

This delegation to the Federal Highway Administrator does not affect the authority or responsibility of the Secretary to develop credit policy and make the final selection of the projects receiving assistance. The Secretary and the Administrators of FHWA, FRA, and FTA intend to create a TIFIA Credit Council that will assist the Secretary in establishing overall policy direction and key program decisions for the TIFIA Program. The TIFIA Credit Council, with the approval of the Secretary, will select individual projects to receive TIFIA assistance, based on the analyses and recommendations of the TIFIA JPO. Formal membership of the TIFIA Credit Council will include the following: Assistant Secretary for Budget and Programs; Assistant Secretary for Transportation Policy; Director of the Office of Intermodalism; General Counsel; and, Administrators of FHWA, FRA and FTA. The TIFIA Credit Council will be chaired by the Assistant Secretary for Budget and Programs.

Since this amendment relates to Departmental organization, procedure, and practice, notice and comment on it are unnecessary under 5 U.S.C. 553(b). Efficient execution of the TIFIA JPO is instrumental to ensuring the financial and programmatic success of TIFIA. This delegation of authority assists the Federal Highway Administrator in establishing an organizational structure within the FHWA in which financial activities and programs can be closely coordinated and monitored. Further, since the amendment expedites the Department of Transportation's ability to meet the statutory intent of the Transportation Infrastructure Finance and Innovation Act of 1998, the Secretary finds good cause under 5 U.S.C. 553(d)(3) for the final rule to be effective on the date of publication in the **Federal Register**.

List of Subjects in 49 CFR Part 1

Authority delegations (Government agencies), Organization and functions (Government agencies).

In consideration of the foregoing, Part 1 of Title 49, Code of Federal Regulations, is amended, effective upon publication, to read as follows:

PART 1—[AMENDED]

1. The authority citation for Part 1 continues to read as follows: Authority: 49 U.S.C. 322; 46 U.S.C. 2104(a); 28 U.S.C. 2672; 31 U.S.C. 3711 (a) (2); Pub. L. 101-552, 104 Stat. 2736; Pub. L. No. 106-159, 113 Stat. 1748

2. In § 1.48, add paragraph (nn) to read as follows:

§ 1.48 Delegations to Federal Highway Administrator.

* * * * *

(nn) Carry out the functions and exercise the authority vested in the Secretary by sections 1501-1504 of Public Law 105-178, 112 Stat. 241, titled Transportation Infrastructure Finance and Innovation Act of 1998 (TIFIA), to manage the day-to-day activities associated with implementation of the TIFIA program. The Federal Highway Administrator may further delegate this authority.

Issued on: January 5, 2001.

Rodney E. Slater,

Secretary of Transportation.

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DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018-AH73

Endangered and Threatened Wildlife and Plants; Notice of Reopening of Comment Period on the Threatened Status of the Sacramento splittail (*Pogonichthys macrolepidotus*)

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule; reopening of comment period.

SUMMARY: The Fish and Wildlife Service (Service), in response to the order of the District Court, Eastern District of California, in the cases *San Luis & Delta-Mendota Water Authority v. Anne Badgley, et al.* (Case No. CIV-F-99-5658 OWW) and *State Water Contractors, et al. v. Michael Spear, et al.* (Case No. CIV-R-99-5667 OWW) and pursuant to the Endangered Species Act of 1973, as amended (Act), provides notice of the opening of a comment period regarding the threatened status for the Sacramento splittail (*Pogonichthys macrolepidotus*). This comment period has been opened to acquire information regarding issues identified by the court in the above cases and additional information on the status, abundance and distribution of the Sacramento splittail in the Central Valley of California. Upon the close of the comment period, the Service will make its determination whether the splittail warrants the continued protection of the Act.

DATES: The comment period for this rule closes on February 12, 2001. Any comments received by the closing date

will be considered in the final decision on this rule.

ADDRESSES: Comments and materials concerning this proposal should be sent to the Field Supervisor, Sacramento Fish and Wildlife Office, U.S. Fish and Wildlife Service, 2800 Cottage Way, Suite W-2605, Sacramento, California 95825. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT: Michael Thabault or Stephanie Brady, at the above address, phone 916-414-6600, facsimile 916-414-6710.

SUPPLEMENTARY INFORMATION:

Background

The Sacramento splittail (*Pogonichthys macrolepidotus*), is the only large cyprinid that is endemic to California's Central Valley, where they were once widely distributed (Moyle 1976). Historically, splittail were found as far north as Redding on the Sacramento River, as far south as the present-day site of Friant Dam on the San Joaquin River, and as far upstream as the current Oroville Dam site on the Feather River and Folsom Dam site on the American River (Rutter 1908).

In recent times, dams and diversions have increasingly prevented upstream access to large rivers, and the species is now apparently restricted to a small portion of its former range (Moyle and Yoshiyama 1992). Splittail enter the lower reaches of the Feather (Jones and Stokes 1993) and American rivers (Charles Hanson, State Water Contractors, *in litt.*, 1993) on occasion; however, the species now is largely confined to the delta, Suisun Bay, Suisun Marsh, and Napa Marsh. The "Delta" refers to all tidal waters contained within the legal definition of the San Francisco Bay-Sacramento-San Joaquin River Delta, as delineated by section 12220 of the State of California's Water Code of 1969. Generally, the Delta is contained within a triangular area that extends south from the City of Sacramento to the confluence of the Stanislaus and San Joaquin rivers at the southeast corner and Chipps Island in Suisun Bay.

In recent years, splittail have been found most often in slow moving sections of rivers and sloughs and dead-end sloughs (Moyle *et al.* 1982, Daniels and Moyle 1983). Reports from the 1950s, however, mention Sacramento River spawning migrations and catches of splittail during fast tides in Suisun Bay (Caywood 1974). California Department of Fish and Game survey

data indicate that the highest catches occurred in shallow areas subject to flooding. Historically, major flood basins, distributed throughout the Sacramento and San Joaquin valleys, provided spawning and rearing habitat. These flood basins have all been reclaimed or modified into flood control structures (bypasses). Although primarily a freshwater species, splittail can tolerate salinities as high as 10 to 18 parts per thousand (Moyle and Yoshiyama 1992).

On January 6, 1994, the Service published a proposed rule to list the splittail as a threatened species and requested public comment for 60 days (59 FR 862). The proposed rule constituted a 12-month finding that the petitioned action was warranted, in accordance with section 4(b)(3)(B) of the Act. The data in the proposed rule were based on a status report prepared for the Service by Meng in 1993. This status review used the same methodology as the peer-reviewed article published in the *Journal of the American Fisheries Society*.

On January 10, 1995, a second comment period was opened for 45 days, and a 6-month extension added to the final rulemaking time frame, in accordance with section 4(b)(6)(B)(I) of the Act. A moratorium on listing actions, imposed on April 10, 1995 (Pub. L. 104-6), was lifted on April 26, 1996. Severe funding constraints imposed by a number of continuing resolutions between November 1995 and April 1996 were followed by passage of the Omnibus Budget Reconciliation Act on April 26, 1996, allowing work to continue on various listing actions in accordance with fiscal year guidance that assigned priorities in a multi-tiered approach in accordance with section 4 of the Act (61 FR 64479). The guidance stated that handling emergency situations was the highest priority (Tier 1), and resolving the listing status of outstanding proposed rules was second highest priority (Tier 2). Processing of this proposed rule fell under Tier 2.

