot limit and buyback programs in spite of the fact that he did not approve the proposed rule changes
- Discussed the administrative difficulties of implementing the proposed rule
- Discussed the need for more information on the economic impact to fishers
- Solicited possible solutions and alternatives to the tiered system

November 9, 1999

Coastal crab small business economic impact survey - 13 industry members

- Department staff surveyed coastal crab fishers regarding the estimated economic impact of a pot limit (at 300, 500 and 600 pots) on the individual's small business
- Fishers surveyed represented a cross-section of the coastal crab fleet, and varied in the number of pots fished, the size of their vessel and the amount of crab landed during the qualifying period

November 12, 1999

Attendees: Department staff and 30 stakeholders

- Discussed the pre-season meetings with treaty tribes regarding the Department's commitment to effort reduction for the 1999/2000 season
- Discussed an emergency rule of 500 pots for all fishers until permanent rule could be implemented
- Solicited possible solutions and alternatives to the tiered pot limit system

February 11, 2000

Attendees: Department staff and 17 stakeholders

- Discussed the Fish and Wildlife Commission policy and the Legislative mandate that, in addition to support from industry, has driven the effort reduction process
- Reviewed the status of the rule adoption process and litigation against the Department
- Presented a list of proposed rules that would make implementation of a pot limit feasible and discussed whether or not industry wanted to move forward with a pot reduction plan

February 29, 2000

Attendees: Department staff and 54 stakeholders

- Discussed pot limit options
- Discussed industry's position on a pot limit system, heard comments from what had become a group of fishers divided on their ideas of how a pot limit should be structured.

March 22, 2000

Attendees: Department staff and 32 stakeholders

- Discussed pot limit options
- WDFW would work with industry on permit stacking and buyback programs at future meetings

- Department staff looked at landing data for vessels that historically fished North of Grays Harbor and outside of LaPush and those that moved to Southern areas as a result of tribal fisheries, which resulted in a modification of the breakpoint between the 300 and 450 tier. Staff looked at breakpoint between 450 and 550 tier but made no changes in pounds required
- Discussed the need for some reduction in pots and the opportunity to see more reduction in effort with permit stacking and buyback programs
- Stakeholders discussed their positions on pot limit options including; one pot limit for all fishers, no pot limit at all, and tiered limit based on catch. The majority of them were in favor of a 500 pot limit for all fishers
- Discussed barging, buoy brand and buoy color scheme registration requirements, requirement for pot tags

#### April 3, 2000

Fish and Wildlife Fish Committee meeting, Portland WA

Attendees: Department staff and 11 stakeholders

- Members of industry requested a meeting with members of Fish and Wildlife Commission Fish committee members prior to the Commission meeting scheduled for April 8 to present their opposing views on a pot limit system for coastal crab fishers.
- Two groups of fishers; one in support of a 500 pot limit for all fishers, the other in support of a tiered pot limit were given the opportunity to present their arguments for the pot limits they supported to the members of F&W Commission fish committee.

#### April 8, 2000

Fish and Wildlife Commission meeting, Yakima WA

- The Staff presentation included; the history of industry involvement, the process of coming to an agreement regarding pot limit structure, and the objective of wide spread industry support of pot reduction system for coastal crab fishers
- Fish and Wildlife staff recommended adoption of a three-tiered (300, 450, or 550 pots) system, and also presented a two tiered system (300 or 500 pots) as a potential compromise.
- Fifteen members of the crab industry testified; 5 in support of the three-tiered pot limit system, and 10 in support of a limit of 500 pots for all fishers
- Commission members unanimously approved the three-tiered pot limit system

### April 19, 2000

Meeting with the Director, staff, and 6 industry members

- Industry members request a meeting with the Director to discuss the three-tiered pot limit approved by the Commission
- Members of industry opposing the tiered pot limit were interested in the amount of flexibility the Director had to adopt rules different from the tiered pot limit
- Members of industry in support of the tiered pot limit didn't see any reason to consider another option
- Director advised the group to work together to reach an "informed consent" and asked staff to facilitate one more meeting with industry. If an informed consent could not be reached WDFW would proceed to implement the Commission adopted regime

