



*“The New Voice of Salmon”*

## LATE COMMENT



State Water Resources Control Board  
1001 I Street  
Sacramento, CA 94851

RE: Golden Gate Salmon Association Written Comments for Bay-Delta Workshop 3 – Analytical Tools for Evaluating Water Supply, Hydrodynamic and Hydropower Effects

Dear Chairman Hoppin and Members of the Board:

The Golden Gate Salmon Association (GGSA) is pleased to submit the following written testimony to the State Water Resources Control Board (State Board) for Workshop 3 – Analytical Tools for Evaluating Water Supply, Hydrodynamic and Hydropower Effects, for Phase Two of the comprehensive review and update to the Bay-Delta Plan.

GGSA was founded to bring together organizations, businesses and individuals who care about the future of salmon, not just because preservation of one of California’s most iconic species is the right thing to do, but also because it supports dozens of communities, and tens of thousands of families and jobs. Our mission is to protect and restore California’s largest salmon producing habitat. The Central Valley rivers that feed the Bay-Delta estuary ecosystem are critical to California’s salmon and the communities that rely on them as a long-term, sustainable commercial, recreational and cultural resource. We are a coalition of salmon advocates that includes commercial and recreational salmon fishermen, businesses, restaurants, Native American tribes, environmentalists, elected officials, families, and communities, all of whom depend on salmon. GGSA’s diverse membership and board includes representation from Oregon to the Central Coast, through the Bay-Delta and up a dozen rivers in the Central Valley. Salmon recovery is our passion.

This testimony, which expands upon GGSA’s submission for workshop two on Bay-Delta Fishery Resources, includes an analysis of state and federal law as well as case law, all of which clearly support a balancing outcome in favor of California’s salmon.

For far too long the restoration and protection of salmon, and the Bay-Delta estuary habitat upon which they rely, has been set aside in favor of increased water export.

The task you face in the upcoming months, to balance the water needs of competing beneficial uses, is a significant challenge. However, the law is clear.

The California Supreme Court, California Legislature, and the Ninth Circuit Court of Appeals have all spoken on issues in the Bay-Delta.<sup>1</sup> Specifically, these authorities recognize the fragility of the Delta's ecosystem and the vital importance of developing long-term stability.<sup>2</sup> In accordance with this recognition, these authorities have established laws and regulations that seek to fervently protect the Delta's wildlife resources. Moreover, these authorities are binding and guide any future actions regarding the Delta. Thus, a more exacting scrutiny is required for decisions surrounding allocation of the Delta's fragile resources.

**1. Federal laws support prioritization of the Bay-Delta in the balancing analysis, yet since the enactment of the doubling requirement salmon populations have declined.**

Federal regulations, the Endangered Species Act (ESA) and the Central Valley Improvement Project (CVPIA), both address endangered and threatened species in the Bay-Delta and both mandate heightened scrutiny.

The Delta smelt, a species listed as endangered under the ESA, has received most of the press and attention. Many throughout California believe the fight over water boils down to our food supply versus a "two inch minnow."<sup>3</sup> That is far from the truth. Chinook salmon are a magnificent, iconic fish, and their presence is an indicator of a healthy ecosystem. They are valued not only as a healthful food by commercial and recreational fishermen, but they are also the cultural centerpiece of many of California's Native American tribes. Chinook sustain economies from the central coast of California to Oregon, and business, such as restaurants, charter boats, and tackle shops, both coastal and inland depend on healthy salmon runs.

Historically, the Bay-Delta supported four distinct runs of Chinook salmon. Today, two are listed, and only one remains a viable commercial run. The spring run is listed as threatened.<sup>4</sup> The winter run, which had only 1,596 returning adults in 2010<sup>5</sup> is far from a viable fishery and remains listed as endangered.