On May 18, 1998, a third comment period was opened for 60 days. This comment period was opened in response to requests by the California Department of Water Resources and the State Water Contractors. The basis of the requests concerned the collection of substantial data in the intervening period since 1995, regarding the abundance and distribution of the splittail. During this third comment period, the California Department of Fish and Game (CDFG) and the Department of Water Resources (DWR) objected to the proposed designation of

the splittail as threatened, stating that the geographic distribution of the splittail was broader than previously believed and was being shown to expand as data continued to be gathered.

On May 29, 1998, Southwest Center for Biological Diversity filed a citizen suit alleging that the Service had failed to timely make a final determination on the listing and critical habitat designation of the splittail, consistent with the timeframes set forth in section 4 of the Endangered Species Act 4. By Order dated December 23, 1998, the court (Judge Gonzalez of the Southern District of California) ordered the Service to comply with section 4 listing requirements by February 1, 1999, after determining that the Service violated the Act's time limits for making a final listing determination (Order Granting Plaintiffs' Motion for Summary Judgment; Denying Defendants' Request for Stay, *Southwest Center for Biological Diversity etc. v. Babbitt*).

On Monday, February 8, 1999, the Service published a final rule, listing the splittail as threatened under the Act. At that time, the Service determined that the splittail had declined by 50 percent; and was primarily threatened by changes in water flow and water quality resulting from the export of water from the Sacramento and San Joaquin rivers, periodic prolonged drought, loss of shallow-water habitat, introduced aquatic species, and agricultural and industrial pollutants.

Subsequent to the publication of the final rule, plaintiffs in the cases *San Luis & Delta-Mendota Water Authority v. Anne Badgley, et al.* and *State Water Contractors, et al. v. Michael Spear, et al.* commenced action in federal district court, challenging the listing of the splittail as threatened, alleging various violations of the Act and of the Administrative Procedure Act (5 U.S.C 551 *et seq.*), specifically that the Service failed to use the best scientific and commercial data available; that the Service ignored all pre-1980 and post-1992 data available and that it used only selected data from the 1980-1992 period; that the Service did not publish a summary of the available data, which data the Service considered, and the relationship between the data and the Service's decision on the final rule; and that the final rule was promulgated by the Service in a manner that was arbitrary, capricious, and not in accordance with law, in that the splittail did not meet the definition of a threatened species as set forth in the Act.

On June 23, 2000, the court rendered summary judgment in the two cases in

favor of the plaintiffs, finding that the Service's promulgation of the final rule listing the splittail as threatened was unlawful. On September 22, 2000, the court remanded the determination of whether or not the splittail is a threatened or endangered species to the Service. The court ordered the determination be completed within six months of the date of the remand order, and kept the rule in effect during that period.

By this notice, the Service is seeking information regarding the splittail's status, abundance and distribution, as well as information regarding issues identified by the court in its June 23, 2000, judgment.

Abundance Analysis

The following text discusses the analysis the Service completed in the final rule, with additional analysis using 1998 and 1999 data, an updated threats analysis and how these threats may impact the splittail.

At the time of the final rule, the Service considered data made available to it up to and through the third commenting period. This included all the information that the Service received from the various agencies during the open comment periods and the additional data that were collected between 1993 to 1997. The Service based its analysis for the final rule on the 1995 Meng and Moyle paper entitled "Status of Splittail in the Sacramento-San Joaquin Estuary", published in the *Transactions of the American Fisheries Society*, a peer reviewed journal. When an author submits a paper to a professional scientific journal, there are experts in the scientific community that anonymously review the submittals. Therefore, to be accepted in a professional journal, the paper is subjected to several reviews by an anonymous panel and the reviewers do not know who authored the paper. This, therefore, eliminates any bias or subjectivity that may occur in review and ensures papers submitted to professional journals are unbiased and scientifically sound.

The Meng and Moyle paper clearly explains the methodology which the Service used to determine splittail declines in abundance. They state:

We determined percent declines in splittail for the fall midwater trawl, bay survey, Suisun Marsh and Chipps Island studies by comparing point estimates with the Mann-Whitney U-test. We used a common core data set of 1980-1992 yearly abundances from each survey and divided them into pre- and post decline periods. We chose 1985 as the beginning of the decline because evidence from plots of splittail abundance against

years and because environmental and water management changes occurred in the estuary at about that time. The years preceding 1985 had highly variable water regimes that included drought and flooding. After 1984, winter and spring flows were diverted at higher rates, resulting in reverse flows in the San Joaquin River for about 50% of the spring spawning season (Moyle *et al.* 1992). Pre and post decline periods are approximate because the splittail probably declined over a multiyear period and surveys used in this study took place in different habitats in different parts of the estuary, where different rates and timing of the decline would be expected.

At the time the final rule was written, this was the best scientific method available to the Service. No other methodology had nor has been presented before or since the publication of the final rule. The Meng and Moyle paper had been peer reviewed and accepted for publication in the Transactions of the American Fisheries Society, after rigorous scientific review by fisheries experts. Based on available information to date, the Service continues to believe that this methodology is the best scientific method to determine decline in abundance.

When determining whether splittail abundance indices had decreased over time, the Service considered data from (1) the fall mid-water trawl (FMWT), (2) Bay Study, (3) Suisun Marsh survey, and (4) Chipps Island survey. The FMWT survey is conducted in the upper Estuary by CDFG. It is one of the most comprehensive surveys for surveying fish in the Delta. The data have been collected from 1967 to the current time; with the exception of two years of data (1974 and 1979). The monthly midwater and otter trawl in the lower Estuary is conducted by CDFG (Bay study). Data for this survey have been collected from 1980 to the current time. The Service combined the midwater and otter trawl for the Bay study because the mid-water trawl samples juveniles and the otter trawl targets adults. By combining the data generated from the two sampling methods, any bias inherent in this sampling method for each life stage is evened out. The monthly otter trawl survey of Suisun Marsh is conducted by the University of California at Davis

(Suisun Marsh survey). Data have been collected from 1979. The midwater trawl survey is conducted by the Service at Chipps Island in Suisun Bay (Chipps Island). This survey has been ongoing since 1976.

The summer towntnet and beach seine data were also available to the Service. However, neither of these surveys were used in the abundance decline analysis because the Service believes that the summer towntnet is inefficient in sampling splittail. It is inefficient because it is selective for a certain age class of splittail. The beach seine data were not used because several years of data are missing and the sample sites have changed over time; therefore this survey represents an inconsistent data set to be used to analyze abundance. However, both of these aforementioned data sets were used in the distribution analysis for this species.

