

**TESTIMONY OF  
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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
U.S. DEPARTMENT OF COMMERCE**

**ON**

**HR 1837 – SAN JOAQUIN VALLEY WATER RELIABILITY ACT**

**BEFORE THE  
COMMITTEE ON NATURAL RESOURCES  
SUBCOMMITTEE ON WATER AND POWER  
U.S. HOUSE OF REPRESENTITIVES**

**JUNE 13, 2011**

Chairman McClintock, Ranking Member Napolitano, and Members of the Subcommittee, I am Will Stelle, the National Marine Fisheries Service’s (NMFS) West Coast Salmon Coordinator and Administrator for NMFS Northwest Regional Office. I am pleased to provide NMFS’ views on H.R. 1837, the San Joaquin Valley Water Reliability Act. I have reviewed the previous testimony of Commissioner of the U.S. Bureau of Reclamation, Mike Connor. My testimony supplements his remarks and responds directly to some of the endangered species and fisheries related issues that arose at the hearing in this Subcommittee on June 2nd. NMFS strongly supports the co-equal goals of (1) providing a more reliable water supply for California and (2) protecting, restoring, and enhancing the overall quality of the Bay-Delta environment. It is these two goals that offer the best prospects for long-term economic and ecological benefits to California and the nation. Inherent in these goals is a strong commitment to finding and implementing science-based solutions. The Department of Commerce, along with the Council on Environmental Quality, the Department of the Interior, the Army Corps of Engineers, the Environmental Protection Agency, and the Department of Agriculture, are working as part of the Bay-Delta Federal Interim Action Plan to help accomplish these goals, and further the Administration’s vision of a healthy and sustainable Bay-Delta ecosystem.

NOAA is well known as a leader in science, research, and the application of science to decision-making. Our actions to administer the Endangered Species Act (ESA) for listed anadromous fish in the Bay-Delta—including listed winter-run and spring-run Chinook salmon, Central Valley steelhead, and the Southern Distinct Population Segment (DPS) of North American green sturgeon—are based on a rigorous and continuous process to review the best available science, seek independent outside scientific peer review, and incorporate changes when appropriate.

H.R. 1837 would negate more than 17 years of research and science by reverting to 1994 water operations. These operations would ignore the universally accepted scientific understanding that

the Bay-Delta ecosystem is in a state of collapse and in addition, the significant strides toward adaptively managing implementation with science. If implemented, these operations would hasten the decline of numerous species, including fall-run Chinook salmon, which are key to the economic stability of fishing communities along the west coast. NMFS is strongly opposed to H.R. 1837 for this reason and others detailed below.

### **Title I: Section 108 would revert Delta operations to outdated standards, hastening species declines**

Section 108 deems all requirements of the ESA to be considered fully met for the protection and conservation of all listed species for operation of the Central Valley Project (CVP) and California's State Water Project (SWP), if the CVP and SWP are operated consistent with the "Principles for Agreement on the Bay-Delta Standards Between the State of California and the Federal Government" (also known as the 1994 Bay Delta Accord). From a scientific perspective, at the time the Bay-Delta Accord was signed, only two aquatic species affected by CVP and SWP operations were listed under the ESA—Sacramento River winter-run Chinook salmon, originally listed in 1989 under emergency provisions, and delta smelt, listed in 1993. On February 12, 1993, NMFS issued a jeopardy biological opinion on the effects of CVP and SWP operations on winter-run Chinook salmon. Subsequent to the 1994 Bay Delta Accord, on December 30, 1994, NMFS issued an amended biological opinion to incorporate the new Bay-Delta standards. Nothing in the Accord negated continued implementation of the ESA. The Accord contained a commitment to review the standards in three years. Consistent with the Accord, and as required under the ESA, NMFS updated the 1993 Biological Opinion numerous other times (see attached table) to reflect changed scientific understanding and to add protections for newly listed species, including the CALFED Bay-Delta Program Record of Decision and the Central Valley Project Improvement Act. The 2004 NMFS Biological Opinion, which contained significantly more protection for listed species than the outdated 1994 Accord standards, was deemed by the court to not be sufficiently protective and not based on current science. This negative court finding led to the 2009 Biological Opinion, which is currently under judicial review.

