

POLICY ON KING AND TANNER CRAB RESOURCE MANAGEMENT

GOAL AND BENEFITS

It is the goal of the Alaska Board of Fisheries and the Alaska Department of Fish and Game to manage king and Tanner crab stocks in a manner that will protect, maintain, improve, and extend these resources for the greatest overall benefit to Alaska and the nation. Achievement of this goal is necessarily constrained by the requirement to minimize: (1) risks of irreversible adverse effects on reproductive potential; (2) harvest during biologically sensitive periods of the life cycle; (3) adverse fishery impacts on non-targeted portions of stocks; and (4) adverse interactions with other fish and shellfish stocks and fisheries.

Management of these fisheries for the purpose of achieving this goal will result in a variety of benefits which include, but are not limited to, the following:

- (1) maintaining healthy stocks of king and Tanner crabs of sufficient abundance to insure their continued reproductive viability and the maintenance of their role in the ecosystem;
- (2) providing a sustained and reliable supply of high quality product to the industry and consumers which will provide substantial and stable employment in all sectors of the economy relating to these fisheries; and
- (3) providing opportunities for subsistence and personal use fisheries on these stocks.

The Alaska Board of Fisheries also recognizes the benefits of managing for the highest socio-economic benefit when such action does not conflict with the previously mentioned biological constraints.

POLICIES

To achieve the management goal and provide the benefits available from these resources, it is necessary to set policies which will protect stocks and provide for optimum utilization of these resources. It is the policy of the Alaska Board of Fisheries to:

1. Maintain crab stocks comprised of various size and age classes of mature animals in order to maintain the longterm reproductive viability of the stock and reduce industrial dependency on annual recruitment, which is extremely variable. Benefits of this policy are most apparent when weak recruitment occurs. As population abundance and structure change with declining recruitment, harvests should be reduced.
2. Routinely monitor crab resources to provide information on abundance of females as well as prerecruit, recruit, and postrecruit males. This is necessary to detect changes in the population which may require adjustments in management to prevent irreversible damage to the reproductive potential of each stock and to better achieve the benefits listed above. Harvests must be conducted in a conservative manner in the absence of adequate information on stocks.
3. Protect king and Tanner crab stocks during biologically sensitive periods of their life cycle.

Closure of the fishing season is necessary at times surrounding the annual mating, molting, and egg hatching periods in order to reduce unnecessary mortality of soft animals, disturbance during mating, and damage to egg clutches.

4. Minimize handling and unnecessary mortality of non-legal crabs and other non-target animals. Capture and handling of females, sublegal males, and animals of other species results in a loss of reproductive ability and biomass that may be detrimental to a stock.

5. Maintain an adequate brood stock to rebuild king or Tanner crab populations when they are depressed. Maintenance of an adequate brood stock takes precedence over short term economic considerations. When populations are at or below threshold, the minimum stock size that allows sufficient recruitment so that the stock can rebuild itself, fisheries must be closed and must remain closed until there is adequate brood stock.

6. Establish management measures in each fishing area based on the best available information. Stock and fishery characteristics, as well as available data, vary from area to area within Alaska. Actual management practices in each area will vary accordingly.

7. Establish regulations which will help improve the socio-economic aspects of management by: harvesting crab when their meat yield is highest; providing for fair starts and closures to seasons; insuring enforceability of regulations; and other measures providing for an orderly fishery.

The Board recognizes these policies may not result in maximization of physical or economic yield. They will, however, provide better biological protection and help preserve the reproductive viability of king and Tanner crab stocks which inherently vary in abundance due to environmental conditions. It will also increase the stability and longevity of the king and Tanner crab fisheries beyond that provided by a recruits-only fishery.

MANAGEMENT MEASURES

The following management measures are available as tools to be used in order to carry out the policies on king and Tanner crab management. Individual measures should be applied as necessary in areas and fisheries depending on available information and fishery characteristics.

1. **Harvest Rates.** Harvestable surpluses available from king and Tanner crab stocks depend on the size and condition of the individual stock. Harvest rates represent the percentage of the legal stock that may be harvested during the biological season in accordance with the goal and policies of the Board.

Exact harvest rates in each situation are chosen based on abundance of prerecruit males and females as well as legal males, the established minimum size or the actual size of crab landed, percentage of females bearing eggs, and the ratio of recruit to postrecruit males. When the acceptable annual harvest rate has been reached in an area, that area must be closed to fishing. Changes in harvest rates should appear in fishery management plans to be reviewed by the public and the Board.