### April 28, 2000

Department staff and 31 stakeholders

- Staff summarized the meeting with the Director for members of industry not present at the meeting with the Director on the 19th.
- Industry members opposing the three-tiered pot limit were willing to discuss the two-tiered pot limit
- Industry members in support of the three-tiered pot limit approved by the commission were less willing to compromise
- After much discussion, industry was unable to reach a consensus

### June 1, 2000

Conference call; Director, Assistant Director, Commissioners, staff and 4 stakeholders

- The Director explained his reasoning behind giving industry another opportunity to reach a compromise in spite of the Commission approved three-tiered pot limit
- Staff explained that, in order for something different from the three-tiered pot limit already approved by the Commission to be considered, the Commission would either have to increase the flexibility delegated to the Director or rescind the Director's authority to adopt the rule changes
- Commissioners listened to industry members arguments against, and in favor of the three-tiered pot limit
- The Commissioners voted to rescind the Director's rule making authority

August 11, 2000

Fish and Wildlife Commission meeting, Tukwila, WA

- Staff presented the Department's recommendation for permanent rule changes for a two tiered pot limit system to replace the three-tiered system. The modified rules were proposed in consideration of additional stakeholder input.
- Six commercial crab fishers provided testimony. The presidents of the Columbia River and Washington Dungeness Crab Fishing Associations, and three other crab fishers provided supportive testimony. One fisher was opposed to the proposed rules and indicated his support for the three-tier system.
- After considerable deliberation, the Commission approved the proposed two tier pot limit rules (described as option 3A below).

### HISTORY OF THE FISHERY

Dungeness crabs 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 9.0 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