The fish salvage data collected by CDFG and by the Bureau of Reclamation at the State and Federal pumping facilities located in the South Delta (fish salvage data) were used on an individual basis to determine if there were trends, and the directions of those trends, within these data collected. However, these salvage data were not used for overall decline analysis because collection of fish salvage data is not a survey method. It is not a survey method because take of this species is based on the location of the fish. In addition, it is highly selective to juveniles. Therefore, this method does not represent the population as a whole. There is also high variability of the number of fish taken based on project operations. For instance, if most of the population of splittail is temporarily in or centered around the San Joaquin River, then more is susceptible to take at the export facilities. However, splittail are not always found at the export facilities. When splittail are more evenly distributed, the export facilities do not give a good indication of the population as a whole.

In addition, the Service conducted an abundance analysis for each survey set which fit within the Services' abundance data criteria for splittail. These abundance criteria serve to

ensure that data from specific surveys were scientifically and statistically reliable. To fit within these abundance data criteria, (1) data had to be collected for at least ten consecutive years, and (2) had to be relatively constant or (3) a core data set had to be available to extract for analysis. These criteria were identified in published literature and adopted by the Service in it rulemaking. In addition, data sets were chosen based on consistency in sampling method. For instance, the FMWT data prior to 1980 were excluded because this survey is missing data for two years prior to 1980 (1974, and 1979). The summer towntnet was not used for the abundance analysis due to the inefficiency in sampling splittail and because the sampling sites changed over time. The beach seine data were not used for the abundance analysis because several years of data are missing and the sample sites changed over time, rendering it an inconsistent data base.

Based on this methodology, the 1995 Meng and Moyle article calculated population trends for the splittail over 13 years, from 1980 to 1992. The Service then updated this analysis using the same methodology as Meng and Moyle, but including the data sets from 1993 through 1997. The 1998 data were not used in the final rule because at the time the final rule was prepared for surname, and even until the time of publication in February 1999, not all data for the four surveys (FMWT, Chipps Island, Suisun Marsh, and Bay study) had been compiled and/or submitted to the Service. Likewise for this notice, not all 2000 data have yet been compiled and/or submitted to the Service, hence the data that have been received are not incorporated into Table 1 (see below). Since the publication of the final rule in February 1999, the Service has analyzed and incorporated the 1998 and 1999 data in its abundance analysis (Table 1). The following is a breakdown of the abundance analysis, for all life stages, by survey method, as completed by Meng and Moyle, the Service in the final listing determination, and the Service with the addition of 1998 and 1999 data (Table 1).

TABLE 1.—ABUNDANCE ANALYSIS¹ CONDUCTED BY THE SERVICE FOR ALL LIFE STAGES OF SACRAMENTO SPLITTAIL, ON FOUR SURVEY METHODS

Survey	Meng and Moyle (1980–1992)	Service's updated analysis (1980–1997)	Service's updated analysis (1980–1998)	Service's updated analysis (1980–1999)
FMWT	70% decline	60% decline	40% decline	40% decline.
Bay study	20% decline	6% decline	27% increase	33% increase.
Chipps Isl.	80% decline	43% decline	42% decline	44% decline.
Suisun Marsh	73% decline	74% decline	72% decline	83% decline.

TABLE 1.—ABUNDANCE ANALYSIS¹ CONDUCTED BY THE SERVICE FOR ALL LIFE STAGES OF SACRAMENTO SPLITTAIL, ON FOUR SURVEY METHODS—Continued

Survey	Meng and Moyle (1980–1992)	Service's updated analysis (1980–1997)	Service's updated analysis (1980–1998)	Service's updated analysis (1980–1999)
OVERALL	62% decline	48% decline	32% decline	33% decline.

¹ To obtain the data in the preceding table, the Service used the following formula: (1) pre-decline (a)—post-decline (b) = decline (x); (2) decline (x)/pre-decline (a) = percent decline. This calculation was used for each survey by summarizing the data per year, starting in 1980. This formula of calculation is the same method presented by Meng and Moyle in its peer-review article published in 1995.

The results of this abundance analysis are revealing. Between 1980 and 1992, splittail had experienced an overall decline of 62 percent. Based upon the updated data sets that include data through 1997, the splittail had experienced a significant overall decline in abundance by 48 percent. The results using the 1998 and 1999 data still demonstrate an overall decline of 32 percent and 33 percent, respectively. Based upon historical data, over the most lengthy study period (1980–1999), and based upon methodology critiqued by experts, the splittail still face an overall abundance decline of 33 percent.

To date, the Service has only received 2000 data on the fall mid-water trawl and these data are preliminary. However, the FMWT indices for splittail are as follows: September is zero and October is four. Based on historic fall

midwater trawl data, these numbers appear to be at the low-end of the spectrum. However, all of the FMWT data are not available yet. The Service is not incorporating these data at this time into any analysis nor is the Service speculating on what these low numbers may mean for splittail abundance indices because these data are incomplete.

In addition to the abundance analysis, the Service conducted an analysis using CVP and SWP export facility data, commonly known as salvage data, depicted below (Table 2). As noted, there was an increase of splittail taken at the CVP and SWP export facilities using 1995 and 1998 data. It is the opinion of the Service that this increase in take was due to the exceptionally wet water years that occurred in 1995 and 1998, which resulted in a higher

number of splittail. Take at the export facilities was exceptionally high during both years because in general, there are more fish in an aquatic system in wet years. The Service believes the high take for 1995 was related to the following factors: (1) It was the first extremely wet water year in several years; (2) the spawning distribution of splittail was located primarily in the San Joaquin River, exposing more fish to the export facilities; and (3) CVP and SWP exports were unusually high to take advantage of the high water flows. For 1998, the Service believes that take was high due to the location of splittail again in the San Joaquin River and the increased export operations of the export facilities associated with wet year hydrologies. Salvage data are not used in overall abundance analysis because salvaging is not a survey method.

TABLE 2.—CVP AND SWP SALVAGE ANALYSIS

Life stage	Meng and Moyle (1980–1992)	Service's analysis (1980–1997)	Service's analysis (1980–1998)	Service's analysis (1980–1999)
YOY ¹	64% decline	92% increase ²	167% increase	150% increase.
All life stages	N/A ³	80% increase	150% increase	134% increase.

¹ YOY is young-of-the-year.

² In the final rule, the Meng and Moyle data reflect young-of-the-year data whereas updated data reflect all life stages for salvage data calculations. Therefore, we present both YOY data as well as all life stage data. Discrepancies in numbers between the final rule and the table above are due to a re-calculation of the raw numbers by the Department of Water Resources.

³ Meng and Moyle did not publish a salvage data calculation for all life stages.