When stock abundance and condition in a management area are such that there is no harvestable surplus, the area or a portion of the area must be closed to fishing. Such areas must remain closed to fishing until the stock recovers to a level WHICH IS EXPECTED TO PRODUCE A SUSTAINED HARVESTABLE SURPLUS.

2. **Size Limits.** Size limits have a dual role in management. They provide some protection against over harvest and also provide for improved product quality. To provide for protection

against over harvest on stocks where harvest rates are unknown or difficult to regulate, size limits are set to increase the probability of mating prior to harvest. For example, in some cases king crab size limits have been set at two average molt increments above the estimated average size at maturity and Tanner crab size limits have been set at one average molt increment above estimated average size at maturity because Tanner crab are known to produce multiple egg clutches from a single mating.

Smaller size limits may be established where stock size is accurately known and harvest rates are precisely controlled since harvest rates will have to be lowered to prevent over fishing.

Larger size limits may be established to insure better marketability of the crab or provide increased long term yield by limiting harvest of animals below a suboptimal size.

3. Sex Restrictions. Harvest of king and Tanner crabs is limited to males only in an attempt to provide full fertilization of females and increase the chances of reproductive success. This is particularly important at low stock levels. During periods of average or high abundance, in areas where stock size is accurately known and harvest rates are precisely controlled, this restriction may be eliminated if it is demonstrated that the abundance of females results in no increase in recruitment to the fishery.

4. Fishing Seasons. Biological seasons should be set to minimize the harvest of king and Tanner crabs during times surrounding the annual mating, molting, and egg hatching periods and for a sufficient time after molting to allow safe handling and acceptable product quality. Within the acceptable biological fishing season, actual fishing times may be further modified for economic reasons, such as to ensure high meat content of legal males and to reduce dead loss in the landings.

5. Guideline Harvest Levels (GHL). A preseason estimate of the level of allowable king and Tanner crab harvest is established for each fishery. In those fisheries with accurate population estimates the appropriate harvest rate is applied to the best point estimate to determine the GHL. For those fisheries without surveys or historical catch information adequate for estimating the population size, the GHL will be set based on historical fishery performance, catch, and population trend.

6. Closed Areas. To minimize the handling and unnecessary mortality of non-legal and/or molting crabs, or to prevent conflicts with other fisheries or stocks, it may be necessary to close portions of management areas.

7. Gear Types. Fishing for king and Tanner crabs is limited to pots, ring nets, or diving gear depending on area. This type of gear provides the most manageable type of fishery while minimizing potential damage to target and non-target portions of the stock or other species. Biodegradable panels are required in pots to minimize adverse effects of lost gear. Escape rings, large mesh panels, or other measures may be required in gear to meet the policies of the Board.

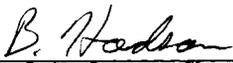
8. Inseason Adjustments. Inseason adjustments may be made to the guideline harvest level and length of the fishing season. Information upon which such adjustments are based may include: (1) overall fishing effort; (2) catch per unit of effort and rate of harvest; (3) relative abundance of king or Tanner crabs; (4) achievement of guideline harvest level (GHL); (5) proportion of soft-shelled crabs and rate of dead loss; (6) general information on stock condition including adequacy of reproductive stock; (7) timeliness and accuracy of catch reporting; (8) adequacy of subsistence harvests, (9) THE IMPACT OF SEVERE OR UNEXPECTED ENVIRONMENTAL CONDITIONS ON THE HANDLING AND TRAPPING MORTALITY OF CRAB, AND (10) other factors that affect ability to meet objectives of the policy. When this information shows that continued fishing effort would jeopardize the reproductive viability of king or Tanner crab stocks within a registration area, or continued fishing would be counter to the goal and policies established by the Board, the registration area or a portion of the registration area will be closed by Emergency Order.

9. **Other Measures.** To meet the goal and policies for management of these fisheries, it may be necessary for the Board to adopt additional regulations OR MANAGEMENT MEASURES. CONTROLLING DISEASE, REDUCING HANDLING AND TRAPPING MORTALITY DURING SEVERE OR UNEXPECTED ENVIRONMENTAL CONDITIONS, SPECIFYING registration requirements, tank inspections, gear storage, gear limitations, and other measures including regulation of other shellfish and finfish fisheries may be necessary in order to promote the protection and best overall usage of the king and Tanner crab resource toward the stated goal.

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Bud Hodson, Chairman
Alaska Board of Fisheries