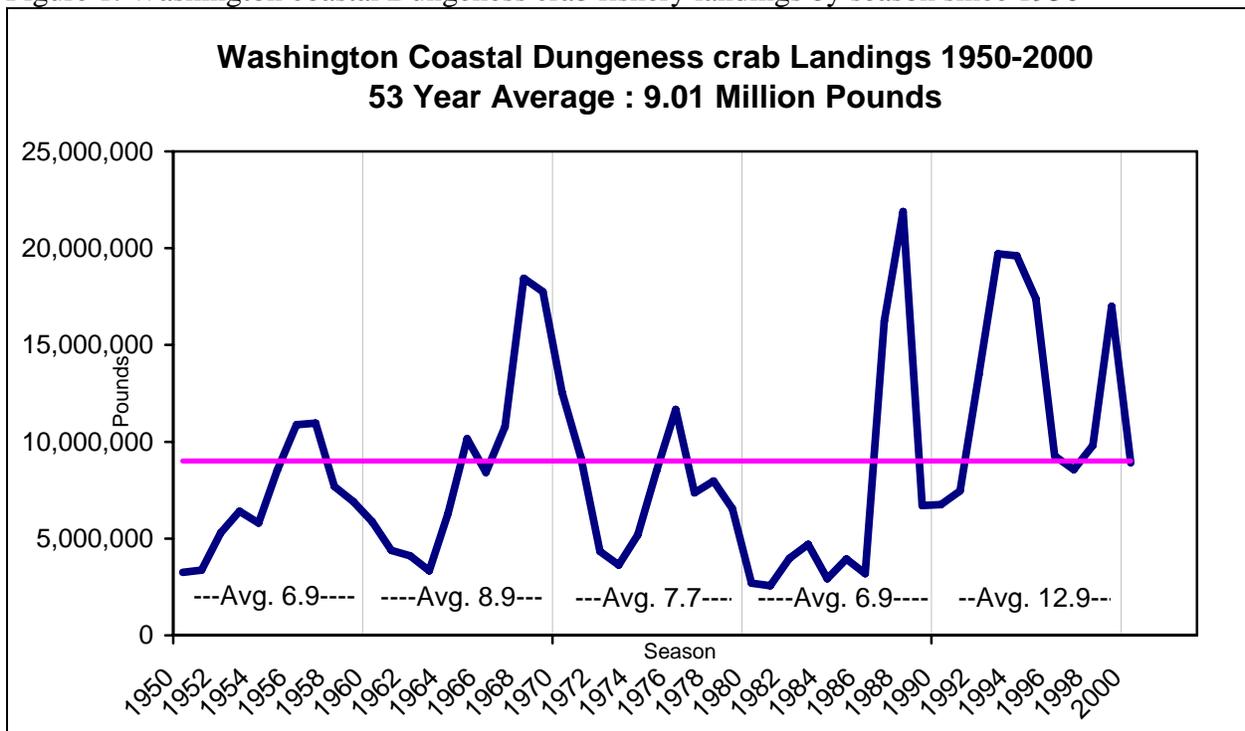


Figure 2. Number of boats and pots in the coastal crab fishery, 1982-2002

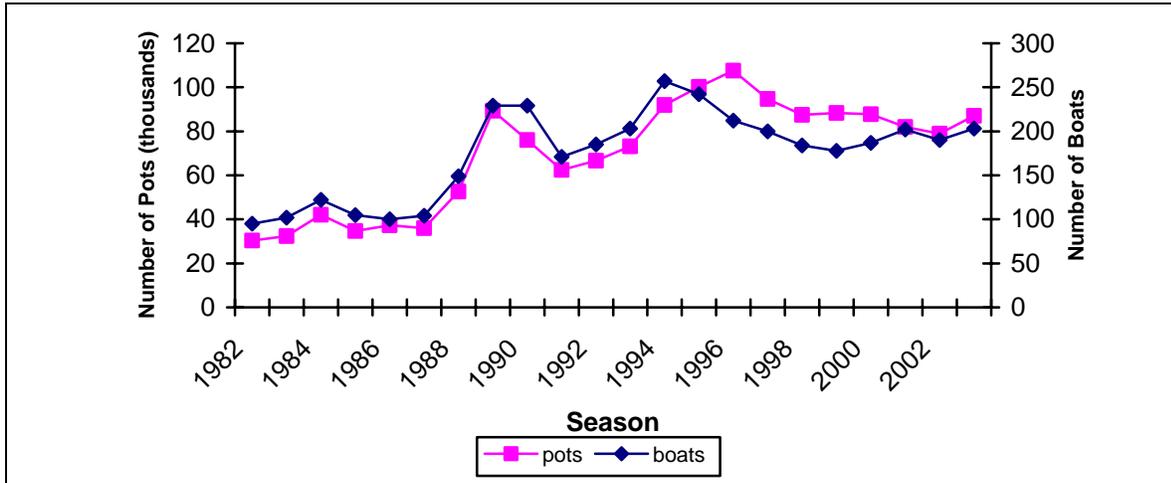


Figure 3. Fishing effort (in pot-months) and total catch of the coastal crab fishery 1982-2002

