in the United States, providing a vital stopover for rest and feeding for more than one-half of the waterfowl and shorebirds migrating on the Pacific Flyway. Within the boundaries of the Bay/Delta is the Suisun Marsh, the largest contiguous brackish water marsh in the United States.

The Bay/Delta is also the hub of California's two major water distribution systems-the Central Valley Project (CVP) built and operated by the U.S. Bureau of Reclamation (USBR) and the State of California's State Water Project (SWP). These two projects account for approximately 60% of the watershed's diversions (San Francisco Estuary Project (SFEP) 1992). In addition, at least 7,000 other permitted water diverters, some large and some small, have developed water supplies from the watershed feeding the Bay/ Delta estuary (California State Lands Commission 1991). Together, these water development projects divert, on average, 50% of the natural flow in the Bay/Delta estuary (SFEP 1992). Most of the State's developed water-75 to 85 percent—is used for irrigation purposes by agriculture, irrigating over 4.5 million acres throughout the State. The Bay/Delta watershed also provides part or all of the drinking water supply for over 18 million people.

In large part due to the effects of these water diversions, and as discussed in more detail in the preamble to the Proposed Rule, the fish and wildlife resources in the Bay/Delta estuary have deteriorated drastically over the past twenty years. One common measure used to quantify this deterioration is the Striped Bass Index (SBI) (a measure of the relative abundance of young striped bass in the estuary). The SBI measures the relative health of an indicator species for the Bay/Delta, the striped bass. In its 1978 Water Quality Control Plan (1978 Delta Plan), the California State Water Resources Control Board (State Board) committed to maintaining an SBI value of 79. Since that time the SBI has never attained its targeted value of 79, but instead has plummeted to unprecedented low values.1

The precipitous decline in striped bass is indicative of the poor health of other aquatic resources in the Bay/Delta estuary. Several species have experienced similar declines, including chinook salmon (the winter-run of

chinook salmon has recently been reclassified as an endangered species under the Federal Endangered Species Act, 16 U.S.C. 1531 to 1540 (ESA)), Delta smelt (listed as a threatened species under the ESA), and the Sacramento splittail (recently proposed for listing as a threatened species under the ESA). The California Department of Fish and Game (California DFG) recently testified that virtually all of the estuary's major fish species are in clear decline. (CDFG 1992b, WRINT-DFG-8)² Another recent report suggests that at least three more of the Bay/Delta estuary's fish species (spring-run Chinook salmon, green sturgeon, and Red Hills roach) qualify for immediate listing under the ESA (Moyle and Yoshiyama 1992). Furthermore, the decline in aquatic resources is not limited to fishes. One recent workshop noted that the available data "indicate clearly that species at every trophic level are now at, or near, record low levels in the Delta and in Suisun Bay."³ (SFEP 1993) The ecological communities under stress include the plant and animal communities in the tidal portions of the brackish water marshes adjacent to Suisun Bay (Collins, J.N. and T.C. Foin, 1993).

b. State Designation of Uses in the Bay/ Delta

Under section 303(c) of the CWA, states review their water quality standards every three years and submit any new or revised standards to EPA for approval or disapproval (the "triennial review''). A water quality standard for a waterbody consists of two components: (1) Designated uses for the waterbody and (2) water quality criteria which support such designated uses.⁴ In California, designated uses are equivalent to state law "beneficial uses" and criteria are equivalent to state law "water quality objectives." Thus, the water quality objectives and beneficial use designations adopted under the

³The workshop report went on to state that this low level of biological diversity was "not surprising considering the recent drought, the introduction of exotic species, and the increased diversion of water." California Water Code serve as water quality standards for purposes of section 303 of the CWA.

Pursuant to state and federal law, the State Board, on May 1, 1991, adopted State Board Resolution No. 91–34, formally approving the 1991 Bay/Delta Plan. The Plan restated the specific designated uses that had been included in the 1978 Delta Plan and related regional board basin plans. As restated in the 1991 Bay/Delta Plan and submitted to EPA for review under the Clean Water Act, the designated uses for waters of the Bay/Delta included the following: Agricultural Supply, Cold and Warm Fresh-Water Habitat, Estuarine Habitat, Fish Migration, Fish Spawning, Groundwater Recharge, Industrial Process Supply, Industrial Service Supply, Municipal and Domestic Supply, Navigation, Contact and Non-Contact Water Recreation, Ocean Commercial and Sport Fishing, Preservation of Rare and Endangered Species, Shellfish Harvesting, and Wildlife Habitat.⁵

c. EPA Activity Under CWA Section 303

As explained in detail in the preamble of the Proposed Rule, the serious environmental crisis for fish and wildlife resources in the Bay/Delta has been the source of an ongoing dialogue between EPA and the State for many years. Pursuant to section 303(c)(3) of the CWA, EPA reviewed the 1978 Delta Plan in 1980. While EPA approved the Plan, it was concerned that the 1978 Delta Plan standards would not provide adequate protection of striped bass and the estuary's fishery resources. EPA therefore sought and received assurances from the State Board as to the interpretation of the standards, and secured the State Board's commitment to review and revise the 1978 Delta Plan standards immediately if there were measurable adverse impacts on striped bass spawning, or if necessary to attain "without project" levels of protection for the striped bass as defined by an SBI value of 79. The "without projects" level of protection is the level of protection that would have resulted in the absence of the state and Federal water projects (the SWP and the CVP). EPA also conditioned its approval on the State Board's commitment to develop additional criteria to protect aquatic life and tidal wetlands in and surrounding the Suisun Marsh. The State Board concurred with these

¹ During the 1980's, the SBI averaged approximately 23.5, and in 1985 reached an all-time low of 4.3. Some of the decline in the SBI may be attributable to drought conditions in the late 1970's and again in the late 1980's. In all but two years since the 1978 Delta Plan was adopted, the SBI has ranged from 4.3 to 29.1, a substantial shortfall from the stated goal of 79.

² If a reference was presented to the State Board during one of its hearings, this preamble will present citations in both the standard scientific form and in the State Board hearing record form. Accordingly, the eighth exhibit submitted by California DFG at the Board's interim water rights hearings in the summer of 1992 is cited as indicated.

⁴In addition, a state's criteria must be consistent with the state's antidegradation policy. The federal regulations provide that, at a minimum, the state's policy must maintain ''[e]xisting instream water uses [those existing in the waterbody at any time on or after November 28, 1975] and the level of water quality necessary to protect the existing uses. * * *'' 40 CFR 131.12(a)(1).

⁵ As explained in more detail below, under certain circumstances a state may revise or even remove designated uses. However, in the Bay/Delta context, the State Board has made no effort to revise the designated uses adopted and restated in the 1991 Bay/Delta Plan.