

in California.¹ Survey data indicates that the population of longfin smelt in the Sacramento-San Joaquin Estuary has declined substantially since the 1980s.

The factors outlined below contributed to the determination by the Department of Fish and Game (Department) and Commission that longfin smelt should be listed as threatened under the California Endangered Species Act (CESA; Fish and Game Code section 2050, *et seq.*).

(1) Longfin smelt abundance has declined substantially and in relation to increases in freshwater outflow.

(2) Low numbers of spawning longfin smelt may result in reproductive (year-class) failure and increase the likelihood that a catastrophic event could severely affect the population.

(3) Longfin smelt are entrained by water diversions, including diversions in the south Delta operated by the State Water Project and the Central Valley Project. Some entrained longfin smelt are salvaged by the State Water Project and the Central Valley Project from the entrained flow and returned alive to the Delta, but most are diverted into aqueducts or otherwise lost. Continuing entrainment and loss is a threat to longfin smelt recovery.

(4) Operations of the State Water Project and the Central Valley Project alter the character and position of the salinity gradient. When these operations increase Suisun Bay salinity during longfin smelt spawning migration, longfin smelt staging locations and spawning shifts upstream where they are subject to entrainment by State Water Project and Central Valley Project diversions and other diversions. Continuing increased Suisun Bay salinity coupled with entrainment and loss at diversions is a threat to longfin smelt recovery.

(5) Longfin smelt habitat — including nutrient inputs, prevalence of exotic species, and food items — has changed. The reduction in abundance of the food items *Eurytemora affinis*, *Neomysis mercedis*, and *Hyperacanthomysis longirostris*, may be a threat to the persistence and recovery of longfin smelt.

(6) Alien invertebrate species have been introduced into the San Francisco Estuary and their presence has led to distinct changes in the Estuary's biota. Because they alter the amount, quality and timing of food available for longfin smelt, these alien species may be a threat to longfin smelt recovery.

(7) Some water samples from discrete locations in the Sacramento-San Joaquin Delta and Suisun Bay were toxic to standard aquatic test organisms in laboratory trials. Longfin smelt were present in the vicinity of these

¹ Moyle, P. B. 2002. Inland Fishes of California. University of California Press, Berkeley, California, USA.

locations and may have been adversely affected by toxicity of the water. Continuing water pollution may be a threat to longfin smelt recovery.

(8) Managed and other fishes prey on longfin smelt. Piscivorous striped bass and managed warm-water fishes (e.g., largemouth bass) co-occur — to varying degrees — in space and time with longfin smelt. Piscivorous striped bass number in the millions and are known to eat smelts, salmonids, striped bass, and many other fishes. Largemouth bass are abundant, their numbers have increased since the 1980's, and they are known to eat many fishes. Little is known about the populations of other warm-water fishes, but as a group they are considered abundant. Continuing predation on longfin smelt by managed fishes is a threat to longfin smelt recovery.

(9) Dredging and sand mining in the San Francisco Estuary could be a threat to longfin smelt recovery. Little is known about the impacts of these operations to longfin smelt, but operations conducted in freshwater could entrain adults, eggs, and larvae during winter spawning and incubation.

(10) A commercial fishery for bay shrimp in the San Francisco Estuary sometimes takes longfin smelt as by-catch. Historical assessments of juvenile striped bass mortality in the fishery and longfin smelt catches by the fishery suggest that the fishery may be a threat to longfin smelt recovery.

In summary, longfin smelt is vulnerable to extinction because (1) it is short-lived, (2) introductions of exotic organisms have altered its habitat, distribution, food supply, and possibly abundance, (3) water projects have adversely modified its habitat, distribution, food supply, and probably abundance, and (4) contaminants have periodically adversely affected test organisms and may be affecting longfin smelt abundance. The Department has examined several measures of longfin smelt abundance and found that they all indicate that the population has declined substantially. Threats to the longfin smelt population are likely to continue or increase and therefore listing the longfin as threatened is warranted.

