

Economic Impact Assessment
Amend Subsection (b)(91.1) of Section 7.50, Title 14, CCR

The regulatory amendments of subsections of Section 7.50 under consideration will set the 2014 Klamath River Basin salmon sport fishing regulations to conform to Pacific Fishery Management Council (PFMC) Fall Chinook allocation guidelines. The Klamath River Basin is anticipated to be open for sport salmon fishing at levels similar to the 2013 quotas; however the possibility of marine fishery area closures still exists. Ocean closures may in turn result in PFMC recommendations for Klamath River Basin sport salmon fishery closures for the take of adult salmon. Adverse or positive impacts to jobs and businesses will depend on the exact regulations ultimately adopted by PFMC and the Fish and Game Commission (Commission).

The Commission is considering proposed changes to Klamath River Fall Chinook (KRFC) quota management and the management of the Klamath River Basin spit area which is the area within 100 yards of the channel through the sand spit formed at the Klamath River mouth:

1) KRFC QUOTA MANAGEMENT

The proposed regulations range from 100% of last year's Klamath River Basin salmon season to 0% or no salmon fishing on adult Chinook salmon (greater than 22 inches) in 2014. Under all scenarios sport fishing will be allowed for grilse fall-run Chinook salmon (2 year-old salmon 22 inches or less) regardless of PFMC regulations, thus any adverse impacts to businesses would be less severe than under a complete closure of fishing.

The projections evaluated here are as follows: 100% of the 2013 Klamath River Basin catch limit; 50% of the 2013 basin catch limit; and 0% of the 2013 basin catch limit.

A. Effects of the Regulation on the Creation or Elimination of Jobs

Projection 1. 100% catch limit: The Commission does not anticipate any adverse impacts on the creation or elimination of jobs, as the quotas would not decrease effort nor curtail the number of visitors and thus probable visitor expenditures in the fisheries areas.

Based on a 2011 NOAA National Marine Fisheries Service (NMFS) report on In-River Sport Fishing Economics of the Klamath River, under a normal season *non-resident* Klamath River sport salmon anglers contribute about \$2,037,424 (2013\$) in total economic output to California businesses. This revenue supports about 35 jobs in the state.

An assumption of the NMFS report is that increases in expenditures by *resident* anglers associated with expanded fishing opportunities would be accommodated by reduced expenditures on other locally purchased goods and services – with no net change in local economic activity. For non-resident anglers, however, increases in local

expenditures associated with increases in local fishing opportunities would be accomplished by diverting money that they would otherwise spend outside the local area. Thus the economic impact analysis focuses on non-resident angler expenditures, which represent 'new money' whose injection serves to stimulate the local economy.

The NMFS study excluded the Trinity River, the largest tributary to the Klamath. The Trinity River is allocated 33% of the Klamath Basin fall-run Chinook salmon total allocation. Using the Trinity allocation as a measure of angler effort, and thus impacts on associated businesses that support anglers, the total non-resident angler contribution to the entire Klamath Basin (including the Trinity River) is estimated to be \$2,709,774 (2013\$) in total economic output. This revenue, again using a 33% increase to account for the Trinity River, provides an estimated total of 47 jobs in the state (assuming that personnel costs also rise with inflation). This is a conservative estimate of total economic impact as it counts only *non-resident* angler expenditures. Non-resident average expenditures are estimated to be \$106.43 (2013\$) per angler day (for lodging, food, gasoline, fishing gear, boat fuel, and guide fees) based on a NMFS sponsored survey. Resident average expenditures per angler day are estimated to be 60% less (markedly reduced lodging, gasoline and food expenditures) which yields an estimate of \$42.60 per angler day. Resident anglers comprise about 36% of Klamath Basin anglers.

