

estimates the herring population by using sound transmission (visual integration) to determine the size and density of each school, or wave, of herring that come into the bay to spawn. The spawn deposition survey calculates a population estimate by measuring the area and density of deposited eggs each time a spawning event occurs.

The two surveys are used together to generate a combined annual biomass estimate for the season. The surveys are conducted simultaneously, but results of the two techniques are treated independently from one another during the spawning season. At the end of the season, results are reviewed on a school-by-school basis to obtain the most accurate biomass estimate of each spawning school. If both survey methods yield acceptable results for a given spawning event, then the biomass estimates are averaged. If the project staff encounters problems with one method while surveying a particular school (e.g., inclement weather, equipment or vessel failure, etc.), then results from the other method are used.

Over the past several years, hydroacoustic survey estimates have tended to be the higher of the two estimates, although general trends of increase or decrease are reflected in both surveys. In recent years, the trend of the two survey estimates has become increasingly disparate: the hydroacoustic survey indicates a fluctuating population and an increasing trend overall, while the spawn survey consistently indicates a lower estimate (see Supporting Document 3). Results from the 2002-03 survey estimates diverged both in size and in trend. The hydroacoustic survey indicated an increase in adult biomass, whereas the spawn deposition survey indicated a decrease in spawning output resulting in a significantly lower biomass estimate. The disparity cannot be resolved to derive a combined estimate using the methods described above, and may result in a biomass estimate that reflects an erroneous herring population number.

Concurrent with the disparity in the two surveys are the changes in population structure that have become more evident over the past six years. The Department believes that the survey results are symptomatic of a weakened population. Since the 1997-98 El Niño event, there has been no marked return of the older age classes (6-, 7-, and 8-year-old fish) to the herring population (see Supporting Document 4(a)). The smaller numbers of fish present in the population of older year classes may have resulted, recently, in increasing fishing pressure on the younger year classes available to the fishery (4- and 5-year-old fish). While the Department has seen 2- and 3-year-old fish as recruits in the population each year, those same year classes have not returned in large numbers as 3- and 4-year-old fish, and subsequently as 4- and 5-year-old fish, recruiting to the fishery (see Supporting Documents 4(b) and 4(c)). Abundance of 2 and 3 year olds has been highly variable and difficult to predict (see Supporting Document 4(c)). In addition to the lack of large numbers of older fish, the Department has observed a slight decrease in the length and weight of fish at age of 4-, 5- and 6-year-old fish present in the population. These population structure changes, fewer older age class fish, and smaller size at age, have become increasingly evident as it continues to become more difficult for the fishery to

catch its quota each season.

The direct, indirect, and combined effects of environmental factors on the Pacific herring population are poorly understood. Pacific herring are susceptible to environmental conditions at various time scales (weather, seasonal, inter-annual, and regime). Weather events (1-5 days) such as storms can affect the behavior and distribution of adult herring. These short-term events can also be very damaging to the herring population, especially at the early life history stages. Seasonal events (2-3 months), such as changes in spawning temperature and coastal upwelling, can affect growth rates and reproductive success. Inter-annual events (1-2 years), such as El Niño and La Niña events, can play a pivotal role in the growth, recruitment, and distribution of herring. Regime events (5-30 years), such as changes in ocean circulation patterns, and temperature regime shift, can influence ecological conditions that may lead to changes in the overall population size and structure.

The herring population seems to be negatively affected by a regime shift that has incorporated damaging inter-annual events in the past twenty years. Since 1982, there have been four El Niño events (1982-83, 1992-93, 1997-98, and 2002-03). The 1982-83 El Niño, characterized as a relatively strong event, was followed by several years of relatively weak El Niño and La Niña conditions. Following this period, a severe drought, coupled with an extended warm water period (from 1990 to 1994), centered around the 1992-93 El Niño. This may have had devastating effects, and the loss of older age classes in the herring population coastwide has been attributed to this combination of events. A brief period of normal cool oceanic conditions signaled a potential boon for the herring population, until a severe El Niño developed in 1997-98. By mid-1998, cooler water returned and prevailed until mid-2002. During this time, oceanic conditions may have been beneficial for the herring population. However, the San Francisco population has not rebounded as expected, and it is unknown how the inter-annual and regime changes have fully affected the herring population. There is speculation that environmental conditions may have increased mortality, competition, and susceptibility to disease. Additionally, a mild El Niño developed in mid-2002, and the potential effects that this event may have had on the condition of the herring population are, as yet, not fully understood. Current oceanic conditions indicate that the 2002-03 El Niño is weakening, and models suggest that we may return to normal or cooler oceanic condition by mid-2003.