The CVPIA, passed by Congress nearly twenty years ago on October 30, 1992, was created with the express purpose to "mandate[s] changes in management of the Central Valley Project, particularly for the protection, restoration, and enhancement

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<sup>1</sup> *California Water Code* § 85020 (a)(c), 85021, 85022, 85023, 85086(c); *California Public Resource Code*

<sup>2</sup> *California Water Code* § 80522

<sup>3</sup> Sean Hannity, *The Valley Hope Forgot*, [www.youtube.com/watch?v=xXJf59kXX2s](http://www.youtube.com/watch?v=xXJf59kXX2s), last visited October 18, 2012.

<sup>4</sup> 64 Fed. Reg. 50394.

<sup>5</sup> Natural Resources Defense Council, *Winter-Run Chinook Salmon*, <http://www.nrdc.org/greengate/wildlife/salmonf.asp>, last visited October 26, 2012.

of fish and wildlife.”<sup>6</sup> In the text of the CVPIA legislation itself, the first enumerated purpose of its passage was to “protect, restore, and enhance fish, wildlife, and associated habitats in the Central Valley and Trinity River basins of California.”

The CVPIA also included a requirement to double natural salmon populations. It stated that the government, within three years of the enactment of the CVPIA, was to implement a plan which makes all “...reasonable efforts to ensure natural production of anadromous fish in Central Valley rivers and streams will be sustainable, on a long term basis, at levels not less than twice the average levels attained during period of 1967-1991.”<sup>7</sup>

When the CVPIA was passed in 1992, the Sacramento River winter-run Chinook salmon was listed as threatened. Two years later, a doubling plan still not in place, the Fish was reclassified as endangered.<sup>8</sup> Instead of a comprehensive doubling plan as required by law, the salmon dropped further into decline enough to warrant increased protections.<sup>9</sup>

The Sacramento River fall-run Chinook has also suffered dramatically since the CVPIA. Fall run declined considerably from 798,770 adult Chinooks in 2002 to only 39,530 fish in 2009.<sup>10</sup> In 2008 and 2009, state and federal agencies took the unprecedented step of completely closing the commercial fishery for Chinook salmon, and all but entirely closed the recreational fishery.<sup>11</sup> Many factors could have contributed to the decline of the salmon. Ocean conditions such as poor krill, water pollution, invasive species, and predation, are all part of the mix. However, the most significant, and the most easily reversible, is the operation of the pumps managed by the Central Valley Project and State Water Project.<sup>12</sup>

Despite decades of declining salmon numbers, water contractors were allocated increased levels of water exports. Even in dry years, salmon suffered at the expense of water exports. Today, after importantly-timed closures at the cross-channel gates, restricted pumping, and good rain years, the salmon have returned and there is cautious optimism about the return of Chinook.

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<sup>6</sup> U.S. Dept. of Interior, Bureau of Reclamation, *Managing Water in the West*, <http://www.usbr.gov/mp/cvpia/index.html>, (last visited October 18, 2012).

<sup>7</sup> Fish, Wildlife, Improved Water Management & Conservation, Title 34, Public Law 3406(b)(1)

<sup>8</sup> Endangered Species Project Federal Register Notices, <http://www.cdpr.ca.gov/docs/endspec/frnotices.htm#C>, last visited October 18, 2012.

<sup>9</sup> *Id.*

<sup>10</sup> Dan Bacher, *Sacramento Winter and Spring Run Chinook Salmon Numbers Plummet*, North Coast, Mar. 24, 2011. available at <http://www.indybay.org/newsitems/2011/03/24/18675492.php>.

<sup>11</sup> Natural Resources Defense Council, *Fish Out of Water*, <http://www.nrdc.org/water/conservation/salmon/contents.asp>, last visited October 18, 2012.

<sup>12</sup> *Id.*

It is time to acknowledge that salmon cannot, and under the law must not, take the brunt of bad water policy. Decades ago, the CVPIA acknowledged that salmon should be prioritized. In this revision of the Delta Plan, it is the responsibility of the State Board to finally put in place a plan that will lead to the legally required doubling of salmon.