Projection 2. 50% catch limit: The Commission anticipates some impact on the creation or elimination of jobs. A 50% catch reduction will likely reduce visitor spending by slightly less than 50%, given price elasticities of demand for salmon fishing activity of less than one. As the "price" of fishing per unit catch increases the demand for fishing trips declines by a lesser extent, particularly in the short-run. While difficult to predict, job losses associated with a 50% reduction in the catch limit are expected to be less than half of the estimated total jobs supported by angler visits (i.e. fewer than 23 jobs).

Projection 3. 0% catch limit: In the event of fisheries closures in some or all Klamath River basin areas, the Commission anticipates less than 50% reduction in fishery-related jobs. As mentioned earlier, sport fishing for grilse fall-run Chinook salmon (2-year-old salmon less than 22 inches) will still be allowed, thus lessening any job losses. A closure on the take of adult Chinook salmon was instituted in 2006 and only grilse salmon could be legally harvested that year. The effect of the 2006 closure, as measured by angler days on the Klamath River, resulted in an approximate 50% drop in angler days, compared to the 2000- 2005 average (12,000 angler days vs. 23,300 angler days). Job creation or elimination is assumed to lag in adjustment to changes in consumer demand as is characteristic of the labor market. Thus, the potential impacts of a closure on the take of adult Chinook are estimated to result in the loss of fewer than 23 jobs.

B. Effects of the Regulation on the Creation of New Businesses or the Elimination of Existing Businesses

Projection 1: 100% catch limit: The Commission does not anticipate any impacts on the creation of new business or the elimination of existing businesses, as the quotas would not decrease effort nor curtail the number of visitors and thus probable visitor expenditures in the fisheries areas.

Projection 2. 50% catch limit: The Commission anticipates a decline in visits to the fishery areas of less than 50%. This may result in some decline in business activity and no business creation for businesses directly related to fishing activities. However, with less effort being expended on fishing, the possibility of substitute activities and the growth of businesses to serve those activities exists.

Projection 3. 0% catch limit: In the event of fisheries closures in some or all Klamath River basin areas, the Commission anticipates a decline in regional spending and thus reduced revenues to the approximately 30 businesses that serve sport fishing activities. However adverse impacts will be mitigated by the continued opportunity to harvest grilse salmon. Additionally, the long-term intent of the proposed action is to increase sustainability in fishable salmon stocks and, subsequently, the long-term viability of these same small businesses.

C. Effects of the Regulation on the Expansion of Businesses in California

Projection 1. 100% catch limit: The Commission does not anticipate any impacts on the expansion of businesses in California as the quotas would not increase effort nor increase the number of visitors and thus probable visitor expenditures in the fisheries areas.

Projection 2. 50% catch limit: The Commission does not anticipate any impacts on the expansion of businesses in California. Decreases in expenditures by *resident* anglers associated with reduced fishing opportunities may be offset by increased expenditures on other locally purchased goods and services – with no net change in local economic activity. For non-resident anglers, however, decreases in local expenditures associated with decreases in local fishing opportunities may result in increases in other expenditures outside the Klamath River basin area.

Projection 3. 0% catch limit: In the event of fisheries closures in some or all Klamath River basin areas, the Commission does not anticipate any expansion of businesses in California. Decreases in expenditures by anglers associated with reduced fishing opportunities may be partially offset by increased expenditures on other locally purchased goods and services as visitors substitute salmon fishing with other recreational pursuits.

D. Benefits of the Regulation

Concurrence with Federal Law:

California's sport fishing regulations need to conform to the new Federal regulations to achieve optimum yield in California. The PFMC annually reviews the status of west coast salmon populations. As part of that process, it recommends west coast adult salmon fisheries regulations aimed at meeting biological and fishery allocation goals specified in law or established in the Salmon Fishery Management Plan. These recommendations coordinate west coast management of sport and commercial ocean salmon fisheries off the coasts of Washington, Oregon, and California and California inland sport salmon fisheries. These recommendations are subsequently implemented

as ocean fishing regulations by the NMFS and as sport salmon regulations for state marine and inland waters by the Commission.

Promotion of businesses that rely on Klamath River basin sport salmon fishing.