It is erroneous to conclude that because more splittail were taken at the projects as reflected by the above later year analysis, that more splittail are present in the system. To reach such a conclusion discounts results of the studies conducted to determine actual abundance and the analysis which results from them (see Table 1). In addition to abundance decline, the Service conducted a “wet year” analysis using the Chipps Island survey data from 1980 to 1999. The Chipps Island survey was chosen because it surveys the area at the center of the historic distribution of the splittail. The Service believes that this survey is the most representative of splittail abundance. A decline in splittail in this area of historic distribution was evident

through the wet years of 1993. In 1995, an extreme wet water year, the decline in wet water year abundance evident in those years through 1993, was no longer evident. However, since 1995, the wet water year indices for this survey are again low. Wet water years (such as 1995) are assumed to provide essential habitat for splittail by inundating the floodplain and allowing populations to rebound from dry water years, when there is less or no suitable spawning habitat. Successful reproduction in splittail is often highly correlated with wet water years. Large pulses of young fish were observed in wet water years 1982, 1983, 1986, and 1995. In 1995, one of the wettest years in recent history, an increase in the Chipps Island index, indeed in all indices was

recorded, as in 1986, another wet water year following a dry water year. However, young of the year taken per unit effort (for example, either the number of fish per net that is towed or the number of fish per volume of water sampled) has actually declined steadily in wet water years, from a high of 12.3 in 1978 to 0.3 in 1993. The updated data (1998 and 1999) from CDFG demonstrate a similar decline in wet years, from 37.3 in 1978 to 0.6 in 1993. The abundance index of splittail calculated using Chipps Island survey data during the years of 1995, 1996, 1997, 1998, and 1999 were 44.5, 2.1, 2.6, 6.5, and 2.05 respectively. 1995 was an extreme wet year and splittail abundances were high (44.5). However, 1998 was another extreme wet year and

the Chipps Island survey data indicate only a slight increase (from 2.6 to 6.5) as a result. For the wet water years 1996, 1997, and 1999, the abundance indices remained low (2.1 to 2.05). The Service agrees that in certain wet water years, splittail may have higher reproduction. However, outside of 1995, the indices in wet water years remain low.

In summary, the Service used an analytical method, indeed the only method presented to it, to determine splittail abundance. This method incorporated the four indices previously discussed and an overall analysis, the Chipps Island wet year analysis and salvage data. This method was peer-reviewed and published after rigorous scientific scrutiny by fishery biologists, in the Journal of the American Fisheries Society. The analysis utilizing this method demonstrates a decline in the overall abundance of splittail as well as a decline in three of the four surveys analyzed. In addition to the overall abundance analysis based upon the four independent surveys that demonstrate decline, the Chipps Island survey also demonstrates decline, even in wet water years. Since the decline continues, the Service is of the opinion that splittail are continuing a downward trend. This conclusion is reached using the same methodology and data (now updated through 1999), that were used and explained in the rule making process.

Threats Analysis

In addition to the abundance analysis, the Service conducted a threats analysis for the splittail. In the final rule we determined that the splittail was a threatened species due to a combination of the five factors that are described in the "Summary of Factors Affecting the Species" of the final rule (64 FR 5963) pursuant to section 4(a)(1) of the Act. An endangered species is a species which is in danger of extinction throughout all or a significant portion of its range. A threatened species is a species which is likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Pursuant to section 4(a)(1) of the Act, the Secretary is required to list a species that he determines to be threatened or endangered because of one or more of the following five factors:

(A) The present or threatened destruction, modification, or curtailment of its habitat or range;

(B) Overutilization for commercial, recreational, scientific, or educational purposes;

(C) Disease or predation;

(D) The inadequacy of existing regulatory mechanisms; or

(E) Other natural or manmade factors affecting its continued existence.

At the time of the final rule, splittail were determined to be under threat by actions listed under all factors, except Factor B, and that the scope and magnitude of these threats were sufficient to warrant listing of the species as threatened. The final rule's analysis of the five threat factors is summarized below.

Threats to splittail were identified under Factor A, which refers to the present or threatened destruction, modification, or curtailment of a species habitat or range. Specifically, the Service determined that, at that time, the present operation of Federal, State, and private water development projects—entailing water storage, diversions and re-diversions, releases, export and agricultural return flows—destroyed splittail habitat.

Regarding Factor B, the Service determined that overutilization (*i.e.*, recreational and commercial harvest) was not known to be a factor affecting the splittail. Factor B was thus not considered in the final rule's determination of threatened status for the splittail.

The final rule identified the threats under Factor C, which refers to the risk presented by disease or predation, as significant. Disease was considered significant because of high incidences of adult splittail in poor health being captured in the State and Federal water project facilities in the south Delta. The south Delta is dominated by water from the San Joaquin River, where pesticides (*e.g.*, chlorpyrifos, carbofuran, and diazinon), salts (*e.g.*, sodium sulfates), trace elements (boron and selenium), and total dissolved solids are prevalent in agricultural runoff. In the final rule, threats of predation were considered minor because striped bass (*Morone saxatilis*) had coexisted with splittail for decades and because CDFG had forgone hatchery rearing and release of striped bass.

Factor D refers to the inadequacy of existing regulatory mechanisms. In the final rule, the suite of regulatory mechanisms were not considered to be adequate to protect the splittail. Implementation of ecosystem restoration-based programs (*e.g.*, Central Valley Project Improvement Act (CVPIA), CALFED Bay-Delta Program), while having beneficial elements, would not solely be sufficient to prevent the decline of the species. The splittail was without protection under the California Fish and Game Code.

Other natural or manmade factors affecting a species' continued existence were evaluated under Factor E. In the

final rule, the Service evaluated the risk of drought, the lack of screened water diversions, poor water quality (contaminants), detrimental flood bypass operations, and invasive species and found that these factors were contributing to the decline of the splittail.

Based on the analysis of all five listing factors, threats to habitat and destruction of habitat, disease, the lack of protection, drought, water diversions, contaminants, project operations in concert with a clearly declining abundance, the Service determined that the splittail was likely to become endangered in the foreseeable future if those threats and current population trends continued. The species was thus listed as threatened.

Numerous threats under Factor A were discussed in the final rule and continue to remain. In addition, there have been numerous recent projects which have resulted in habitat loss due to construction of bank protection involving rock revetment, or riprap. Riprapping typically removes riparian and natural bank habitat features of a naturally functioning stream channel. Riparian and natural bank habitats are features that historically provided natural function to the stream banks and flood plains for splittail by providing spawning substrate, organic material, food supply, and cover from predators. Before the splittail was listed as a threatened species, vast stretches of the Sacramento and San Joaquin Rivers, their tributaries, and distributary sloughs in the Delta had been channelized and covered with rock revetment. This historic channelization and rock revetment precluded access to the historic flood plain that the splittail could otherwise utilize during periods of higher flow as spawning and rearing habitat.

Environmental restoration as a component of the CALFED Program would benefit the splittail, though some protection would not necessarily be ensured were the species not listed. For example, some protections provided by the Environmental Water Account would not be available for unlisted species. The Sacramento-San Joaquin Comprehensive Study, under joint development by DWR and the U.S. Army Corps of Engineers (USACE), may address restoration efforts but is also projected to include a substantial bank protection component. Further, the Comprehensive Study is only now engaged in early planning efforts and no specific projects have been identified as feasible.