Changes in the age class structure of the population, and the current environmental conditions, coupled with the disparity of the results from the two biomass survey methods, soundly justify the caution the Department is exercising against deriving a combined biomass estimate for the season. The biomass estimate serves as the foundation for setting annual fishing quotas. Annual fishing quotas are conservatively set and have been limited to a total commercial catch of not more than 20 percent (exploitation rate) of the spawning biomass, to ensure adequate protection for the herring resource and provide for the long-term yield of the fishery. In practice, the

exploitation rate has typically been set at 15 percent of the previous season's spawning biomass estimate. However, exploitation rates are not determined by a fixed mathematical formula, but are modified based on additional biological data collected each season, such as oceanic conditions, growth rates of herring, strength of individual year-classes, and predicted size of incoming year-classes (i.e., recruitment). For example, in response to poor recruitment and/or unfavorable oceanographic conditions, exploitation rates for the 1992-93, 1993-94, 1994-95, 1997-98, 2000-01, 2001-02, and 2002-03 fishing seasons in San Francisco Bay were set at less than 15 percent (12, 10, 12, 12, 10, 12, and 10 percent, respectively). Due to the difficulty in reconciling the results from each survey method, there is no 2003-04 combined spawning biomass estimate for San Francisco Bay. The Department has determined no substantial methodological or biological reason to explain the divergence in the trend of the two estimates.

The proposed regulatory changes establish fishing quotas by area for the 2003-04 herring fishing season. Within the overall quota for San Francisco Bay, separate quotas are established for each gill net platoon (i.e., December ("DH"), Odd, and Even fishing groups). The overall quota is divided among the three platoons in proportion to the number of permits assigned to each platoon. Slight annual adjustments in the quota assignments for each fishing group are needed to account for attrition of permittees and the use of herring permits in the herring eggs on kelp fishery. In addition, annual management recommendations, to improve or provide for the efficient harvest and orderly conduct of the herring fishery, are solicited from interested fishermen and individuals at public meetings and from the Director's Herring Advisory Committee, which is composed of various representatives from the commercial herring fishing industry. The proposed amendments to Section 163, Title 14, CCR, reflect, in part, Department recommendations presented to the Director's Herring Advisory Committee.

The Department's preferred quota option is a no fishery option, resulting in a quota of **zero** tons for the 2003-04 San Francisco Bay herring fishery. This is the most conservative option that the Department may choose to recommend. The proposal of a fishery closure accounts for the lack of older age fish in the current population and the lack of strong recruitment of 4- and 5-year-old fish to the fishery, both of which are indicators of an already weakened stock. In spite of potential improvement of environmental conditions with the weakening of the 2002-03 El Niño, the San Francisco herring population may be suffering long term effects from previous El Niño events (i.e., regime shift effects). All of these factors combined provide a classic example of signs that a population is under stress. Therefore, the Department's preferred option is a fishery closure as a precautionary measure to prevent a potential collapse of the population.

The Department has recommended that the Commission consider fishery closure for two other seasons in recent history: the 1993-94 and 1998-99 seasons. In both cases, the rationale for the Department's recommendation has been, in part, due to low combined biomass estimates, in the 20,000-ton range (26,000 and 20,000 tons, respectively). In the 1993 Pre-publication of

Notice Statement, the Department proposed that a biological threshold level of 26,000 tons be established, below which no commercial fishing would be allowed. The Department also recommended that this threshold should be met as one of the conditions upon which the closed fishery would re-open. The Commission chose to provide for a minimal fishery, and no threshold limit has since been established. The Department does not have a recommendation for a biological threshold at this time. Several factors, such as population structure, relative strength of individual year classes, and environmental conditions, should be considered in developing a threshold, and any additional conditions upon which to base the re-opening of the fishery. The Department is currently in the process of completing a stock assessment of the herring population, as well as a peer review of the described methodology for determining biomass estimates. The Department will develop threshold and condition recommendations for the Commission to consider in a subsequent regulatory package.