Adoption of scientifically-based inland and ocean salmon seasons, size limits, and bag and possession limits provides for the maintenance of sufficient populations of salmon to ensure their continued existence and future salmon sport fishing opportunities, and subsequently the long-term viability of businesses that rely on Klamath River Basin sport fishing. Under a normal season, Klamath River Basin (including the Trinity River) sport salmon anglers contribute about \$2,709,774 (2013\$) in total economic output to the State's business sector. This is based on a 2011 NOAA National Marine Fisheries Service (NMFS) report on In-River Sport Fishing Economics of the Klamath River Basin. This revenue provides for about 47 jobs in the state.

Benefits to the environment: sustainable management of Klamath River basin salmon resources

Projection 1. 100% catch limit: The Commission anticipates benefits to the environment. It is the policy of this state to encourage the conservation, maintenance, and utilization of the living resources of the ocean and inland waters under the jurisdiction and influence of the state for the benefit of all the citizens of the state. In addition, it is the policy of this state to promote the development of local California fisheries in harmony with federal law respecting fishing and the conservation of the living resources of the ocean and inland waters under the jurisdiction and influence of the state. The objectives of this policy include, but are not limited to, the maintenance of sufficient populations of all species of aquatic organisms to ensure their continued existence and the maintenance of a sufficient resource to support a reasonable sport use. Adoption of scientifically-based Klamath River Basin salmon seasons, size limits, and bag and possession limits provides for the maintenance of sufficient populations of salmon to ensure their continued existence.

Projection 2. The Commission anticipates benefits to the environment similar to as stated in Projection 1.

Projection 3. The Commission anticipates benefits to the environment similar to as stated in Projection 1.

Benefits to the health and welfare of California residents

Projection 1. The Commission anticipates benefits to the health and welfare of California residents through the protection of aquatic and riparian habitats and the fish and wildlife resources that depend upon them. Providing opportunities for a Klamath River Basin sport salmon fishery encourages consumption of a nutritious food. Salmon sport fishing also contributes to increased mental health of its practitioners as fishing is a hobby and form of relaxation for many. Salmon sport fishing also provides opportunities for multi-generational family activities and promotes respect for California's environment by the future stewards of California's natural resources.

Projection 2. The Commission anticipates benefits to the health and welfare of California residents similar to as stated in Projection 1.

Projection 3. The Commission anticipates benefits to the health and welfare of California residents similar to as stated in Projection 1.

Benefits to worker safety

Projection 1. The Commission does not anticipate benefits to worker safety because the proposed regulations will not impact worker conditions.

Projection 2. The Commission does not anticipate benefits to worker safety as stated in Projection 1.

Projection 3. The Commission does not anticipate benefits to worker safety as stated in Projection 1.

2) SPIT AREA MANAGEMENT

In 2013, the Klamath River breached the sand spit at the south end of the river estuary, resulting in a long channel with large concentrations of shore anglers and numerous reports of fish being taken by snagging and other unethical behavior. As a result, the Commission is considering the following three options for the spit fishery management.

The following assessments of the three options were developed using the preliminary 2013 catch estimates for shore anglers who will be directly impacted by these options. Any restriction on fishing in the spit area is anticipated to result in an angler effort shift to boat anglers and other Klamath River Basin areas. This effort shift is anticipated to partially mitigate the loss of activity in the spit area. However, any potential offsetting increases in other areas are not included in this assessment due to the lack of adequate data.

From 1999 to 2013, shore angler trips in the Lower Klamath River Basin, primarily in the spit area, have averaged about 3,069 trips. The highest number of trips occurred in 2013 with 15,195 trips; and the lowest number was 173 trips in 1999. For the following assessments, the year 2013 was used for the high volume year and the year 2000 was used for a low volume year as the year 1999 had no shore angler harvest recorded.