Prior to the final rule and in the time since the final rule, USACE has placed

or is proposing to place, rock revetment on a total of 130.6 acres of splittail habitat, and an additional 70.8 miles of suitable splittail habitat. To offset these negative effects, the USACE has restored, or is proposing to restore, up to 61.5 acres and 13.1 miles of suitable splittail habitat. These activities will result in a net loss of 69.1 acres and 57.7 miles of suitable splittail habitat. It is not known to what extent this will affect splittail abundance.

Projections of the current and future degree of riprapping within the range of the splittail do not include estimates of non-Federal riprap projects. The effect of this non-federally applied bank protection is addressed under Factor D, as it is related to the inadequacy of existing regulatory mechanisms.

A present threat may exist under Factor B. The Service is concerned that the recreational splittail fishery may be targeting gravid female splittail from within spawning areas and that the continued lack of protection in the State's Fish and Game Code will allow this fishery to expand such that it becomes significant. At this writing, however, recreational fishing is not considered by the Service to be a significant factor in the decline of the species.

Regarding Factor C, the Service has determined that predation remains a minor factor in the decline of the splittail. In the June 16, 2000, biological opinion on the issuance of a section 10(a)(1)(B) permit for the CDFG Striped Bass Management Program, the Service concluded that this activity would not jeopardize splittail if the conditions in the Habitat Conservation Plan were adhered to. The permit expires in 10 years, at which time the effects to listed species will be reexamined. Should other factors in the decline of the splittail, such as prolonged drought, occur during the permit period, the species could suffer predation beyond the level anticipated in the biological opinion. This could also require a reexamination of the permit.

Disease, considered under Factor C, is likely a more significant factor in the decline of the splittail than was known at the time of the final rule. The reason for the increased scope and magnitude of the threat posed by disease is the current understanding regarding the prevalence and effects of environmental contaminants on the splittail. The presence of environmental contaminants can weaken splittail to the point that they suffer from reduced disease resistance. Of specific concern are the threats posed by metals, mercury, selenium, and pesticides. The current status of information regarding

the threat posed by environmental contaminants is addressed in detail under Factor E.

Threats to splittail described under Factor D, beyond those analyzed in the final rule remain. Since the publication of the final rule, regulatory mechanisms continue to remain inadequate to protect the species or its habitat. Splittail remain unprotected by the State of California under the Fish and Game Code.

The Service has determined that the CVPIA may benefit the splittail, but may not adequately protect the species. The Service also has determined that because of the multiple purposes of the CVPIA, flows provided by the CVPIA may occur at times of the year that might not benefit splittail, such as flows in the fall for salmon. Further, CVPIA implementation may involve retention of some water within reservoirs during the spring/early summer for cold water pool conservation and its subsequent release for meeting salmonid water temperature criteria. The retention of flows during the spring negatively affects splittail by reducing the frequency and duration of floodplain inundation, which is key for spawning and rearing success. Delta smelt protection offers little benefit because smelt occur in low frequencies or are absent in part of the splittail's range (*i.e.*, outside of the legally-defined Delta).

Though the CALFED Ecosystem Restoration Program Plan (ERPP) will have beneficial effects to splittail, provided the ERPP secures long-term funding, as currently described, it cannot be relied upon to ameliorate all threats to the splittail. The CALFED Program, though containing broad standards for covered activities, is also not a regulatory mechanism and does not necessarily preclude the implementation of non-CALFED Program actions harmful to splittail. The Environmental Water Account (EWA) does provide a mechanism for providing for improved Delta conditions for splittail. However, EWA benefits to splittail would be reduced should the species lose the protection afforded by the Endangered Species Act because Tier 3 protections apply only to listed species.

In addition, numerous, small scale bank protection projects have been implemented without section 404 permits throughout the range of the Sacramento splittail. Implementation of these unpermitted projects has effects similar to those described under Factor A, but given the inadequate enforcement of the Clean Water Act, they typically include no mitigative features. The

result, when unauthorized activities including unpermitted bank protection projects, and sand and gravel extraction projects occur in streams within the splittail's range, is lost and/or degraded habitat for the species.

There also exists a risk to the splittail from the continued issuance of a number of Nationwide General Permits (NWP), authorized under Section 404(e) of the CWA, by the USACE. Certain NWPs allow implementation of their permitted activities with the only regulatory oversight being provided through notification by the regulated entity to the USACE. The Service is especially concerned that NWP General Condition 11, which addresses take of listed species and identifies requirements for consultation with the Service, is not being implemented by applicants and that USACE enforcement of the condition is lacking.

Under Factor E, environmental contaminants (addressed briefly under Factor C, above) are a threat to the continued survival of splittail. Metals such as copper, zinc, and cadmium can be directly toxic to splittail, especially in their sensitive larval stages. These metals damage gills and alter liver and nervous system functions causing death, behavioral changes, and reduced growth and reproduction. These metals can have the same effects on food items of the splittail, reducing their prey base and placing additional stress on the splittail.

Literature exists which documents the existence of methylated mercury (primarily monomethyl mercury) in the Sacramento River and the estuary. Research by the USGS indicates that elevated levels of mercury in water, sediment, and biota are found throughout the Sacramento River, its tributaries, the Delta, and San Francisco Bay. The primary source of this contamination is from mercury mines in the Coast Range and from gold mines in the Sierra Nevada range.

Human health advisories have been issued for mercury in certain waterfowl and fish species from the Delta and San Francisco Bay. The levels at which human health advisories are issued are also levels at which deleterious effects on fish and wildlife can be expected. Splittail are relatively long-lived fish, five to seven years, making them more susceptible to mercury bioaccumulation than shorter-lived fish. Mercury accumulated in a female fish is transferred to the embryo where it causes reduced hatching, developmental abnormalities, reduced growth, and behavioral changes. Suchanek *et al.* (2000) investigated the role of wetland

restoration involving re-flooding of mercury-contaminated soils.

There is concern that reestablished wetlands could become effective pathways for the introduction of toxic methyl mercury in the Delta. Ecosystem restorations at Clear Lake, a watershed which includes runoff from the Sulphur Bank Mercury Mine, threaten to introduce methyl mercury to Cache Creek and thus, to the Sacramento River. The Clear Lake splittail (*Pogonichthys ciscooides*), endemic to Clear Lake, is now extinct (64 FR 5963), though the role of mercury contamination in its decline is not known.

The Yuba River, a tributary to the Sacramento River via the Feather River, is the site of extensive deposition of historic hydraulic mining debris. Historic mining often involved the use of elemental mercury to amalgamate gold, and much was lost downstream. Current operations within the goldfields, whereby the sediments are dredged for gold, can liberate waste mercury back into the river system.

Continued operation of sand and gravel mines and dredging operations in these and other mercury-contaminated tributary streams threatens to liberate mercury presently stored in the alluvium and release it to the ecosystem, where it adversely affects the splittail.