In addition to the recommendation for a fishery closure for the 2002-03 season, the Department is providing for consideration by the Commission a second option of a fishery quota within a 2,000- to 3,000-ton range. This range is based on alternatives that the Department has reviewed but does not recommend as its preferred option. Adoption of a fishery quota within this range would lessen the seasonal economic and social impacts on some members of the commercial herring fishing industry; contribute to the local economy; maintain established markets for roe product; provide opportunities for fishery-dependent data collection; allow the Department to collect landing fees from those participating in the fishery to support continuing research and management activities; and provide additional information of herring spawning activities that are potentially reported by the fishing fleet. However, given the uncertainty of the current population structure and the potential recruitment to the fishery this season, continued harvest may result in additional stress on an already weakened population. The Department will provide the Commission additional information on quotas within this range prior to the 2003 Pre-Adoption Statement.

In Tomales Bay, the 2002-03 spawning biomass estimate is 4,382 tons, which is 40 percent less than the 2001-02 biomass estimate of 7,243 tons. However, this season's spawning biomass estimate is 36 percent greater than the previous ten-year average of 3,221 tons. During the 2002-03 season, the commercial gill net catch for the Tomales Bay herring fishery was below the Department's established maximum seasonal quota of 500 tons, and did not surpass the 300 ton initial quota. While the Department generally sets Tomales Bay initial quotas at a conservative 10 percent of the previous season's spawning biomass (half of the 20 percent maximum exploitation rate stated in the herring management plan), the exploitation rate for this fishery has not been more than 7.1 percent since the 1996-97 season, when the exploitation rate was 14.7 percent.

For the 2003-04 season, the Department proposes to set the initial Tomales Bay catch quota at 300 tons, which is 6.8 percent of the 2002-03 estimated spawning biomass of 4,382 tons. Although the proposed initial quota is set at an exploitation rate well below the level typically applied by

the Department, historic landings trends for Tomales Bay have shown that, in some seasons following years of high herring biomass in Tomales Bay, large initial catch quotas (>300 tons) have resulted in high exploitation rates of greater than 15 percent (e.g., 1986-87 and 1994-95). The 2002-03 spawning biomass estimate is less than the 2001-02 season estimate, but is still the second-largest estimate since the fishery was re-opened in Tomales Bay in the 1992-93 season. Based on the fluctuation in herring biomass in Tomales Bay over the past 31 seasons, it is difficult to predict the spawning biomass trend for the next season. However, oceanic conditions over the past few seasons have indicated a cooling trend which is often favorable to herring, and the 2002-03 relatively-weak El Niño event appears to have subsided. In addition, the Department is in the midst of a mesh size reduction study that allows permittees to use a gill net mesh size of 2 inches, smaller than the 2 1/8 inch mesh required by regulation. Proposing a quota based on 10 percent of the 2002-03 spawning biomass, without a sufficient data set for the mesh size reduction study, uncertain oceanic conditions, and the historic fluctuations in the herring population would not be consistent with the Department's conservative management strategy. Since the implementation of the "one net per permittee" restriction, the Tomales Bay commercial catch has only exceeded 300 tons twice, during the 1995-96 and 2001-02 seasons. Thus, a 300-ton initial quota would provide Tomales Bay permittees with a viable fishery, and it is likely that no cessation of fishing effort would result. The proposed regulations also contain provisions to increase the quota based on in-season estimates of spawning escapement. If the spawning escapement reaches or exceeds 3,000 tons prior to February 15, 2004, the quota shall be increased as follows: 1) If the spawning escapement is more than 3,000 tons, the total take of herring shall not exceed 400 tons for the season; 2) If the spawning escapement is more than 4,000 tons, the total take of herring shall not exceed 500 tons for the season.

No changes to the regulations pertaining to quotas are proposed for Humboldt Bay or Crescent City Harbor herring fisheries.

Season opening and closing dates for San Francisco and Tomales bays, as well as the dates of various provisions of the regulations, are adjusted each year to account for annual changes in the calendar. The consensus of the Director's Herring Advisory Committee, which met on March 25 and 26, 2003, was to recommend that the dates of the roe herring fisheries in San Francisco Bay be set from noon on Monday, December 1, 2003 to noon on Tuesday, December 23, 2003 ("DH" gill net platoon only), and from 5:00 p.m. on Sunday, January 4, 2004 to noon on Friday, March 12, 2004. After further discussion with the Director's Herring Advisory Committee, and other members of the herring fishing industry, the Department is recommending that the dates of the roe herring fisheries in San Francisco Bay be set from noon on Monday, December 1, 2003 to noon on Tuesday, December 23, 2003 ("DH" gill net platoon only), and from 5:00 p.m. on Sunday, January 4, 2004 to noon on Friday, February 13, 2004. The proposed February season closure is earlier than the season closure date that has traditionally been proposed. However, in

reference to the 2,000- to 3,000- ton range quota option and the current herring population structure, the Department is recommending a shortened season as a conservative measure. The proposed season dates provide for three weeks of fishing for each of the three fishing platoons in San Francisco Bay. The consensus among Tomales Bay permittees was to recommend opening at 5:00 p.m. on Sunday, December 28, 2003 until noon on Wednesday, December 31, 2003, and from 5:00 p.m. on Sunday, January 4, 2004 to noon on Friday, March 5, 2004.