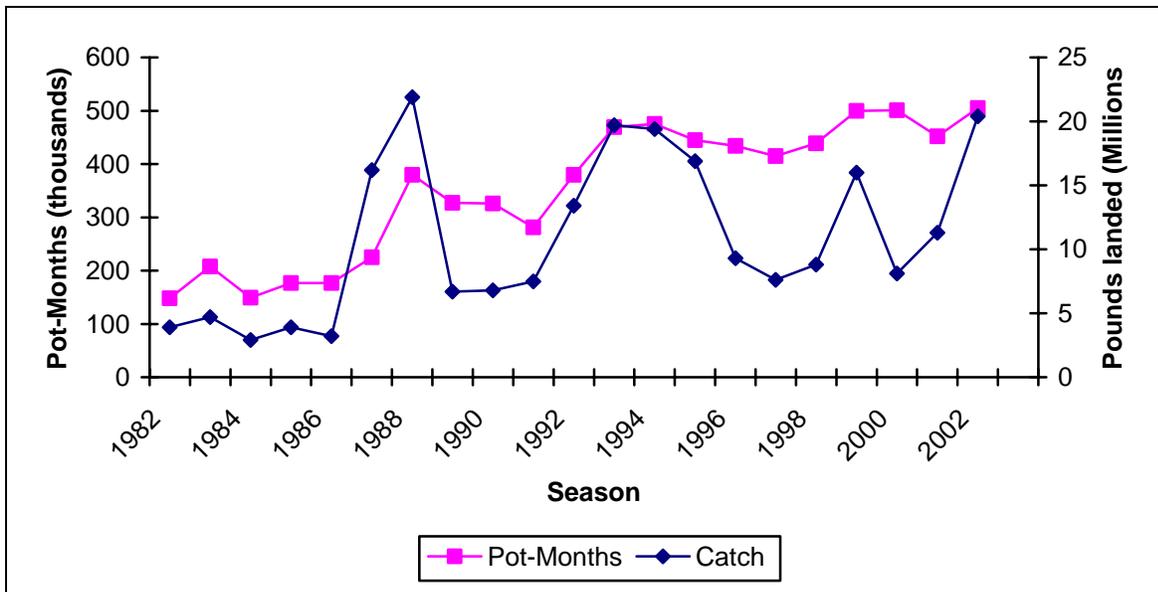
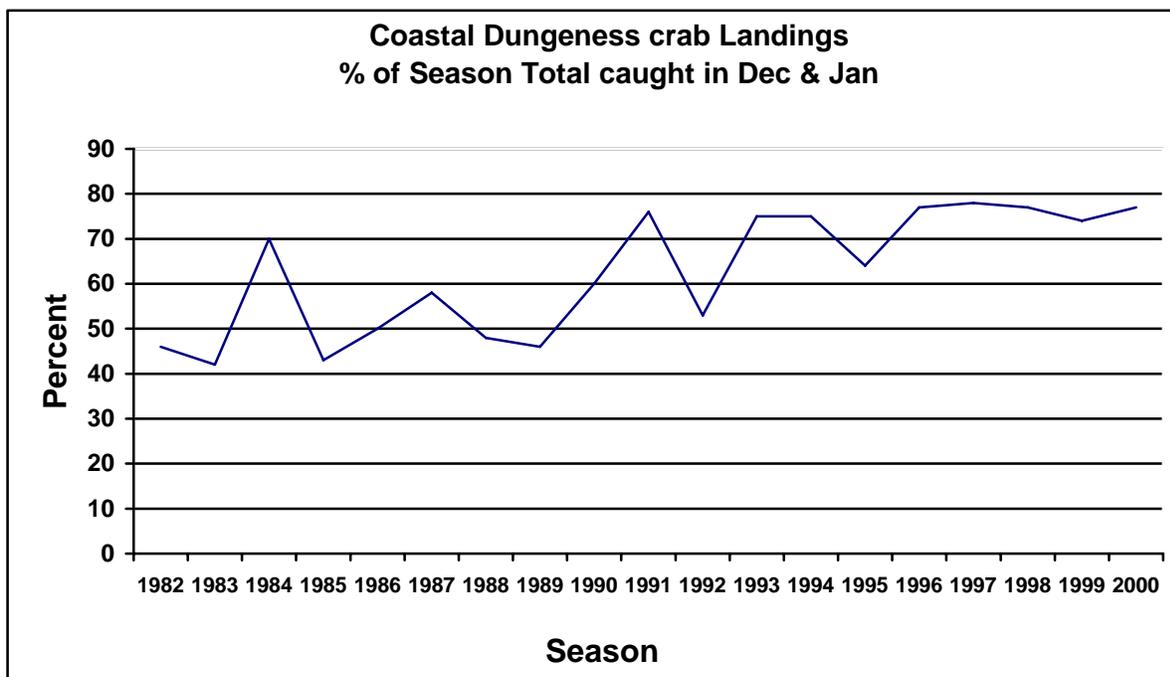


Figure 4. Percent of total non-treaty catch taken in December and January



Fleet size and 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 trend line 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 be accurately 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 catch for the 1982-2000 seasons 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 season 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 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.