Also regarding Factor E, and not previously analyzed, is the threat to the splittail posed by the synergistic interaction between introduced species and other environmental contaminants. Selenium concentrations in water from the lower San Joaquin River system are at levels that can cause bioaccumulation in fish species, which result in reproductive impacts. In 1998, in a rare occurrence, splittail were found in Mud Slough and Salt Slough (tributaries to the lower San Joaquin River). Composite samples of these fish from four sites were analyzed for selenium. At Mud Slough upstream of the San Luis Drain discharge, a composite sample of four splittail had a selenium concentration of 4.95 parts per million (ppm). At Mud Slough below the discharge, selenium in a composite of seven fish was 7.08 ppm while at a third Mud Slough site further downstream a two fish composite had 5.2 ppm. At Salt Slough, ten splittail were composited and had selenium at 3.19 ppm. The Service has determined, based on studies of its effects on salmonids, that negative effects of selenium on splittail begin to be seen at a level ranging from 3 to 9 ppm.

Selenium is readily bioaccumulated in the introduced Asiatic clam

(*Potamocorbula amurensis*), the most common bivalve in the Delta. These clams have selenium concentrations ranging from 6 to 20 ppm, dietary concentrations known to cause severe reproductive problems in fish. These clams are, in turn, consumed by Sacramento splittail (Stewart *et al.* 2000). When splittail are exposed to this level of selenium a reduction in reproductive performance occurs, which results in poor post-hatch survivorship. This means that less splittail young are able to recruit to adulthood. The 1998 splittail data confirm that these fish are being exposed to harmful levels of selenium in their range along the San Joaquin River. Data presented by the U.S. Geological Survey and Stewart *et al.* (2000) at the CALFED Science Conference in October 2000 indicated selenium concentrations in the composite liver samples of splittail in Suisun Marsh at or nearing levels associated with adverse reproductive effects in fish.

The relationship between the bioaccumulation of selenium in the clam and its predation by splittail is synergistically worsened because the clam, via its predation on typical splittail prey items such as estuarine copepods (*Eurytemora affinis*, and *Acartia* sp.) (Wimmerer and Pealva 2000), is emerging as an alternate food source for Delta fishes (Feyrer and Matern 2000).

The Chinese mitten crab (*Eriocheir sinensis*), initially addressed in the final rule, remains present within the Delta. Although the interaction between this species and the splittail remain largely unknown, it is still considered a threat. Crabs will continue to interfere with salvage operations at the Central Valley Project (CVP) and State Water Project (SWP). Further, the burrowing activities of the crab can weaken levees. Splittail habitat would be lost if the weakened levees were repaired and armored with traditional riprap. Nonnative, invasive, and harmful species likely will continue to be introduced to the splittail's range and may have adverse effects as described above.

Pesticides are also prevalent within the Delta and its tributaries due to runoff from agricultural lands and remain a threat. As with mercury and selenium, the long-lived, predatory splittail is highly susceptible to bioaccumulation of contaminants within the aquatic ecosystem. Over time, the splittail will exhibit reduced reproductive success, developmental abnormalities, reduced growth, and behavioral changes associated with the long-term exposure of the species to toxic chemical elements in the various

streams throughout its range in the Central Valley.

The Service believes that the splittail may remain vulnerable to natural events such as drought, because of the consistent, overall decline in population indices and severely constricted range and distribution. Since the publication of the final rule, several large water diversions have been screened to prevent entrainment of splittail. Still, numerous, smaller diversions remain unscreened and/or operated in a manner that does not minimize the threat to splittail. Though the CALFED Program has identified screening as a priority, funding has not been secured, nor has any definitive implementation schedule or plan been formulated.

The variability of California's Mediterranean climate exacerbates the threats discussed above. Since the proposal to list the splittail, California has had relatively wet hydrologic conditions that benefit fish species. Because the splittail is a floodplain adapted species, a dramatic decline in abundance was demonstrated during the 1987-92 drought. When another drought occurs splittail indices will again invariably drop.

As the Service stated in the final rule, in the wet water year of 1993, splittail should have been able to exploit flood plain habitat for spawning and rearing. However, since the reservoirs were relatively empty in that year, the rainfall filled the reservoirs instead of inundating habitat for splittail. As a result, the improvements in splittail abundance typical of wet water years were not evident in any of the splittail indices for 1993. This reservoir operation scenario could be repeated and may be exacerbated by reservoir operations intended to retain cold water pools for salmonids.

Flood bypasses continue to be operated in a manner that harms splittail and their habitat. It has been documented that splittail use the Yolo and Sutter bypasses for spawning under certain hydrologic conditions. As recognized in the final rule, however, the bypasses are flood control facilities and are operated as such. The flood bypasses are only flooded when flows in the Sacramento River (Yolo Bypass) and Feather River (Sutter Bypass) reach a certain level. This inundation of the flood bypasses can occur at the wrong time of the year for splittail to take advantage of the spawning habitat. In addition, flooding of the bypasses may not occur for a long enough period of time to ensure successful splittail spawning. This constitutes a threat in that adult fish, having migrated to suitable spawning habitats in the

bypass, could be denied the opportunity to spawn. In those cases where adult splittail have successfully spawned, the resulting progeny could become trapped and killed. There also exists an unquantified threat to developing splittail from agricultural pesticides applied to crops within the bypass.

In addition, the flood bypasses are not sufficiently contoured to ensure that fish can, as the water recedes, escape to the natural riverine and estuarine environment. As an example, in May 2000, up to 1,000 juvenile splittail were trapped in a less than 2-acre borrow pit pond within the bypass. This artificial, temporary pond, with egress originally intended to be constructed, serves as evidence that the various existing borrow pits, agricultural facilities, and other natural sinks are and can be expected to continue to be a source of splittail mortality.

In order for the bypasses to be considered a beneficial splittail spawning habitat, their threats to the species would need to be reduced substantially. Flood bypasses would need to be inundated for at least 30 continuous days between March and April, pesticide use would have to be assessed and possibly, regulated, and entrainment hazards would need to be reduced.

Also in regard to Factor E, and not addressed in the past, is the potential that interspecific competition is a threat to the splittail. Nonnative cyprinids and centrarchids, introduced into the splittail's range as bait and game fish, respectively, may occupy similar ecological niches, thus increasing competition for finite food resources. This threat is apart from the predatory pressure addressed under Factor C.

The splittail is on a downward trend as shown by the abundance analysis. The species is facing threats to its habitat including loss of spawning habitat due to rock revetment, loss of habitat due to poor water quality and water diversions, as well as other threats mentioned above. The Service is seeking comment on the relationship between the data available and the listing of the species as threatened. We are also taking comments on the threats and/or measures which reduce those threats to determine whether continued listing is warranted. Finally, we seek comment regarding abundance of the splittail.

Comments from the Resources Agency

The court requested that the Service provide a more thorough response to the California Resources Agency comments, specifically comments submitted by CDFG and DWR. The court also requested that the Service address other

factors including the species population, range, abundance, and distribution. In addition, the court requested that the Service formally respond to the California Resources Agencies (CDFG and DWR) before making a final decision regarding the status of the splittail per section 4(I) of the Endangered Species Act. Section 4(I) states that when a state agency opposes a listing of a species by the Act, then the Federal agency shall write a letter to that state agency stating its decision. The Service shall respond to the state agencies if the Service determines that continued listing is warranted.