Mesh size is used to control the size of fish targeted by the fishery. Existing regulations for the Tomales Bay fishery provided for the experimental use of a gill net mesh size of no less than 2 inches and no greater than 2 ½ inches for the 2002-03 roe herring fishery season only. This was the third consecutive season that the experimental mesh size was used. The minimum mesh size of 2 inches in the Tomales Bay gill net fishery allowed the Department to continue to: 1) evaluate the use of this mesh size on the size and age composition of the current population; and 2) assess whether increased catch per unit effort (CPUE) could be obtained for the catch and still maintain the Department's management goal of a conservative 10 percent, or less, exploitation rate. The Department has found that the management goal regarding which age classes were caught was maintained with the use of mesh size of no less than 2 inches during the 2002-03 season. The current regulation specifies that the mesh size shall revert to no less than 2 1/8 inches or greater than 2 ½ inches after the 2002-03 season, unless otherwise designated herein. However, the Department believes that a study period of more than three years is necessary to obtain sufficient data to evaluate the use of this mesh length, assess its impact on CPUE, and ensure maintenance of Department management goals. The Department recommends continuation of the use of a gill net mesh size of no less than 2 inches or greater than 2 ½ inches in Tomales Bay for the 2003-04 herring roe fishery season only. The Department will re-evaluate whether to continue with this experimental mesh size following the 2004-05 season.

The regulations allocate twenty tons of herring, from within the overall San Francisco Bay quota, to the fresh fish market, to which a maximum of 10 permits are assigned. However, no landings have been made in the herring fresh fish fishery during the past several years. In order to avoid unfair reduction of herring quota available to gill net permittees not participating in research on mesh size, the Department proposed to reallocate tonnage from the allowable take of herring from the San Francisco Bay fresh fish market to participants in Department research, for one season only. The Commission therefore adopted a one-year change to the regulations to provide for 10 tons of quota to be transferred from the 20 tons of the historically underutilized herring fresh fish fishery quota to the gill net fishery for use in the study. Although commencement of an experiment on mesh size in San Francisco Bay is not anticipated in the near future, either under a no fishery option or an alternative quota, the Department wishes to extend this provision for use in any future study as provided for in subsection 163(f)(2)(B). Removal of the

provision's one-season restriction is therefore recommended. The Department finds, based on the underutilization of the fresh fish quota, that continued re-allocation of half of the current quota will not result in economic hardship for those who wish to participate in the fresh fish fishery.

A correction of the latitudinal and longitudinal designation given for Elephant Rock in subsection 163(f)(1)(D) is also proposed.

- (b) Authority and Reference Sections from the Fish and Game Code for Regulation:

Authority: Sections 1050, 5510, 8550, 8553 and 8555, Fish and Game Code.
References: Sections 309, 8043, 8550, 8552, 8552.6, 8553, 8554, 8555, 8556, 8557 and 8559, Fish and Game Code.

- (c) Specific Technology or Equipment Required by Regulatory Change:

No new or specific technologies or equipment are required as a result of the proposed action.

- (d) Identification of Reports or Documents Supporting Regulation Changes:

- (1) Minutes, Director's Herring Advisory Committee Meeting, March 25 and 26, 2003, Sausalito, California.
- (2) Informational Handout Packet for herring fisheries in (a) San Francisco Bay; (b) Tomales Bay; (c) Humboldt Bay, Crescent City Harbor.
- (3) Figure: Spawn Survey, Hydroacoustic Survey and Combined Biomass Estimates (1982 to 2002).
- (4) Figures: Estimated number of fish at age for (a) 6, 7, and 8 year old herring; (b) 4 and 5 year old herring; (c) 2 and 3 year old herring.

- (e) Public Discussions of Proposed Regulations Prior to Notice Publication:

- (1) Director's Herring Advisory Committee Meeting, March 25 and 26, 2003, Sausalito, California.