## 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 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 shell fish 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 75.08.052).

## **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 ¼ " in carapace width) protects mature, male crab until at least one year after they become sexually mature, thereby helping to ensure a perpetual breeding stock. 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. This seasonal closure protects soft-shelled crab which are very vulnerable to mortality from handling and sorting during normal fishing operations.

## **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) includes 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.). Pre-season estimates of abundance are not feasible and state and tribal allocations are not determined by strict fifty-fifty sharing. Cooperative management plans establish harvest regimes that provide treaty tribes with harvest opportunity prior to the non-treaty fishery opening. Additional tribal opportunity is provided using Special Management Areas, which remain closed to non-treaty fishers for portions of the non-treaty fishing season. 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
1998-99	846,658
1999-2000	976,247

## 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 sub-options; 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 each of the past qualifying seasons (1996/97, 1997/98 and 1998/99).

We made the following estimates about Oregon-based fishers who fish off 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>
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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 and the maximum number assumes that everyone increases the amount of gear fished up to their 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	600	x	14	=8,400
Total pots				=78,100

**NOTE:** Estimated pot totals for options 1 and 2 are based on voluntary hold inspection data for the 1998/99 season (170 boats).

**Option 3** – Three tiered pot limit based on landings in the best season out of 3 (96/97, 97/98, 98/99), with a phase-in period

12/1/99 – 12/31/99: A single pot limit of 500 pots would apply to all coastal commercial Dungeness crab fishers (phase-in was adopted by emergency rule in December, 1999)

<u>Tier/Pots</u>	<u>Best Season</u>	<u>#Vessels</u>	<u>Current pots</u>	<u>Pots w/limit</u>	<u>Reduction</u>
300	0-26,999	41	10,397	12,300	+18%
450	27-104,999	108	52,440	48,600	-7%
550	105,000+	21	14,612	11,550	-21%
Total		170	77,449	72,450	-6.5%

**Option 3A** – Three tiered pot limit based on landings in the best season out of 3 (96/97, 97/98, 98/99) (Adopted by permanent rule on August 11, 2000)

<u>Tier/Pots</u>	<u>Best Season</u>	<u>#Vessels</u>	<u>Current pots</u>	<u>Pots w/limit</u>	<u>Reduction</u>
300	0-35,999	57	16,682	17,100	+2.5%
500	36,000	113	60,767	56,500	-7.0%
Total		170	77,449	76,600	-5.0%

The following additional measures to support implementation and enforcement of the pot limit were developed for Options 3 and 3A and were adopted by permanent rule on August 11, 2000.

1. Pot limit is permanently assigned to the license, only one pot limit allowed per vessel

2. Pot limit based on catch history of the license(s) (best of 3)-96/97, 97/98, 98/99
3. Catch history follows the license(s) –pot limit goes to whoever owns the license now, not during the qualifying period.
4. Catch history can be used only once-either in combination with another state’s license (e.g., WA and OR) individually
5. Department will send out pot limit certificates with name of fisher, name of vessel, license number(s), and vessel registration number to out of state vessels only; Washington licensed vessels will have pot limit on their license.
6. Catch histories can only be combined on the same vessel under the following conditions:
  - a. The same vessel was designated on both licenses during the qualifying year chosen
  - b. Only one qualifying year (same year) can be used for both catch histories (i.e., cannot combine WA license catch history for 96/97 with OR license catch history for 97/98)
  - c. Both licenses were owned by the same person during the qualifying year chosen
  - d. If licenses are combined for a larger limit then, when split, each license gets its original pot-limit listed on pot limit certificate
7. Standard buoy brand numbers:
  - a. One buoy brand per vessel, effective December 1, 2000
  - b. Buoy brand numbers must be registered with WDFW and must be either:
    - i. Old buoy brand number (if multiple, need to designate one) or
    - ii. License number
8. Must register buoy color scheme with WDFW
9. Pot tags are required on all pots, fishers can purchase any style of pot tag from any vendor; can be attached in any manner; all must contain the following information:
  - a. Name of vessel or license number
  - b. Phone number of contact person
10. Maximum pot size of 13 cubic feet
11. Barging of pots allowed by an unlicensed vessel from November 28-December 2 provided the following are met: 1) coastal Dungeness crab license holder who owns the pots being deployed is on the vessel; 2) a maximum number of 150 pots per licensed vessel.