## **2. California state law also prioritizes restoration of the Bay-Delta and doubling of salmon populations.**

The California state legislature has expressly codified its intent regarding protection and restoration of the Bay-Delta. GGSA's written testimony submitted for Workshop 2 on Bay-Delta Fishery Resources goes into a detailed analysis of California's Public Trust obligations to salmon as enacted in the 2009 Delta Reform Act. In sum, state law declared that the Public Trust should be the foundation of state water policy, particularly in the Bay-Delta.<sup>13</sup>

In addition to Public Trust obligations, the Delta Reform Act also made very clear that the State, and the State Board, should generally prioritize the Bay-Delta and its salmon in any revisions to water policy.<sup>14</sup>

The Delta Reform Act describes the Bay-Delta as a "distinct and valuable resource of vital and enduring interest to all the people and exists as a delicately balanced estuary and wetland ecosystem of *hemispheric importance*."<sup>15</sup> The legislation continues, and states that the "permanent protection of the Delta's natural and scenic resources is the *paramount concern* to present and future residents of the state and the nation."<sup>16</sup>

These codifications leave little room to interpret legislative intent when it comes to the Bay-Delta. Protection and restoration is of supreme, utmost importance. Importantly, the Delta Reform Act acknowledges that restoration of a major estuary cannot be accomplished in a short period of time.

## **3. California courts give the State Board authority to restore the salmon fishery through the Public Trust Doctrine.**

### **A. The Public Trust Doctrine: an affirmative duty.**

California case law emphatically supports the protection of the Bay-Delta's fragile ecosystem and wildlife. In *National Audubon Society v. Superior Court*, the California Supreme Court placed an affirmative duty upon the Board to take the Public Trust

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<sup>13</sup> California Water Code § 85023

<sup>14</sup> *Id.*

<sup>15</sup> California Water Code § 85022(c)(1). Emphasis added.

<sup>16</sup> California Water Code § 85022(c)(2). Emphasis added.

doctrine into account in the planning and in the allocation of water resources.<sup>17</sup> The Court noted that “the Public Trust is more than an affirmation of state power to use public property for public purposes. It is an affirmation of the duty of the state to protect the people’s common heritage of streams, lakes, marshlands and tidelands, *surrendering that right of protection only in rare cases.*”<sup>18</sup>

Here, the State Board should embrace the right of protection because the Bay-Delta is a vital resource of hemispheric importance.<sup>19</sup> It is not merely one species that demands protection, but also commercial fisherman, entire fishing communities, Native American Tribes, and the people of California. Historically, these stakeholders have justifiably relied on the common heritage of the Bay-Delta’s rich resources. However, current Bay-Delta conditions seriously endanger their livelihoods. Without increased safeguards and protectionist policies, the Bay-Delta’s fragile ecosystem will irreversibly collapse.

Moreover, California case law expressly states that the State Board is guided by the principles set under *National Audubon*. In *United States v. State Water Res. Control Bd.*, the California First District Court of Appeals expounded upon the application of the Bay-Delta doctrine.<sup>20</sup> There, the Court noted that “[I]n undertaking new hearings, the Board will be guided by the principles discussed in *National Audubon* and may consider whether a higher level of protection is necessary and reasonable.”<sup>21</sup> Indeed, a higher level of protection for the Bay-Delta is both necessary and reasonable. Federal Regulations (CVPIA and ESA) and the California Legislature ratify the necessity of developing a sustainable future for the Bay-Delta. Furthermore, greater protection of the Bay-Delta’s fragile ecosystem is reasonable in light of current conditions which imperil the survival of its species and the communities which rely upon them.