(1) The CDFG comments submitted in July 1998 discussed a long-term and medium-term abundance trend. The long-term trend was based on summer townet and fall mid-water trawl survey data. CDFG states that these long-term trend data are consistent in showing no long-term trend in splittail abundance. The medium-term trend was based on surveys that started in the mid-1970s or later. CDFG divided the data sets into "small" geographic areas and "broad" geographic areas. The data sets that were considered "small" were the CVP and SWP salvage data, Chipps Island Trawl, and the Suisun Marsh Survey data. The data sets that were considered "broad" were the Beach Seine, the Bay Study Otter and Midwater Trawl, and the FMWT.

The Service cannot determine what method the CDFG used to calculate its results, nor define its terminology. For instance, the Service cannot determine from the comment if there was an overall trend with the medium-term data. The Service cannot determine if the methods used in the paper submitted by the CDFG were peer-reviewed or if the method used by CDFG has been subjected to a statistical test. The Service seeks further information from CDFG explaining and defining its trend theory, and its calculations and methodology.

(2) The CDFG and DWR discuss the increased range of the splittail in the past years and speculate that splittail may remain upstream in the Sacramento River over the summer. These data are based on the capture of two (2) splittail in August of 1997, one at the Red Bluff Division Dam and one at the Glenn-Colusa Irrigation District. In addition, the CDFG cite sporadic and small numbers of splittail captured on the Sacramento River. CDFG states that this information constitutes an expansion of range. CDFG discusses splittail in the lower San Joaquin, Petaluma River, Napa Marsh, and Coyote Creek.

The Service acknowledges the presence of splittail in these areas

during wet years and concurs that the splittail may use these areas during wet years. However, a few fish captured in these extreme areas does not constitute a viable population. These are questions relating to distribution for which the Service is seeking comments.

(3) DWR stated its belief that the 1998 data would prove to be an exceptional year for the splittail, without providing or referring to complete 1998 data (i.e., through December 1998). It then speculated on how 1998 would be a good year for splittail, based on numbers of take at the export facilities.

The Service determined that it would be unwise to speculate on data that were not complete at the time of the listing. However, now that we have the complete data sets for 1998, we re-analyzed the data and there is still an overall decline (using the four surveys) in abundance of splittail. In addition, the Resources Agency stated that the Service should withdraw the proposal to list the splittail, based on the preliminary results from 1998.

(4) DWR also commented on the resiliency of the splittail. The Service addressed the resiliency issue in the final rule. The term resilience is a relative term. Due to the larger body size, splittail may be more resilient than delta smelt to entrainment or impingement, for example, but they are less resilient than larger fish such as salmon. We agree with the statement that more than one year class of splittail may spawn at one time. However, spawning is not always successful. Spawning success is correlated with several factors, including wet water years, high Delta outflow, and the presence of flooded vegetation. If these parameters are not present, then the splittail may not successfully spawn and exhibit low recruitment to the population during later years.

(5) DWR and the State Water Contractors submitted additional comments by the CDFG in January 1999, six months after the close of the third comment period (July 1998), and after the final rule had been sent to Washington, D.C. for surname by the Directorate of the Service. A final rule is sent to Washington, D.C. only after it has been reviewed and revised as necessary by the Solicitor's Office and the California-Nevada Operations Manager. In any regard, the CDFG paper stated that 1998 resulted in record or near record age-0 splittail abundance for the summer townet, the FMWT, and the Bay study. These data could not be used for the Service's analysis because we used four data sets to complete the overall abundance decline and in July 1998 only two were available. We have

subsequently used the complete 1998 data sets to perform an additional analysis, and our analysis shows a decline still present in the overall abundance of splittail. In addition, the CDFG re-iterated the expansion of the range of splittail, as it did in its July 1998 submittal. We responded to this comment in the final rule and previously in this document.

Other Court Requests

The court has also requested that we provide an estimate of the current population size of splittail; determine whether or why the current population size is inadequate to prevent extinction in the near future; determine the rate of population decline of splittail; and to identify the minimum viable population size.

The Service appropriately did not "calculate the risk of extinction" because there is no methodology of which we are aware for making such a calculation suitable for the splittail. Instead, the Service determined that the splittail was likely to become in danger of extinction within the foreseeable future. After evaluation of population status (abundance), the Service made the determination that the species would likely become endangered within the foreseeable future based upon an analysis of threats to the species. As the abundance information indicates, the species is in decline. There is no scientific formula for determining extinction. However, the threats analysis, which consists of an evaluation of the five listing factors, coupled with abundance decline led the Service to reach its professional conclusion that although not endangered, because extinction is not imminent, the species was threatened. The species habitat and health is continuously being and has been permanently impacted as a result of the threats identified herein.

Hanson Declaration

On behalf of plaintiffs, Dr. Charles Hanson submitted a declaration to the court (Hanson Declaration) making several assertions regarding methods for estimating population size, population viability, minimum habitat requirements, and calculated rates of extinction for the splittail. The Service is familiar with each of these methods in general and would agree that these types of analyses may be appropriate for certain species. However, it is the Service's opinion that none of these methods are scientifically supportable for evaluating splittail, and therefore, would not provide useful indicators of splittail population health. The Hanson

Declaration discusses the need for utilizing several analytical methodologies to evaluate the risk of extinction. Models such as those to which the Hanson Declaration may be referring are developed over time and, if using recognized modeling protocols, need validation and verification, and in addition, are species specific. Also, a critical assumption that must be developed to utilize analytical methods such as those to which the Hanson declaration may be referring is an absolute value of population size. Best available information indicates there is no absolute value of population size for this species. The Service is not aware of a model that now exists for this species, nor was such a model identified during the comment periods. No specific alternative methodology was described or presented during the comment period nor did the Hanson Declaration identify any model or methodology that could be used or modified to conduct such an analysis. As such, it is our opinion, the use of such a methodology is not scientifically justified for this species. The Service requests comment on the methods and models suggested by the Hanson Declaration.

Contrary to the Hanson Declaration, we do not believe that an analysis regarding population estimates would be appropriate for splittail. To develop a population estimate, one must be able to count individuals of the species and have confidence in the methodology, one must know how many are born; and how many may recruit to the population the next year. We are not aware of any scientifically supportable methods developed to date to count all individuals of splittail.

Additionally, the sampling methods utilized to capture splittail have not been refined enough to take a subset of individuals and extrapolate that number to the entire population range wide. As noted in both the Hanson Declaration and the Service's analysis, the population of splittail is represented in the form of an index. By definition an index is a representation of population levels, not an absolute number. This is the state of the science for splittail at this time.

Splittail do not effectively use the fish ladders that are in place for salmon, and whereas adult salmon can be counted during their upstream migration, adult splittail cannot be counted in this manner. The species has a low stock recruitment because of the environmental variation found throughout the Central Valley of California, and one cannot predict with any statistical significance, what will be a good year for splittail. In addition,

splittail have a very poor stock recruitment relationship. That is to say one can not predict with any scientific certainty what the population of a species is by the number of juveniles produced in a given year. Nor can one predict with any certainty what the juvenile population in a given year would be, even if the adult spawning population was known. As such it is pure speculation to conduct a population viability analysis for this species.