**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	4,411	13,200
Tier 2	10-24,999	2,950	1,149	576,050
Tier 3	25-49,000	6,500	12	7,200
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

**Option 4** –Tiered monthly landing limit based on catch history (*cont.*)

	<u>Catch (lbs.)</u>	<u>Monthly landing limit</u>	<u>#Boats</u>	<u>Total lbs.</u>
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

NOTE: Option 4 was based on the cumulative catches per vessel for the 1996/97 and 1997/98 seasons. Calculations used only the number of vessels that fished both seasons. It has not been determined how to incorporate those vessels that 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 each vessel’s catch history for those seasons.

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

**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 report 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 the number of pots fished. This estimate does not include pots fished 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 15-19 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.

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. Non-residents hold about 20 licenses, which may be active in another state’s fishery. In addition, there are about 5 licenses that 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 next section).

*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 levels. 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 proved 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 the 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 regarding reliance on voluntary hold inspection data to assign pot limits.

### *Option 3*

This option assigns vessels to one of three pot limit tiers developed from catch data for the 170 vessels that fished during the 1996-97, 1997-98 and 1998-99 seasons. If all vessels would increase to fish at the pot level allowed for their tier, there would only be a slight overall (6.5%) reduction in pots fished. An 11% overall reduction would be achieved if vessels use the same number of pots they reported using in 1999, except for the reductions needed for some vessels to comply with the pot limit for their tier. The 41 vessels that have landed less than 27,000 pounds of crab have the potential of increasing their overall pot total by 205. The vessels in the 450-pot tier would reduce the number of pots they reported using by 7.8%. The 21 vessels that qualify for 550 pots would contribute a 25% reduction to the overall pot reduction effort.

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.

#### *Option 3A (Adopted on August 11, 2000)*

This option assigns vessels to one of two pot limit tiers developed from catch data for the 170 vessels that fished during the 1996-97, 1997-98, and 1998-99 seasons. If all vessels increased the number of pots to the level allowed for their tier, there will be a five percent reduction in pots fished in the coastal crab fishery. A twelve percent reduction will be achieved if vessels use the same number of pots they reported using in 1999, and reduction are made as needed for some vessels to comply with the pot limit for their tier. The 57 vessels that landed less than 36,000 pounds of crab during their best season than have the potential to increase their overall pot total by about three percent. The vessels that landed more than 35,999 pounds are eligible to fish using 500 pots will need to reduce the number of pots they use by seven percent.

This option distributes the reductions across the fleet more evenly than Options 1 and 3. Overall pot reduction is about the same as Option 3. The qualifying period and the association of landings with permits is the same as described above for Option 3.

#### *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 and 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 during the 97/98 and 98/99 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 season of above average 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 transfers 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.

## 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 and allows fishers to set baited pots three days in advance of the season opening. Fishers cannot pull pots or 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 of 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 to 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 the method of financing the program (e.g. state loan re-paid through higher license fees)

## **IMPLEMENTATION OF THE PREFERRED ALTERNATIVE**

New regulations to implement the even-flow harvest plan were adopted by the WDFW Commission on August 11, 2000. These regulations are described as Option 3A and “Additional Measures” above. A register containing color photographs of buoy designs for each fisher, and vessel/fisher identification data has been created to help implement these rules. Department staff will monitor fishery landings to evaluate the success fo the new two tier pot limit system and anticipate that two to three seasons will be needed for complete implementation, fine tuning and evaluation.