IV. Description of Reasonable Alternatives to Regulatory Action:

- (a) Alternatives to Regulation Change:

- (1) Alternative 1:

A fishing quota of 1,350 tons for San Francisco Bay, representing 10 percent of the 2002-03 spawn deposition survey estimate of 13,500 tons. In keeping with a conservative management strategy, the spawn deposition survey estimate, which is the more conservative of the two Department survey estimates, would be utilized as a proxy for the 2002-03 biomass estimate upon which to base a fishery,

rather than a combined biomass estimate from the disparate spawn deposition and hydroacoustic survey estimates. An exploitation rate of 10% reflects the concerns the Department has regarding the current age structure of the population and the uncertainty of the level of recruitment to the fishery for the 2003-04 season. The Department does not support this alternative based on the following concerns: 1) The Department proposed closure of the fishery for two other seasons based on biomass estimates of 21,532 and 20,000 tons (1993-94 and 1998-99 seasons, respectively) and cannot justify proposing a fishery based on the relatively lower estimate of 13,500 tons; 2) There are concerns that the population cannot support a fishery at this level given the current age structure (i.e., fewer older age class fish in the population and a lack of strong recruitment to the fishery). The quota in this alternative falls below the Option 2 quota range of 2,000 to 3,000 tons.

(2) Alternative 2:

A fishing quota representing a percentage of the 2002-03 San Francisco Bay season combined biomass estimate. This alternative utilizes results from the two surveys using the traditional methodology of integrating the school-by-school estimates to arrive at a combined spawning biomass estimate. However, several concerns have prompted the Department to avoid using this estimate to represent the actual biomass in the bay: 1) The 2002-03 survey estimates consistently differ by marked amounts on a school-by-school basis; 2) The two survey estimates show different population trends following the 1997-98 season; 3) The age structure of the current population indicates a potential decline in the ability of the population to support a fishery.

(b) No Change Alternative:

A no change alternative would provide a quota for the 2003-04 fishing season of 3,540 tons based on an exploitation rate of 10% of the biomass estimate for the previous season in 2001-02. The Department does not support this alternative based on the following concerns: 1) The 2001-02 biomass estimate is not a valid proxy for the 2002-03 biomass estimate; 2) The Department is concerned that the current population cannot support a fishery based on an exploitation rate of 10% of the 2001-02 season biomass estimate; 3) The fishery was only able to land 64% of their quota during the 2002-03 season. There is no indication (strong recruitment to the fishery) that the fishery will be able to land 3,540 tons during the 2003-04 season. The quota in a no-change alternative exceeds the Option 2 quota range of 2,000 to 3,000 tons.

(c) Consideration of Alternatives:

In view of information currently possessed, no reasonable alternative considered would be more effective in carrying out the purposes for which the regulation is proposed or would be as effective as and less burdensome to the affected private persons in the long run than the proposed regulation.

V. Mitigation Measures Required by Regulatory Action:

The proposed regulatory action will have no negative impact on the environment; therefore, no mitigation measures are needed.

VI. Impact of Regulatory Action

The potential for significant statewide adverse economic impacts that might result from the proposed regulatory action has been assessed, and the following initial determinations relative to the required statutory categories have been made:

(a) Significant Statewide Adverse Economic Impact Directly Affecting Businesses, Including the Ability of California Businesses to Compete with Businesses in Other States:

The regulations proposed would affect approximately 450 commercial herring fishermen and two processing plants in California, all of which are small businesses as defined under Government Code Section 11342.610. These direct impacts arise from interim management measures resulting in the close of the San Francisco herring fishery for the 2003-04 season only. Averaging herring harvests and values from years 2001 and 2002, to represent nominal revenue potential for 2003-04, we would project potential 2003-04 ex-vessel revenues of approximately \$3,125,500. Among the 450 herring permit holders, this represents potential individual revenues of approximately \$6,900 on average (before deducting costs of doing business) during the 2003-04 fishing season.

The proposed action for the 2003-04 season will not have a long-term significant statewide adverse economic impact directly affecting business, including the ability of California businesses to compete with businesses in other states, although the economic impact of a closure extending beyond one season would need evaluation. The Commission has made an initial determination that the adoption of the recommended regulations may have a temporary adverse economic impact directly affecting a number of California's small businesses. However, these economic impacts will not likely directly affect the ability of California small businesses to compete with businesses in other states. This is because most of the herring landings are transported out of State for "added value" processing and export (primarily to Japan and China).

The proposed changes to season dates are not expected to have a significant statewide adverse economic impact on businesses in fishing areas outside San Francisco Bay.