### **Species declines and poor survival rates**

The 2009 Opinion on the CVP and SWP contains 72 measures that NMFS deems necessary to avoid jeopardizing the continued existence of Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, Central Valley steelhead, the Southern Distinct Population Segment of North American green sturgeon, and Southern Resident killer whales. The Projects pose a number of threats to these species including elevated water temperatures and flow fluctuations, migration barriers, changing fish migration patterns because of pumping force, and hatchery impacts. Fortunately, through its Opinion, NMFS was able to offer alternatives that allow continued operation of the Projects while avoiding jeopardy to listed species. NMFS was mindful of water supply impacts when we drafted the Opinion, and we worked with the State and Federal water agencies to identify the measures that provided necessary protection for listed species at the least water, and therefore economic, cost. In fact, most of the measures do not impact the water supply. Section 108 would void many of these operations, including cold water pool management at Shasta and Folsom reservoirs, the operation of Red Bluff Diversion Dam,

and the operations of the Delta Cross Channel gates. These operations provide critical protections by maintaining suitable temperatures for salmonid egg incubation and juvenile rearing, allowing passage of upstream Chinook salmon and green sturgeon adults to spawning grounds, and limiting entrainment of juvenile salmonids into the Central Delta, where they are subject to increased stressors and lower survival rates.

Voiding 2009 Opinion protections would be especially problematic given recent declines in salmon populations. Last year's spring-run Chinook salmon population was at a 13-year low. Last year's winter-run Chinook salmon population was at a 10-year low. Fall-run Chinook salmon, the most commercially important salmon run in California, rear as juveniles in the Delta. The fall-run Chinook are not ESA-listed; however, they receive incidental protection from actions necessary to protect ESA-listed species. The fall-run Chinook population collapsed in 2008, resulting in closure of the commercial and recreational salmon fisheries off California and Oregon in 2008 and 2009, and severe restrictions continued in 2010 at the recommendation of the Pacific Fishery Management Council. Those closures caused significant economic hardship and dislocation to fishing communities along the coast and in associated industries. Although the fishery was opened for the first time this year since in 2007, it is still very much in a rebuilding phase. Thus, eliminating critical protections now would impede the ability of the culturally and economically important west coast salmon fishery to recover, resulting in an annual cost on the order of hundreds of millions of dollars and the loss of thousands of jobs.

Survival rates of outmigrating juvenile salmonids from the Sacramento and San Joaquin rivers are extremely low. A scientific paper published in December 2010 by a University of Santa Cruz graduate student, documented that the cumulative survival rates of acoustically tagged Sacramento River late-fall Chinook salmon just downstream of Battle Creek to the Golden Gate Bridge were 3.05 percent, 3.79 percent, and 5.51 percent in 2007, 2008, and 2009, respectively, with an all-year total outmigration survival of 3.9 percent. In addition, survival estimates in the San Joaquin River were just slightly greater than 1 percent in 2003 and 2004. Thus, in all cases cited above, mortality was greater than 94 percent. On the San Joaquin River, a high of 12 percent survival for fall-run Chinook salmon was observed in 2006 (Vernalis Adaptive Management Plan Independent Peer Review Panel Report). To put this in perspective, wild sub-yearling survival estimates for fall-run Chinook salmon averaged 65.6 percent in the Snake River, and 38.3 percent in the Yakima River. Although the CVP and SWP were not the sole causes of the extremely low survival of outmigrating anadromous fish species, their operations contributed to the multiple stressors on fish migrating down to and through the Delta.

There has been much discussion regarding the fall-run Chinook salmon collapse and subsequent closure of the ocean fishery. In the 2009 document, "What caused the Sacramento River fall Chinook stock collapse?" the authors noted that the long-standing and ongoing degradation of freshwater and estuarine habitats and the subsequent heavy reliance on hatchery production were likely contributors to the collapse of the stock. This report draws important conclusions about conditions in the Delta and the limitations of hatcheries to production, and recovery, of fish, which I will discuss further below.