The new pot limit regulations are 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. The goal of reducing harvest rates sufficiently to catch no more that fifty percent of the non-treaty season catch during the first two months of the season is not likely to be achieved without additional measures to reduce effort. The Department has begun discussions with industry members regarding a buyback program, and has agreed to support industry buyback initiatives.

## **ENFORCEMENT**

Pot limit regulations create strong financial incentives for violations. Accordingly, the success of the new system will depend of effective enforcement. The new system will not be complete without a pot and buoy tagging system. A system utilizing counterfeit resistant buoy tags printed with fisher identification numbers was planned for implementation beginning January 1, 2001 but has been postponed due to funding difficulties. This shortfall precludes cost effective enforcement of the new pot limit rules.

A nearly constant and credible at-sea enforcement presence is required. Even if the commercial crab fishery were to be assigned the highest priority during the December-January period, current WDFW enforcement staffing levels and at-seas 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) is much more easily 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 tacking 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.

<b>OPTION 1 : Single pot limit</b>								
<b>pot limit: 400</b>			<b>pot limit: 500</b>			<b>pot limit: 600</b>		
total number of pots			total number of pots			total number of pots		
boats/pots	current	potential	boats / pots	current	potential	boats / pots	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
<b>Total</b>	<b>60,031</b>	<b>68,000</b>	<b>Total</b>	<b>68,202</b>	<b>85,000</b>	<b>Total</b>	<b>73,279</b>	<b>102,000</b>
% difference	-22%	-11%	% difference	- 11%	+11%	% difference	- 4%	+ 33%
<b>OPTION 2: Tiered pot limit based on hold inspections</b>								
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%
<b>Total</b>			<b>170</b>	<b>76,437</b>	<b>71,100</b>	<b>- 7%</b>	<b>68,111</b>	<b>- 11%</b>
<b>OPTION 3: Tiered pot limit based on catch history</b>								
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	0-38,999	300	43	11,760	12,900	+10%	10,126	- 14%
2	39-199,999	500	115	56,645	57,500	+ 2%	52,034	- 8%
3	200,000+	600	12	9,044	7,200	-20%	7,068	- 22%
<b>Total</b>			<b>170</b>	<b>77,449</b>	<b>77,400</b>	<b>- 0%</b>	<b>69,098</b>	<b>- 11%</b>
<b>OPTION 4: Tiered monthly quota based on catch history</b>								
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%	
<b>Fleet Total</b>		<b>170</b>		<b>2,860,543</b>		<b>2,457,750</b>	<b>- 14%</b>	

\* 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

Issue	Area/Fishery	Enforcement Level
Crab size/quality (soft-shell) enforcement.	Area 60A-2, 60C,60D (Ilwaco,Chinook, Nahcotta, Tokeland)	One Officer three days per week. Dockside enforcement only
	Area 60A-1,60B (Westport)	One Officer two days per week. Dockside enforcement only.
	Area 58A, 58B, 59A-1, 59A-2, 59B (LaPush, Neah Bay)	One Officer one day per week Dockside enforcement only.
In-season area closures	Area 59A-1, 59A-2 (Quileute/Hoh/Quinault)	Three Officers twice per Season WDFW boat patrol, plus one Officer once per season joint USCG Cutter Patrol(when closures are in effect).
Gear Thefts/compliance	All areas	Three Officers, four boat patrols per season incorporated with other boat and dock patrols when possible.
License/landing restrictions.	All areas	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. pro- active. 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

Proposal	Area/Fished	Enforcement Level
Monthly catch quotas	Area 60A-2, 60C,60D (Ilwaco, Chinook, Nahcotta, Tokeland )	One Officer five days per week dockside for first three months and then three days per week
	Area 60A-1, 60B (Westport)	One Officer five days per week dockside for first three months and then three days per week
	Area 58 & 59 (LaPush, Neah Bay)	One Officer three days per week dockside for first three months and then one day per week after.
Tiered pot limit	All areas total	Three Officers per day boat patrol w/min. of three boat patrols per week plus one officer for min. one over-flight per week
Uniform pot limit	All areas total	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.