(b) Impact on the Creation or Elimination of Jobs Within the State, the Creation of New Businesses or the Elimination of Existing Businesses, or the Expansion of Businesses in California:

Statewide, the closure of the 2003-04 herring fishery would result in a loss of approximately \$3,160,802 of additional economic output foregone.

This takes into account the multiplier effect that the herring ex-vessel revenue creates as it cycles through California's economy. We project that each dollar of ex-vessel herring revenue generates another \$2.01 as it moves through other business sectors within California. Recognizing that each \$1 million in commercial fishing revenue supports about 11.6 full- and part-time jobs, we estimate the potential employment impact to be at most 36 jobs Statewide. This is because most of the "added value" processing of California herring takes place out of state, thus the actual employment impact to California would be much lower.

(c) Cost Impacts on a Representative Private Person or Business:

The agency is not aware of any cost impacts that a representative private person or business would necessarily incur in reasonable compliance with the proposed action. There are no new fees or reporting requirements stipulated under the proposed regulations.

(d) Costs or Savings to State Agencies or Costs/Savings in Federal Funding to the State:

None.

(e) Nondiscretionary Costs/Savings to Local Agencies:

None.

(f) Programs mandated on Local Agencies or School Districts:

None.

(g) Costs Imposed on Any Local Agency or School District that is Required to be Reimbursed Under Part 7 (commencing with Section 17500) of Division 4:

None.

(h) Effect on Housing Costs:

None.

INFORMATIVE DIGEST\POLICY STATEMENT OVERVIEW

Under existing law, herring may be taken for commercial purposes only under a revocable permit, subject to such regulations as the Fish and Game Commission shall prescribe. Current regulations specify: permittee qualifications; permit application procedures and requirements; permit limitations; permit areas; vessel identification requirements; fishing quotas; seasons; gear restrictions; quotas; and landing and monitoring requirements.

The proposed regulatory changes will establish fishing quotas by area for the 2003-04 herring fishing season, based on the most recent assessments of the spawning populations of herring in San Francisco and Tomales bays.

The Department of Fish and Game (Department) is recommending a closure for the 2003-04 San Francisco Bay herring fishery (Option 1). This results in a proposed fishing quota of **zero** tons. Conditions for reopening of the fishery, such as a biological threshold, will be outlined in a subsequent regulatory package.

In addition to the recommendation for a fishery closure for the 2002-03 season, the Department is providing the Commission the option of considering a fishery quota within a 2,000- to 3,000-ton range (Option 2). This range is based on alternatives the Department has reviewed but does not recommend as its preferred option. Additional information regarding quotas within this range will be provided to the Commission prior to the 2003 Pre-Adoption Statement.

For Tomales Bay, an initial 300-ton fishing quota (6.8 percent of the 2002-03 estimated spawning biomass of 4,382 tons) is proposed, with provisions to increase the quota in-season if escapement goals are achieved by February 15, 2004. This season, the recommendation for in-season increases is as follows:

- If the spawning escapement is more than 3,000 tons, increase the quota to 400 tons.
- If the spawning escapement is more than 4,000 tons, increase the quota to 500 tons.

The proposed amendment specifies that the length of the meshes of any gill net used or possessed in the roe fishery in Tomales Bay, for the 2003-04 season only, shall be no less than 2 inches or greater than 2 ½ inches. The proposed one-year continuation of the regulation, originally approved for the 2000-01, 2001-02 and 2002-03 seasons only, will allow the Department to continue to evaluate the effect of reduced mesh length on the size and age composition of herring caught in 2 inch mesh gill nets.

Changes to the Department herring season dates are recommended to coincide with changes in the annual calendar.

The following is a summary of those proposed changes in Section 163, Title 14, CCR:

- Set the dates of the roe herring fisheries in San Francisco Bay from noon on Monday, December 1, 2003 to noon on Tuesday, December 23, 2003 ("DH" gill

net platoon only), and from 5:00 p.m. on Sunday, January 4, 2004 to noon on Friday, February 13, 2004. Although the season closure date has traditionally been set in mid-March, the Department is recommending a February closure as a conservative measure should the Commission approve a fishery within Option 2.

- Set the dates of the roe herring fishery in Tomales Bay from 5:00 p.m. on Sunday, December 28, 2003 until noon on Wednesday, December 31, 2003, and from 5:00 p.m. on Sunday, January 4, 2004 to noon on Friday, March 5, 2004.
- Transfer 10 tons of quota from the underutilized herring fresh fish fishery to the gill net fishery for use in any future gill net mesh size study.