

August 9, 2012

Mr. Richard Pool  
Golden Gate Salmon Association  
[REDACTED]

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
	-----	-----
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