There have been attempts to calculate a given population size during a specific snapshot in time. This kind of analysis is generally based on monitoring data that are very near term and thereby more reliable for developing a general indication of population size at that given time. Such an analysis can not be carried further as a predictor of overall population size or viability at some unknown time in the future because one can not predict the environmental variables which appear to control the reproductive success of this species.

The Hanson Declaration refers to the need to quantify the minimum habitat area required to avoid extinction. The Service prepared and finalized the Recovery Plan for the Sacramento/San Joaquin Delta Native Fishes in 1996, which specifically included splittail that was a proposed species at the time. There was substantial discussion of habitat requirements for splittail and, although the plan does not specifically quantify the minimum habitat area necessary, in part because it can not be scientifically determined, it does specifically quantify abundance criteria that would be necessary to consider delisting the species. In developing the recovery plan for the Delta native fishes the Service convened a recovery team. If sufficient scientific support were available to quantify the minimum habitat needs for the species, that information would have almost certainly been provided by the recovery team, of which Dr. Hanson was a member. The splittail is dependant on a highly variable ecosystem, both temporally and spatially. Habitat is but one component of that very complex ecological system that would lead the species to abundance levels necessary for such a consideration. An additional component to be considered to delist the splittail would be if the threats that lead to listing in the first place were no longer evident.

In the court order dated June 2000, it states that the Service has not shown a relationship between the data and the listing of the splittail, because we did not estimate a minimum viable population nor estimate a population

size for the splittail. As previously indicated, the methods stated in the Hanson Declaration are not applicable to this species. There is no stock-recruitment relationship identified for this species. Therefore, such a biological measure cannot be used for splittail.

The Service is soliciting comment on the current population size of splittail, and how one could calculate that with statistical rigor; how the Service could determine whether the current population size is adequate or inadequate to prevent extinction in the near future; how it can determine the rate of population decline of splittail; and how it can identify the minimum viable population of the splittail.

CALFED and Other Environmental Processes

The Service is also seeking comment on the relevance of a final CALFED decision in the context of how the implementation of the CALFED program will address, and the extent to which it will address, the threats to splittail. In addition, we are also seeking comment on any other environmental program, such as CVPIA, and how it may address the threats to the splittail.

The threats to the splittail could be affected by implementation of the CALFED Bay-Delta Program (CALFED Program). The Record of Decision (ROD) for the CALFED Program was signed in August 2000. The CALFED Program is a long-term comprehensive plan to restore ecosystems and improve water management for beneficial uses of the San Francisco Bay and Sacramento-San Joaquin River Delta (Bay-Delta). The CALFED Program was developed by 14 Federal and State agencies with management responsibilities in the San Francisco Bay and Sacramento-San Joaquin River Delta (Bay-Delta). These agencies seek to address issues in four problem areas—ecosystem quality, water quality, water supply, and levee system integrity.

Several components of the CALFED Program will influence the status of the splittail, including the Ecosystem Restoration Program Plan (ERPP), the Multi-Species Conservation Strategy (MSCS), the Water Quality Program Plan, and an Environmental Water Account. The ERPP and MSCS identify recovery goals for 44 species in the Bay-Delta region, including a goal to “Recover” the splittail. In the context of the CALFED Program the term “recover” means the program will implement all necessary measures, within its discretion, to recover the splittail, including implementation of

Service recovery plans. The current agreements to provide assets for the EWA and \$150 million annually for the ERPP extend only 4 years from the date the ROD was signed. Therefore, the programs and agreements embodied in the ROD for the CALFED Program have great potential to aid the recovery of the splittail.

The likelihood the CALFED Program will achieve its recovery objectives is influenced by available funding and the continuing agreement among the parties involved to fully implement the program. Agreements to fund the ERPP and provide assets for the EWA extend only four years from the date the ROD was signed, after which the CALFED program will need to be reevaluated. Full implementation of the 30-year program will require both State and Federal funding and is expected to require both annual appropriations by Congress and continued funding by the State of California. To date, Congress has not appropriated funding for Federal responsibilities under the CALFED Program for fiscal year 2001. Therefore, the program will be funded solely by State funding sources (including, but not limited to propositions 204, 12, and 13).

In addition, the Service is seeking comment on Implementation of the Central Valley Project Improvement Act (CVPIA). CVPIA provisions potentially can affect threats to the splittail. The CVPIA amends previous authorizations of the California Central Valley Project (CVP) to include fish and wildlife protection, restoration, and mitigation as project purposes having equal priority with irrigation and domestic water supply, and fish and wildlife enhancement having equal priority with power generation. Provisions of the CVPIA to benefit fish and wildlife habitat include protection and restoration of natural channel, riparian, and wetland habitats [sections 3406(b)(1) and 3406(d)], dedication and management of 800,000 acre-feet of CVP yield [section 3406(b)(2)], acquisition of additional water supplies to supplement the amount dedicated [section 3406(b)(3)], modification of CVP operations [sections 3406(b)(1) and 3406(b)(19)], removal of fish migration barriers [sections 3406(b)(10) and 3406(b)(17)], screening of water diversions [section 3406(b)(21)], and acquisition of land and associated water rights [section 3408(h)], among others.

None of the CVPIA provisions specifically target splittail and, to date, no actions have been implemented under the CVPIA specifically to benefit

this species. Because major portions of the CVPIA target anadromous fish, most of the benefits to splittail would be incidental to actions taken to benefit anadromous fish. Splittail can benefit from shaded streamside habitat and wetlands resulting from stream channel, riparian, and wetland habitat improvements within the splittail's spawning range. Management of dedicated, supplemental, and reoperated CVP yield can benefit splittail if water releases are made at times and locations that coincide with splittail spawning and rearing, and if the releases are adequate to flood vegetated areas adjacent to stream channels. Removal of migration barriers can provide additional splittail habitat where potential habitat is blocked, and entrainment of splittail at diversions can be reduced if fish screens are installed in splittail habitat areas.

All CVPIA mitigation and restoration actions are contingent on available funding. Funding sources include the CVPIA Restoration Fund, state funds provided to meet CVPIA cost share requirements, and additional Federal funds appropriated by Congress. The total annual funding projected for the CVPIA's preferred alternative was about \$90 million, but these funds are not guaranteed and will require appropriation by pertinent state and Federal governments.

The Service is taking comments on the CALFED, CVPIA, and any other environmental process and how they may or may not alleviate some of the threats that are facing the species.

Written comments on all of the above issues may be submitted until February 12, 2001 to the Service office in the **ADDRESSES** section.

Author: The primary authors of this notice are Stephanie Brady and Jason Douglas (see **ADDRESSES** section).

References

A complete list of all references cited in this notice is available upon request from the Sacramento Fish and Wildlife Office (see **ADDRESSES** section).

Authority

The authority for this action is the Endangered Species Act of 1973 (16 U.S.C.1531 *et seq.*)

Dated: January 2, 2001.

Rowan W. Gould,

Manager—California/Nevada Operations Office.

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