Shore-based angler expenditures in the Lower Klamath River Basin provide \$1.4 million in a high volume year; in a low volume year \$47,000; or an average of \$288,000 from 1999 to 2013. This local spending ripples through the economy contributing 1.2 times to total economic output and supporting about 29 jobs in a high year; 1 job in a low year; or 6 jobs on average.

Option 1: Spit Closure after 15% of the total Klamath River Basin quota is taken.

This option allows for the angler harvest outside of the spit area in the Lower Klamath River area. If this option had been in place for 2013, 6,000 adult KRFC salmon would have been taken by shore anglers in the spit area. The spit area would have closed the week of September 2 for a 46 percent reduction in the shore angler harvest within the spit area in the Lower Klamath River area.

Applying a 46 percent reduction rate to shore-based angler trips, the total economic output in the Lower Klamath River Basin could be reduced in a high volume year by as much as \$800,000; a low volume year by \$26,000; or by the average amount of expenditures of \$160,000.

Option 2: Spit Closure after 15% of the Lower Klamath River subquota is taken.

This option allows for the angler harvest outside of the spit area in the Lower Klamath River area. If this option had been in place for 2013, 3,000 adult KRFC salmon would have been taken by shore anglers in the spit area. The spit area would have closed the week of September 2 for a 73 percent reduction in the shore angler harvest within the spit area in the Lower Klamath River area.

Applying a 73 percent reduction rate to shore angler trips, the total economic output in the Lower Klamath River area could be reduced in a high volume year by as much as \$1.2 million; a low volume year by \$42,000; or by the average amount of expenditures of \$254,000.

Option 3: The spit area will be closed to all fishing year round.

This option allows for the angler harvest outside of the spit area in the Lower Klamath River area, but eliminates all shore angler fishing opportunities within the spit area for salmonids and other fish species.

If this option had been in place for 2013, the spit area would have remained closed and shore angler harvest would be reduced by 97 percent or a projected lost harvest of 11,000 adult KRFC and 400 grilse KRFC salmon. Boat anglers would still harvested 300 adult KRFC salmon and 50 grilse KRFC salmon in the Lower Klamath River area outside of the spit area.

Applying a 97 percent reduction rate to shore angler trips, the total economic output in the Lower Klamath River area could be reduced in a high volume year by as much as \$1.6 million; a low volume by year by \$55,000; or by the average amount of expenditures of \$337,000.

A. Effects of the Regulation on the Creation or Elimination of Jobs

Option 1: The Commission anticipates adverse impacts on the creation or elimination of jobs. This option may result in the elimination of up 13 jobs in a high year; less than 1 job in a low year; or 3 jobs on average.

Option 2: The Commission anticipates adverse impacts on the creation or elimination of jobs. This option may result in the elimination of up 21 jobs in a high year; 1 job in a low year; or 4 jobs on average.

Option 3: The Commission anticipates adverse impacts on the creation or elimination of jobs. This option may result in the elimination of up 28 jobs in a high year; less than 1 job in a low year; or 6 jobs on average.

B. Effects of the Regulation on the Creation of New Businesses or the Elimination of Existing Businesses

An estimated 30 Klamath area small businesses could be affected with impacts shared as follows: 35% campgrounds; 23% lodging; 23% restaurants; 13% retail markets; and 6% gas stations.

Option 1: The Commission anticipates adverse impacts on the creation of new business or the elimination of existing businesses. Option 1 is estimated to reduce total economic output by as much as \$788,000 in a high year; by \$26,000 in a low year; and by \$160,000 on average. Creation of new businesses in reaction to this option is unlikely, unless alternative visitor activities emerge. All area businesses are classified as small businesses and seasonal fluctuations in revenue may induce contraction and some layoffs, but are not expected to eliminate existing businesses.

Option 2: The Commission anticipates adverse impacts on the creation of new business or the elimination of existing businesses. Option 2 is estimated to reduce total economic output by as much as \$1.3 million in a high year; by \$42,000 in a low year; and by \$254,000 on average. Creation of new businesses in reaction to this option is unlikely, unless alternative visitor activities emerge. All area businesses are classified as small businesses and seasonal fluctuations in revenue may induce contraction and some layoffs, but are not expected to eliminate existing businesses.