### **B. Prohibition against the acquisition of water that harms the Public Trust.**

Additionally, California case law prohibits any party from acquiring a right to water that harms the Public Trust. In *El Dorado Irr. Dist. v. State Water Res. Control Bd.*, the Court noted that, “Indeed, this duty prevents any party from acquiring a vested right to appropriate water in a manner harmful to the Public Trust.”<sup>22</sup> Sadly, countless parties have done exactly that – acquired water in a manner harmful to the public interest. Water levels in the Delta are dangerously low and remain at 30% of their natural level. Water diverted to Southern California unjustifiably harms the Public

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<sup>17</sup> *National Audubon Society v. Superior Court*, 33 Cal.3d 419, at 446 (1983).

<sup>18</sup> *National Audubon Society v. Superior Court*, 33 Cal.3d 419, at 441 (1983). Emphasis added.

<sup>19</sup> California Water Code § 85022(c)(1). Emphasis added

<sup>20</sup> *United States v. State Water Res. Control Bd.*, 182 Cal.App.3d 82 (1986).

<sup>21</sup> *Id.* at 151.

<sup>22</sup> *El Dorado Irr. Dist. V. State Water Resources Control Bd.*, 48 Cal.Rptr.3d 468, at 490

Trust because it depletes the water necessary for a sustainable and healthy ecosystem.

**C. The Board has the power to make change.**

However, the State Board is not without recourse to remedy the Bay-Delta's deteriorating ecosystem. California case law grants the State Board with the ability to reopen permits to protect fish and wildlife whenever feasible. The capacity to reopen permits was pronounced in *United States v. State Water Res. Control Bd*<sup>23</sup>. There, the court noted that, "[F]or the guidance of the Board, we emphasize that the principles set under *National Audubon* confirm the Board's power and duty to reopen the permits to protect fish and wildlife 'whenever feasible' even without reservation of jurisdiction."<sup>24</sup> Thus, the State Board is provided with a vehicle for change. It can reopen permits and increase water flow in the Bay-Delta. To some, an increase in water flow is considered a simple solution, yet it is one that simply works.

Furthermore, the State is not confined to past allocation decisions.<sup>25</sup> The California Supreme Court imposes a duty of continuing supervision. In *National Audubon*, the Court explained, "Once the state has approved an appropriation, the Public Trust imposes a duty of continuing supervision over the taking and use of the appropriated water. In exercising its sovereign power to allocate water resources in the public interest, the *state is not confined by past allocation decisions* which may be incorrect in light of current knowledge or inconsistent with current needs."<sup>26</sup> Here, the Bay-Delta's current needs certainly warrant an increase in water flow. In fact, the needs are so considerable that Federal Regulations and the California legislature have codified the necessity of restoring the Bay-Delta.

In addition, the modification of previously vested water rights to protect fish would *not* place the State Board in uncharted waters. In *Cal Trout, Inc. v. State Water Res. Bd.*, the State Board modified a previously vested water right and protected fish through application of the Public Trust doctrine.<sup>27</sup> The Court in *Cal Trout* held that failure to attach necessary conditions to previously issued permits was a "continuing violation" of the State Board's statutory obligations.<sup>28</sup> Further, the Court held that no statute of limitations could prevent the State Board from remediation of previously vested water rights.<sup>29</sup> Thus, the current State Board has the power to revisit past allocations and revise according to current needs. Reallocation has occurred in the past and must occur again in order restore the Delta.

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<sup>23</sup> *United States v. State Water Res. Control Bd.*, 182 Cal.App.3d 82 (1986).

<sup>24</sup> *Id.* at 152.

<sup>25</sup> *National Audubon Society v. Superior Court*, 33 Cal.3d 419, at 490 (1983).

<sup>26</sup> *Id.*

<sup>27</sup> *Trout, Inc. v. State Water Res. Bd.*, 255 Cal. Rptr. 184 (1989).