Petition History: On August 14, 2007, the Commission received a petition from The Bay Institute, Center for Biological Diversity, and Natural Resources Defense Council to take action to list longfin smelt as threatened or endangered under CESA.

The Commission referred the petition to the Department on August 21, 2007, for evaluation. The Department found that the information in the petition was sufficient to indicate the petitioned action may be warranted, and recommended the Commission accept the petition (Petition Evaluation Report, November 16, 2007). At the Commission meeting in Sacramento on December 7, 2007, the Commission received the Department's petition evaluation report, recommendation, and public testimony. On February 7,

2008, the Commission accepted the petition for consideration and noticed its action in the February 29, 2008, California Regulatory Notice Register. The acceptance of the petition by the Commission initiated a one year status review process. At the conclusion of the one year status review, the Department recommended to the Commission that the longfin smelt be listed as threatened under CESA. The Commission, at its March 4, 2009, meeting, made a finding that the longfin smelt warrants listing as a threatened species.

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

Authority: Sections 2070 and 2075.5, Fish and Game Code.

Reference: Sections 1755, 2055, 2062, 2067, 2070, 2072.7, 2075.5, and 2077, Fish and Game Code.

- (c) Specific Technology or Equipment Required by Regulatory Change: None.

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

Petition to list the Longfin smelt (The Bay Institute, Center for Biological Diversity, and Natural Resources Defense Council, August 14, 2007). Report to the California Fish and Game Commission, "Evaluation of Petition: Request by Bay Institute, Center for Biological Diversity, and Natural Resources Defense Council to list the Longfin smelt as Threatened or Endangered under the California Endangered Species Act" (Department of Fish and Game, November 16, 2007). Report to the California Fish and Game Commission, "Status Review of the Longfin smelt (*Spirinchus thaleichthys*) in California" (Department of Fish and Game, January 2009).

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

The Commission heard public testimony at its March 4, 2009, meeting, prior to its decision to list the longfin smelt as a threatened species under CESA and prior to publication of the notice. Public testimony was previously taken at the Commission meeting on December 7, 2007, when the Commission received the Department's petition evaluation report and recommendation. Additional public input opportunities were provided at the Commission's February 7, 2008, meeting when the petition was accepted by the Commission and the February 5, 2009, meeting when the Department's status review report was presented. Letters on the subject listing were received by the Commission and these letters are included in the status review report referenced above under section III (d).

IV. Description of Reasonable Alternatives to Regulatory Action:

(a) Alternatives to Regulatory Change:

No alternatives were identified.

(b) No Change Alternative:

If the Commission had determined that listing was not warranted, the longfin smelt would not have any protected status under CESA.

The longfin smelt currently faces numerous imminent threats such as habitat loss, population decline, and predation. Without protected status under CESA, longfin smelt will not benefit from the take prohibitions that attach to such status. Delaying or withholding threatened status is problematic under the regulatory standard given the steady population decrease of longfin smelt. If the longfin smelt is listed and the population increases, they could be petitioned for de-listing under CESA.

(c) Consideration of Alternatives:

In view of information currently possessed, no reasonable alternative would be more effective in carrying out the purposes for which the regulation is proposed or would be as effective and less burdensome to the affected private persons 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 proposed action will not have a significant statewide adverse economic impact directly affecting business, including the ability of California businesses to compete with businesses in other states.

Although CESA does not specifically prohibit the consideration of economic impacts in determining if listing is warranted, the Attorney

General's Office has consistently advised the Commission that it should not consider economic impact in making a finding on listing. This is founded in the concept that CESA was drafted in the image of the federal Endangered Species Act. The federal act specifically prohibits consideration of economic impact during the listing or delisting process.

The CESA listing process essentially involves two stages. During the first stage, the Commission must make a finding on whether or not the petitioned action is warranted. Once the Commission has made a finding that the petitioned action is warranted, it must initiate a rulemaking process to make a corresponding regulatory change. To accomplish this second stage, the Commission follows the requirements of the Administrative Procedure Act (APA).