### **Scientific Underpinnings of the NMFS 2009 Biological Opinion**

NOAA remains committed to a science-based approach to implementation of the current 2009 Biological Opinion, which allows for adaptive management as new science becomes available, and to finding ways to minimize impacts on water supply while still ensuring the required protections for the listed species and their critical habitats. The draft biological opinion was independently reviewed by numerous internationally recognized experts from academia and industry including Dr. James Anderson, Research Professor at the School of Aquatic and Fishery Sciences, University of Washington and Columbia Basin Research Center, Dr. Kenneth Rose, Professor, Department of Oceanography and Coastal Sciences, Louisiana State University, and Dr. Reg Reisenbichler, Retired Research Fishery Biologist, U.S. Geological Survey, Western Fisheries Research Center. Peer review recommendations were incorporated into the final biological opinion, as appropriate.

NOAA has been and remains open to exploring adjustments in the specific parameters in its Biological Opinion that may be warranted to provide equal or better protections to listed fish while bolstering the reliability of water supplies. Reflecting this approach, the Biological Opinion itself calls for a formal adaptive management approach in which, through an annual review of operations, NOAA and the other parties may explore adjustments in operations on a routine basis and in response to new information. As a result of NOAA's adaptive management approach, we prepared a joint Federal response to the integrated annual review in November 2010 that included detailed adjustments to the Biological Opinion. Following that effort are the 2011 amendments to the Opinion that allow more flexibility in implementation. For example, adjustments included changes to the flow schedule based on different water year types, drought exception procedures, and changes to real-time operations. The Department of Commerce will continue implementation of the adaptive management provisions of the current Biological Opinion to protect salmon and the livelihood of both South Delta farmers and West Coast fishermen who depend on salmon resources.

NOAA is aware of the findings and recommendations of the 2010 National Academy of Sciences (NAS) review of the Opinion. Their review was largely supportive of the scientific underpinnings and framework of the Opinion, calling the measures "conceptually sound." The panel's overarching conclusion was, "On balance, the committee concludes that the actions, which are primarily crafted to improve life-stage-specific survival rates for salmon and steelhead, with the recognition that the benefits also will accrue to sturgeon, are scientifically justified." The National Academy of Sciences did note uncertainties associated with two of the 72 measures within the Opinion—both of which pertain to operations in the south Delta—and recommended further review and delineation of the specific trigger points within these actions. Further, while the NAS explored alternatives to NMFS' measures, they did not identify different measures that at this time would be able to "provide equal or greater protections for the species while requiring less disruption of delta water diversions."

NOAA has communicated our willingness to explore adjustments or refinements in these parameters if other approaches would provide equivalent or better protections, but thus far none have been identified. The National Academy of Sciences also recommended that NOAA develop new research and models to further refine these actions. We have followed their advice,

and are working on these additional studies and models. For example, NOAA is investing in a rigorous study of the causes of poor survival in the San Joaquin River system. In addition, NOAA is developing a salmon life-cycle model that will enhance our understanding of the relative contribution to mortality of different environmental stressors.

For all of these reasons, it is unnecessary and would be damaging to bypass the ESA biological opinion process—which is responsive to new, improved science—and prescribe CVP/SWP operations through Federal legislation. If enacted, this law would hasten the decline of salmon in the Central Valley and Delta and negatively impact the Delta ecosystem and the economy of the state of California and the nation.

## **Title II: Section 203 would repeal the San Joaquin River Settlement**

H.R. 1837 Section 203 proposes to repeal the San Joaquin River settlement and erase years of careful negotiations leading to that Settlement. The reintroduction of spring-run Chinook salmon to the San Joaquin basin would improve the viability of the species by improving the diversity and spatial aspects of the population, as well as the genetic construct and the abundance. Successful reintroduction of spring-run Chinook salmon into the San Joaquin River would contribute to the recovery of spring-run. Concerns were raised at your June 2nd hearing regarding possible third-party impacts to landowners and water users as a result of the re-introduction of spring-run Chinook salmon, currently scheduled to begin in 2012.

Central Valley spring-run Chinook salmon historically were abundant in the San Joaquin River, but were extirpated from the basin. Remaining populations of spring-run Chinook salmon exist in Sacramento River basin watersheds and are listed under the ESA as a threatened species. Landowners, local water districts, and other groups and individuals who are not legal parties to the Settlement have expressed great concern about the potential effect on their current personal and business operations of the reintroduction of a threatened species to the river. Consequently, they worked to include requirements in legislation enabling the Stipulation of Settlement to ensure that the effect of the re-introduction of spring-run on certain activities would be negligible. NMFS takes these requirements seriously.