<sup>28</sup> *Id.*

<sup>29</sup> *Id.*

#### **4. A balancing of beneficial uses supports restoration of flows to more natural levels.**

Notwithstanding federal regulations, legislative intent, and case law, a balance of competing interest still favors a substantial increase in water flow to protect Bay-Delta wildlife. Currently, water levels in the Delta are at 30% of their natural levels. This water level precipitously fails to provide sustainable habitat for wildlife in the Bay-Delta, and seriously imperils the survival of these species. Moreover, reserving water solely for irrigation and domestic purposes is contrary to public policy because it fails to satisfy the greatest number of beneficial uses. It also ignores the co-equal goals codified in the Delta Reform act, which seeks to achieve both “providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem.”<sup>30</sup>

In *National Audubon Society v. Superior Court*, the California Supreme Court held that the state has “an affirmative duty to take the Public Trust into account in the planning and in the allocation of water resources and to protect Public Trust uses whenever feasible.”<sup>31</sup> This means that Public Trust principles – that resources belong to the public – must be considered in decision-making.

The holding in *National Audubon* spawned a number of cases that used the Public Trust doctrine to give weight to protection of the environment in the required balance analysis. As with the water rights that were involved in *National Audubon Society*, the environmental values protected by the Public Trust doctrine “deserve to be taken into account. Such [human and environmental] uses should not be destroyed because the state mistakenly thought itself powerless to protect them.”<sup>32</sup> The state, in the balancing analysis the State Board must go through in the revision of the Delta Plan, is not powerless. Rather, it has the authority as well as the obligation under the law to give weight to the needs of the estuary and the species it supports over the status quo deference to increased water exports. “[T]he Public Trust permits—indeed requires—the balancing of competing uses.”<sup>33</sup>

Moreover, the public interest requires that there be the greatest number of beneficial uses, which the supply can yield, and water may be appropriated for beneficial uses subject to the right of those who have a lawful priority.<sup>34</sup>

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<sup>30</sup> California Public Resource Code § 29702

<sup>31</sup> *National Audubon Society v. Superior Court*, 33 Cal.3d 419, at 446.

<sup>32</sup> *Center for Biological Diversity, Inc. v. FPL Group Inc.*, 83 Cal.Rptr.3d 588, at p. 604.

<sup>33</sup> JS Stevens, *The Public Trust: A Sovereign's Ancient Prerogative Becomes the People's Environmental Right* (1980) 14 U.C. Davis L.Rev. 195, 224.

<sup>34</sup> *City of Pasadena v. City of Alhambra* (1949) 33 Cal.2d 908, 207 P.2d 17, certiorari denied 70 S.Ct. 671, 339 U.S. 937, 94 L.Ed. 1354.

A decision by the State Board to increase water flows to more natural levels, that reflect a more natural hydrograph, is indeed an appropriate beneficial use and reasonable use of water. Using unappropriated water, or limiting water appropriations to keep more water in-stream for fish and wildlife preservation and enhancement use, or to maintain or provide habitat or other benefit for fish and wildlife is included in the California Code of Regulations.<sup>35</sup> This section enables the collection and storage of water for storage so that when needed for fish and wildlife preservation or enhancement, water can be released downstream. This is not considered a waste of water or an unreasonable use of water.

Recreational use of water is also considered a beneficial use. This includes use of water for boating, swimming, and fishing.<sup>36</sup> Under the regulations, water retained and stored specifically for this purpose is a beneficial use to the public interest. The same pertains to water quality.<sup>37</sup> Ultimately, fishing, recreation, water quality, scenic importance, and cultural value are all components that should be weighed and balanced.