Option 3: The Commission anticipates adverse impacts on the creation of new business or the elimination of existing businesses. Option 3 is estimated to reduce total economic output by as much as \$1.7 million in a high year; by \$55,000 in a low year; and by \$337,000 on average. Creation of new businesses in reaction to this option is unlikely, unless alternative visitor activities emerge. All area businesses are classified as small businesses and seasonal fluctuations in revenue may induce contraction and some layoffs, but are not expected to eliminate existing businesses.

C. Effects of the Regulation on the Expansion of Businesses in California

Option 1. The Commission anticipates little impetus for the expansion of businesses in California to be induced by option 1. Only if alternative visitor activities emerge in reaction to restrictions on spit area fishing could new businesses be induced to expand.

Option 2. The Commission anticipates little impetus for the expansion of businesses in California as stated in Option 1.

Option 3. The Commission anticipates little impetus for the expansion of businesses in California as stated in Option 1.

D. Benefits of the Regulation

Benefits to the environment: sustainable management of Klamath River basin salmon resources

Option 1. The Commission anticipates benefits to the environment as it increases

protection of salmon migrating out of the open ocean through the spit area into the Klamath River estuary.

Option 2. The Commission anticipates benefits to the environment as stated in Option 1.

Option 3.

The Commission anticipates benefits to the environment as stated in Option 1.

Benefits to the health and welfare of California residents

Option 1. The Commission anticipates benefits to the health and welfare of California residents through the protection of aquatic and riparian habitats and the fish and wildlife resources that depend upon them. Providing opportunities for a Klamath River Basin sport salmon fishery encourages consumption of a nutritious food. Salmon sport fishing also contributes to increased mental health of its practitioners as fishing is a hobby and form of relaxation for many. Salmon sport fishing also provides opportunities for multi-generational family activities and promotes respect for California's environment by the future stewards of California's natural resources.

Option 2. The Commission anticipates benefits to the health and welfare of California residents as stated in Option 1.

Option 3. The Commission anticipates benefits to the health and welfare of California residents as stated in Option 1.

Benefits to worker safety

Option 1. The Commission does not anticipate benefits to worker safety because the proposed regulations will not impact worker conditions.

Option 2. The Commission does not anticipate benefits to worker safety as stated in Option 1.

Option 3. The Commission does not anticipate benefits to worker safety as stated in Option 1.

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Shore Fishing Economic Impacts for Average Year, 2013 High, and 2000 Low

	Average	2013 High	2000 Low
Trips	3,069	15,195	505
Spending	\$ 288,000	\$ 1,424,000	\$ 47,000
Jobs	5.88	29.12	0.97
Total Output	\$ 348,000	\$ 1,722,000	\$ 57,000

Table 1

Lower Klamath Season		Option 1	Impact	Option 2	Impact	Option 3	Impact
AVERAGE 1999-2013	Spending	\$155,000	-\$132,000	\$78,000	-\$210,000	\$9,000	-\$279,000
	Jobs	3.18	-2.71	1.59	-4.29	0.18	-5.71
	Total Output	\$188,000	-\$160,000	\$94,000	-\$254,000	\$10,000	-\$337,000
HIGH 2013	Spending	\$772,000	-\$652,000	\$386,000	-\$1,038,000	\$40,000	-\$1,384,000
	Jobs	15.79	-13.33	7.90	-21.23	0.81	-28.31
	Total Output	\$934,000	-\$788,000	\$467,000	-\$1,255,000	\$48,000	-\$1,674,000
LOW 2000	Spending	\$26,000	-\$22,000	\$13,000	-\$35,000	\$1,000	-\$46,000
	Jobs	0.52	-0.44	0.26	-0.71	0.03	-0.94
	Total Output	\$31,000	-\$26,000	\$15,000	-\$42,000	\$2,000	-\$55,000

Table 2