Specifically, the San Joaquin River Restoration Settlement Act provides that the re-introduction of spring-run Chinook salmon “will not impose more than *de minimus*: water supply reductions, additional storage releases, or bypass flows on unwilling third parties due to such reintroduction.” NMFS is on track in the development of an experimental population for spring-run Chinook salmon released under the San Joaquin River Restoration Project, as defined under authorities of section 10(j) of the ESA, and a special 4(d) rule for this experimental population, which will ensure that these *de minimus* conditions are met. These rules will be completed on or before April 30, 2012, when NMFS is required by the Settlement to make a determination on approval of the application submitted by the Department of the Interior’s Fish and Wildlife Service to utilize spring-run from existing populations for the re-introduction effort.

No special permits are required for the re-introduction of fall-run Chinook salmon to the San Joaquin River. The Hills Ferry Barrier is the primary obstacle preventing fall-run Chinook and

Central Valley steelhead (a listed species) from entering the upstream reaches of the San Joaquin River. The State has operated this structure in the past through funding from mitigation agreements, but the funding has not been sufficient to create a “fish-proof” barrier. The Settlement Act provides a directive to Reclamation to evaluate the structure to improve its performance and to provide additional protection to third parties from ESA-listed fish straying into the Restoration Area. If Reclamation is required to cease implementation of the Settlement, improvement of this barrier would be in doubt.

In sum, NMFS is committed to implementing our portion of the Settlement Act. H.R. 1837 is detrimental to both the recovery of Chinook salmon and to years of careful stakeholder interest-based negotiations regarding the future of the San Joaquin River and sustainable water supplies for Friant Water Users Authority.

### **Section 207 would prohibit the use of the best available science to assess hatchery contributions and threats to species viability**

Section 207 would prohibit the Secretary from distinguishing between hatchery-spawned and wild-spawned salmon in making determinations under the ESA. This provision runs counter to the best available science, which includes assessing abundance—including hatchery production—as one of four factors in assessing the viability of salmonid populations. McElhaney *et al.* (2000) provided a framework for assessing viability based on four parameters: abundance, productivity, spatial structure, and diversity. This Viable Salmonid Population (VSP) framework is widely accepted as the best available science and is used as a foundation for numerous decisions on both listed and unlisted salmon stocks throughout California and the Pacific Northwest. While hatchery production contributes in the near-term to abundance, it can have negative effects on spatial structure and diversity.

Numerous scientific papers and listing decisions have detailed the negative influence of hatchery production. That said, hatcheries serve an important function in bolstering commercial and recreational fisheries, and mitigating for dam construction. NMFS is participating in interagency efforts to assess and improve hatchery operations to provide for more sustainable production methods and minimize impacts of hatchery populations on wild populations. Hatchery fish cannot replace the important role wild fish play in the Bay-Delta ecosystem because wild fish are better suited to withstand natural fluctuations, evade predators, and have greater reproductive success.

Currently, for Central Valley listed species, NMFS uses the VSP framework to evaluate, on a hatchery program-specific basis, both the contribution to and threats caused by hatchery operations on the overall viability of the listed unit. This science-based process has led some hatchery programs to be included as part of the listed unit, while others are not. For the most part, this decision is based on the genetics and historical evaluation of the broodstock. For example, Feather River spring run are “counted” as part of the spring-run Chinook salmon Evolutionarily Significant Unit (ESU), because the hatchery population is based on historic returns to that river. In contrast, American River steelhead are not “counted” as contributing to

the Central Valley Steelhead DPS because the broodstock is of coastal, not Central Valley, origin.

The sweeping provision proposed in H.R. 1837 would undermine salmon recovery and will not allow careful consideration of the best science in assessing important differences between naturally spawning and hatchery-origin fish in the Central Valley. Furthermore, it would require NMFS to use different and inconsistent criteria for managing Pacific salmonid species elsewhere in California, and elsewhere on the West Coast.