Water for irrigation and domestic use, while vital to California's people and economy, is not the only or even most important beneficial use.<sup>38</sup> Further, thought the State Board has historically favored water exports for irrigation and domestic use over retaining water for salmon and the estuary itself, that does not need to be how the we proceed into the future. "In administering the trust, the state is not burdened with an outmoded classification favoring one mode of utilization over another."<sup>39</sup> In *Marks v. Whitney*, a Public Trust case regarding tidelands, the court held, "[t]here is a growing public recognition that one of the most important public uses of the tidelands...is the preservation of those lands in their natural state..."<sup>40</sup>

The same concept applies here. California, in its legislation, in case law decided by the Supreme Court, and in federal law, both the CVPIA and ESA, have all explicitly held that the Bay-Delta is a critical resource and its species deserving of increased protection. Here, the future of an iconic and valuable species rests in the outcome of the State Board's balance analysis.

Fishing is California's oldest industry, and in 2004-2005 Chinook salmon represent 12% of total value of all California fisheries landing.<sup>41</sup> The Central Valley Chinook

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<sup>35</sup> California Code of Regulations § 666. Fish and Wildlife Preservation and Enhancement Use.

<sup>36</sup> California Code of Regulations § 668. Recreational Use.

<sup>37</sup> California Code of Regulations § 670. Water Quality Use.

<sup>38</sup> *Los Angeles County Flood Control Dist. v. Abbot* (App. 2 Dist. 1938) 24 Cal.App.2d 728, 76 P.2d 188.

<sup>39</sup> *Marks v. Whitney*, 491 P.2d 374, 380 (Cal. 1971).

<sup>40</sup> *Id.*

<sup>41</sup> Southwick Associates, Fish and Wildlife Economics and Statistics, letter to Richard Pool, August 9, 2012. All data used by Southwick were obtained directly from the NMFS annual report *Fisheries Economics of the United States, 2006*.



accounts for 90% of California's salmon, and nearly 50% of Oregon's.<sup>42</sup> Entire communities rely on salmon season. In 2004-2005 salmon landings were approximately 6 million pounds, were relatively steady but well under historic levels from previous decades.<sup>43</sup> In 2006, preceding the first fishing season closure in history, production was nearing historical lows. Even so, the commercial and recreational salmon sales impact was \$1.4 billion, and provided 23,000 jobs.<sup>44</sup>

If salmon can be restored and the fishery reestablished to historical levels, annual commercial harvests could realistically reach 25 million pounds.<sup>45</sup> At such levels, the total salmon-related sales that would occur in the California economy could reach \$4.83 billion, create 88,672 jobs that would generate \$2.51 billion in salaries, wages, benefits, and earnings<sup>46</sup> for the thousands of families and communities dependent on salmon.

The recreational fishing industry has also been seriously affected by the decline of salmon. In 2004-2005, an estimated 15% of California's recreational marine boat fishing trips targeted salmon.<sup>47</sup> The estimated sales impact was \$204.8 million and employed 1,345 people with an estimated \$107.2 million in generated income, salaries, etc.<sup>48</sup>

If the fishery is restored to commercial and recreational historical levels, meaning production is over four times what it was from 2004-2006, the sales impact is \$5.7 billion, and 94,000 jobs exist because of salmon.<sup>49</sup> The numbers are astounding. The loss of water and the decline of salmon cost California and its communities 71,000 jobs and \$4.3 billion dollars. A healthy, well-managed fishery would enable additional recreational fishing. Presumably, if the commercial salmon fishery can be restored, a recreational fishery would also enjoy an increase in over four times the productivity, and economic impacts could reach \$845.8 million in total sales impacts, increase to 5,555 jobs, and \$442.7 million in salaries, wages, and other benefits.<sup>50</sup>

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<sup>42</sup> Natural Resources Defense Council, *Fish Out of Water*, <http://www.nrdc.org/water/conservation/salmon/contents.asp>, last visited October 18, 2012.