The APA, specifically Government Code (GC) sections 11346.3 and 11346.5, requires an analysis of the economic impact of the proposed regulatory action. While GC section 11346.3 requires an analysis of economic impact on businesses and private persons, it also provides that agencies shall satisfy economic assessment requirements only to the extent that the requirements do not conflict with other state laws

Since the finding portion of CESA is silent as to consideration of economic impact, it is possible that subdivision (a) of Section 11346.3 may require an economic impacts analysis. While the Commission does not believe this is the case, an analysis of the likely economic impact of the proposed regulation change on businesses and private individuals is provided. The intent of this analysis is to provide disclosure, the basic premise of the APA process. The Commission believes that this analysis fully meets the intent and language of both statutory programs.

Designation of the longfin smelt as threatened will entitle it to CESA protection. CESA prohibits take and possession except as may be permitted by the Department. Threatened status is not expected to result in any significant adverse economic effect on small business or significant cost to private persons or entities undertaking activities subject to the California Environmental Quality Act (CEQA). CEQA requires local governments and private applicants undertaking projects subject to CEQA to consider *de facto* threatened species to be subject to the same requirements under CEQA as though they were already listed by the Commission (CEQA Guidelines, section 15380).

Required mitigation under CEQA, whether or not the species is listed by the Commission, may increase the cost of a project. Such costs may include, but are not limited to, purchasing off-site habitat, development and implementation of management plans, installation of protective devices such as fencing, protection of additional habitat, imposing flow

restrictions and long-term monitoring of mitigation sites. Lead agencies may also require additional actions should the mitigation measures fail, resulting in added expenditures by the project proponent. If the CEQA mitigation measures do not minimize and fully mitigate to the standards of CESA, listing could increase business costs to the extent of any necessary additional measures.

- (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:

None.

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

Designation of threatened or endangered status, per se, would not necessarily result in any significant cost to private persons or entities undertaking activities subject to CEQA. CEQA requires private applicants undertaking projects subject to CEQA to consider *de facto* endangered (or threatened) and rare species to be subject to the same protections under CEQA as though they were already listed under CESA.

Any added costs should be more than offset by savings that would be realized through the information consultation process available to private applicants under CESA. The process would allow conflicts to be resolved at any early stage in project planning and development, thereby avoiding conflicts later in the CEQA review process, which would be more costly and difficult to resolve.

- (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

State law (Section 2070, Fish and Game Code) specifies that the Commission shall establish a list of endangered species and a list of threatened species and it shall add or remove species from either list if it finds, upon the receipt of sufficient scientific information, that the action is warranted.

On August 14, 2007, the Commission received a petition to list longfin smelt as threatened or endangered under CESA. Pursuant to the provisions of Section 2074.2 of the Fish and Game Code, the Commission, at its February 7, 2008 meeting, accepted the petition for consideration and made a finding that the petitioned action may be warranted. Pursuant to the provisions of Section 2075.5 of the Fish and Game Code, the Commission, at its March 4, 2009, meeting, made a finding that the petitioned action to list the longfin smelt as threatened is warranted.

The Commission seeks to amend Section 670.5 of Title 14, CCR, to add the longfin smelt to the list of threatened fish (subsection (b)(2)).

In making the recommendation to list the longfin smelt pursuant to the California Endangered Species Act, the Department relied most heavily on the following: (1) longfin smelt is short-lived, (2) introductions of exotic organisms have altered its habitat, distribution, food supply, and possibly abundance, (3) water projects have adversely modified its habitat, distribution, food supply, and probably abundance, and (4) contaminants identified in ambient water samples have periodically adversely affected test organisms and may be affecting longfin smelt abundance. Threats to the longfin smelt population are likely to continue or increase, and several measures of longfin smelt abundance were examined and the Department found that they all indicate that the population has declined substantially.