### **California Salmon Job/Economic Losses**

The Subcommittee is seeking solutions to economic losses suffered in California, and the development of an economically and environmentally sustainable water supply. This is a laudable goal, and one that NOAA shares. Unsustainable conditions in the Delta have contributed to species declines and to the closure of the commercial salmon fishery. California has previously estimated that the closure of the salmon fishery in California in 2008 and 2009, for the first time in the State's history, resulted in the loss of \$279 million (2009) and \$255 million (2008), and the loss of 2,690 (2009) and 2,263 (2008) jobs. The State further estimated that \$62.6 million was needed to respond to the 2010 disaster alone. Working towards long-term solutions for the Delta that support both agricultural and fisheries economic sectors is essential for California and the nation.

### **Act is inconsistent with careful balancing of co-equal goals being developed through Bay Delta Conservation Plan**

Finally, the provisions of H.R. 1837 are in direct conflict with the collaborative Bay-Delta Conservation Plan (BDCP), an effort under way since 2006 to develop a long-term plan to achieve the co-equal goals of restoring the ecological health of the Bay-Delta and providing reliable water supplies. The BDCP is a potential keystone for restoring and protecting the Bay-Delta ecosystem and California's water supply system for the long term. In light of the unsustainable and unacceptable status quo of the Bay-Delta, and the potential for disaster to strike in the form of an earthquake or other event that causes widespread levee failures, inaction is not a viable option. Action must be taken to achieve the dual goals of ecosystem restoration and water supply reliability, and must be tailored to assure that the interests of the residents and communities of the Delta are considered and protected. . The Administration, together with the State of California, water users, community leaders, and members of the NGO community, will continue efforts to develop a successful BDCP. H.R. 1837 would lead to the collapse of BDCP by locking in operations that would hasten the decline of species and polarizing parties that are seeking to find solutions

This concludes my testimony today. Thank you, again, for the opportunity to testify. In summary, NMFS is opposed to HR 1837 because it would negate more than 17 years of research and science by reverting to 1994 water operations. It would further direct our Agency to ignore well-established scientific findings on hatcheries. It would also de-stabilize carefully developed stakeholder solutions on the recovering spring-run Chinook salmon through restoring the San

Joaquin River, and would lead to the collapse of long-term Delta solutions being developed through the Bay Delta Conservation Plan. . If enacted, this law would hasten the decline of salmon in the Central Valley and Delta and negatively impact the Delta ecosystem and the economy of the state of California and the nation.



Table. NOAA Fisheries, ESA section 7 Consultation History (1991-2004) for the operations of the Central Valley Project (CVP) and State Water Project (SWP)

Date	Species	Consultation Description
2/26/91	WR	NOAA Fisheries requests consultation on Reclamation's CVP operations and plans
2/14/92	WR	Initial biological opinion addressing effects of CVP operations (J)
2/12/93	WR	Long-term OCAP biological opinion addressing effects of both CVP and SWP operations (J)
8/02/93	WR	1 <sup>st</sup> amendment on Red Bluff Diversion Dam (RBDD) Pilot Pumping Program
10/06/93	WR	2 <sup>nd</sup> amendment changed date of RBDD screening requirement
12/30/94	WR	3 <sup>rd</sup> amendment incorporated new Bay-Delta Standards
5/17/95	WR	4 <sup>th</sup> amendment changed Delta flow criteria and increased take limit
8/18/95	WR	5 <sup>th</sup> amendment temporarily changed temperature compliance point
3/27/00	SR, Sthd	1999-2000 Interim OCAP BO ( <i>i.e.</i> , new species listed)
8/28/00	all	CALFED Bay-Delta Program, Record of Decision (ROD)
10/12/00	all*	Trinity River Mainstem Fishery Restoration biological opinion
11/14/00	all	Central Valley Project Improvement Act (CVPIA) programmatic BO
5/08/01	SR, Sthd	2001-2002 Interim OCAP BO
9/20/02	SR, Sthd	2002-2004 Interim OCAP BO, amends and extends
6/03	all	Preliminary working draft, Long-term OCAP BA
2/27/04	SR, Sthd	2004-2006 Supplemental interim OCAP BO
3/15/04	all	Reclamation initiates consultation with NOAA Fisheries and FWS on a Long-term OCAP and provides a preliminary BA
6/30/04	all	Reclamation issues latest revision Long-term OCAP BA

J = Jeopardy Finding, WR = Sacramento River winter-run Chinook salmon, SR = CV spring-run Chinook salmon, Sthd = CV steelhead, all = all three of the previous species, \* = SONCC coho salmon also was included in this consultation