<sup>42</sup> *Id.*

<sup>43</sup> *Id.*

<sup>44</sup> *Id.*

<sup>45</sup> *Id.*

<sup>46</sup> *Id.*

<sup>47</sup> *Id.*

<sup>48</sup> *Id.*

<sup>49</sup> *Id.*

<sup>50</sup> *Id.*

If historical harvests are restored, the economic benefits could increase significantly. Combined, restored commercial and recreational salmon fishing could generate \$5.676 billion and 94,227 jobs.<sup>51</sup>

It is time, not only to restore salmon to its rightful place of importance to our state, but also to follow the law. Despite a twenty year-old federal law requiring doubling of salmon, there is still no effective salmon doubling policy in place. Since that law, one species of Chinook was listed as endangered, and the other suffered so greatly that fishing was closed for the first time in history. This is an unsustainable path for the Chinook and for the Bay-Delta estuary.

GGSA appreciates the opportunity to comment and participate in the Delta Plan revision. We look forward to working with the State Board, staff, and other stakeholders to come up with a plan that works for all parties reliant on Bay-Delta water. We see this process as a great opportunity to reverse the declines and make some real progress on salmon restoration.

Our GGSA Board members are eager to answer any questions you may have about this testimony.

Thank you,

Victor Gonella, President  
Victory Dealer Group

Roger Thomas, Board Chairman  
Golden Gate Fishermen's Association Charter

Zeke Grader, Vice President  
Pacific Coast Federation of Fishermen's Associations

Dick Pool, Secretary Treasurer  
Water4Fish

Kalla Hirschbein, Counsel  
Golden Gate Salmon Association

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<sup>51</sup> *Id.*

Board Directors:

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Jim Caito, Caito Fisheries

Ron Davis, Davis Appraisal

Joe Donatini, Johnson Hicks Marine

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Barry Nelson, Natural Resources Defense Council

Galen Onizuka, Johnson Hicks Marine

Rick Powers, The New Sea Angler

Caleen Sisk, Chief, Winnemem Wintu Tribe

David Zeff – Owner, Zefflaw Attorneys

August 9, 2012

Mr. Richard Pool  
Golden Gate Salmon Association  
1370 Auto Center Drive  
Petaluma, CA 94952

Dear Mr. Pool:

We looked into updating our previous economic impact estimates associated with recreational salmon fishing in California. Please accept this letter as a presentation of the best estimates available along with a description of the methodology and data sources used.

As described below, our data sources were the U.S. Department of Commerce's National Marine Fisheries Service and the California Department of Fish and Game. We sought to update our 2006 estimates to 2010/2011, but the data necessary to estimate the economic impacts of salmon harvests were not available for these years. Therefore, we will stick with the 2006 estimates which are summarized as:

	Sales Impact <sup>1</sup> -----	Jobs Impact -----
Total 2004-2006 Commercial and Recreational Activity	\$1.4 billion	23,000
Estimate of the Future Returns if Salmon were Restored to their Full Potential	\$5.7 billion	94,000

*Commercial Fisheries:*

To estimate the potential impacts from a restored commercial salmon fishery, average landings for 2004 and 2005 were used as they represent rather steady harvests. Harvests began to decrease rapidly in 2006 down to practically nothing in 2008 and 2009. In 2004 and 2005, salmon on average represented 12% of the total value of California's commercial fisheries landings. Assuming the mark-ups and value added from salmon processing, distribution and retail were the same as for all other commercial fisheries in California as reported by NOAA, then the economic impacts for commercial salmon harvests at 'normal' 2004 and 2005 levels would have been:

<sup>1</sup> Sales impacts = Sales by California businesses.

Sales impacts (total sales that occur in the CA economy): \$1.17 billion  
Income impacts (salaries/wages/benefits, sole proprietor earnings): \$608 million  
Employment (full and part time): 21,480

All data for these commercial salmon impacts were not produced by Southwick Associates but instead were obtained directly from the National Marine Fisheries Service's (NMFS) annual report *Fisheries Economics of the United States, 2006* (Economic and Sociocultural Analysis Division, National Marine Fisheries Service, NOAA, Silver Spring, MD. 2007). The 2006 impacts provided in my estimates were not changed in any way as reported by NMFS. This source provided information on the number of fish harvested, the dollars per pound received by fishermen, and the economic impacts of these dollars, including the multiplier effects. These data were produced by NOAA Fisheries economists and statisticians. The commercial impact calculations were produced in a straightforward fashion. We assumed the impacts per fish would be the same as in 2006, and simply matched the impacts per pound with the total pounds harvested in 2004-05.

Looking back, salmon landings in 2004 and 2005 (6.06 million lbs) were well under historic landings from previous decades. If salmon can be re-established to historic levels, annual commercial harvests could realistically reach 25 million pounds. At such levels, assuming no change in the economic impacts per pound of fish landed from current levels, economic impacts from commercial salmon landings could reach:

Sales impacts (total sales that occur in the CA economy): \$4.83 billion  
Income impacts (salaries/wages/benefits, sole proprietor earnings): \$2.51 billion  
Employment (full and part time): 88,672

#### *Recreational Fisheries:*

Recreational impacts were produced using several sources. The number of salmon fishing trips in California in 2006 was measured by the California Department of Fish and Game via its *California Recreational Fisheries Survey* (CRFS). This same data source reported the total number of recreational fishing trips for salmon and all other species combined. With these data, we estimated the percentage of all California marine recreational fishing attributable to salmon.

The economic impacts generated by each marine sportfishing trip in California were also obtained directly from the National Marine Fisheries Service's (NMFS) *Fisheries Economics of the United States, 2006*. Just like the

commercial fisheries data, the impact information including multipliers obtained from NMFS were not changed in any way. We matched the two data sources to estimate impacts attributable to recreational salmon fishing.

Economic impacts were not available specifically for salmon fishing. Instead, they were only available by fishing method such as fishing from a boat or from shore. Considering most salmon fishing is done from boats, we first determined the impacts generated by California marine anglers using boats. Next, an adjustment was made to account only for boat trips targeting salmon. According to CRFS, in 2004 and 2005, 14.82% of California's marine boat fishing trips targeted salmon. Assuming the economic impacts per trip are consistent regardless of species targeted, the economic impacts associated with salmon trips would have been expected to average approximately:

Total sales impacts (total sales that occur in the CA economy): \$204.8 million

Value-added impacts (salaries/wages/benefits, proprietors & property income, dividends, excise & sales taxes ): \$107.2 million

Employment (full and part time): 1,345

Just like the commercial fisheries analysis presented earlier, the recreational analysis is based on 2004-2005 data. A healthy, well-managed fishery would reasonably be expected to allow for additional recreational fishing trips. If recreational fisheries could also increase by the same amount as commercial landings as described above (4.13 times greater than 2004-05 levels), and assuming the impacts for the additional trips remain consistent, the economic impacts could reach up to:

Total sales impacts (total sales that occur in the CA economy): \$845.8 million

Value-added impacts (salaries/wages/benefits, proprietors & property income, dividends, excise & sales taxes ): \$442.7 million

Employment (full and part time): 5,555

*Combined Commercial and Recreational Impacts:*

By adding the result for the commercial and recreational analyses above, California had nearly 23,000 jobs related to salmon, and nearly \$1.4 billion in economic activity:

	<u>Sales Impacts</u>	<u>Jobs:</u>
Commercial	\$ 1.170 billion	21,480
Recreational	\$ 205 million	1,345
	-----	-----
Total	\$1.375 billion	22,825

If historical salmon harvests could be reached again, the impacts would increase significantly:

	<u>Sales Impacts</u>	<u>Jobs:</u>
Commercial	\$ 4.830 billion	88,672
Recreational	\$ 846 million	5,555
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Total	\$5.676 billion	94,227

We expect the former 2004-05 levels to be more realistic, but the latter results may hopefully encourage California to strive for greater habitat restoration goals.

If you have any questions, please do not hesitate to let me know. Thank you.

Sincerely,



Rob Southwick ,  
President