Allied Fishing Groups
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Black Bass Action Committee - Bass Classics of Santa Clara - California Fly Fishers Unlimited
California Sportfishing Protection Alliance - California Striped Bass Association – Chico Flyfishers-Crockett Striped Bass Club-Delta Bass Tactics – Delta Fly Fishers - Diablo Valley Fly Fishermen - E.C.Powell Fly Fishers - Fishery Foundation of California - Fly Fishers For Conservation - Fly Casters of San Jose - Fly Fishers of Davis - Friends of Butte Creek Gold Country Fly Golden Gate Angling & Casting Club - Golden West Women Flyfishers - Granite Bay Flycasters Grizzly Peak Flyfishers - Hi's Tackle Box San Francisco - ICON Products Inc. - Lock Lomond Live Bait - Mission Peak Fly Anglers-Monterey Peninsula Flycasters - Northern California Council of International Federation of Fly Fishers NORCAL Kayak - Pacific Coast Federation of Fishermen's Association - Pasadena Casting Club - Peninsula Fly Fishers Recreational Fishing Alliance - Salmon Restoration Association - Santa Cruz Fly Fisherman – Shasta Trinity Fly Fishers Southwest Council of International Federation of Fly Fishers - Striperfest -Tracy Fly Fishers - Tri-Valley Fly Fishers United Anglers of California - USA Fishing - Wilderness Fly Fishers

Nor-Cal Guides& Sportsmens Association
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June 10, 2019

Comment Document #1 on the Proposed Repealing of the 1996 Striped Bass Management Plan and Adoption of the Delta Fisheries Management Plan

Failure to Comply with the California Fish and Game Code that Require Sustainable Fishery Management

Mr. Eric Sklar, President & Members of the Commission
California Fish and Game Commission
1416 Ninth Street Suite 1320
Sacramento, CA 95814

Allied Fishing Groups and Nor-Cal Guides & Sportsmen's Association, representing ~40,000 anglers and some forty sportfishing organizations and businesses, are submitting the following comments regarding the proposal to repeal the 1996 Striped Bass Management Plan and the proposed Delta Fisheries Management Policy to change sportfishing regulations for Striped Bass and Black Bass that inhabit the Sacramento-San Joaquin Delta and tributaries rivers.

Adopting this proposal would be a violation of the Department's and the Commission's fiduciary obligations to hold the public's fish and wildlife resources in trust for the public and to manage them at sustainable population levels in accordance with the Commission's policies and statutory responsibilities, including the Commission's Striped Bass Management Policy and Fish and Game Code sections: 703, 711.7, 1017, 1301, 1600, 1700, 1802, 7050, 7070 and 7072. The striped bass fishery has declined from some 3 to 4 million adult fish in the 1960's to 200,000 today. Its collapse has paralleled that of runs of listed salmonids and other species that utilize the Bay-Delta estuary. Sportfishing regulations should protect fishery resources by being designed to manage fisheries on a sustainable basis and not encourage or result in their decline.

The regulations changes proposed to repeal the 1996 Striped Bass Management Plan and the adotion of the proposed Delta Fisheries Management Policy are not based on the best available peer reviewed science to manage the striped bass and black bass fisheries as required under the Fish and Game Code. Using the best available peer review science in making regulation decisions is essential if fishery management is to meet the standard of professional natural resource management and maintain sustainable fisheries.

In 2010 the "Coalition for a Sustainable Delta" (CSD) suffered a federal court's ruling that stated, in part, that their motion for summary judgment against the California Department of Fish and Game was without merit due to the CSD's failure to demonstrate that striped bass predation had a population level impact on any of the listed fish species in the delta or its tributaries. Federal Court Justice Oliver Wanger's Summary Judgment found against CSD on every predation issue they raised because the pseudo-science they used to support their case on predation had not been peer reviewed, and was not based on sound scientific principles.

We believe it is essential to promulgate good science and that the Commission should stress the importance of utilizing peer reviewed science in making fisheries management decisions. Section 703.3 of the Fish and Game Code is a valuable tool in this regard and states: "It is the policy of the state that the Department and Commission use ecosystem-based management informed by credible science in all resource management decisions to the extent feasible. It is further the policy of the State that all resource management decisions of the Department and Commission, be governed by a scientific quality assurance and integrity policy, and follow well-established standard protocols of the scientific profession, including, but not limited to, the use of peer review, publication, and science review panels where appropriate. Resource management decisions of the Department and Commission should also incorporate adaptive management to the extent possible."

Given the 50 year decline of the striped bass fishery, we are reminded of the clear warning from highly respected fishery scientists in the academic community, Drs. Peter Moyle and Bill Bennett (U.C. Davis), that striped bass predation on a delta forage species "inland silversides" plays a significant role in reducing the silverside's predation on delta smelt eggs and larvae (an ESA listed species). Further degradation of the striped bass fishery could have serious unintended consequences for this listed species as well as significant adverse effects on the estuary's ecology and food web. (See letter from Moyle and Bennett to the Commission dated 08/26/2010)

The current proposal fails to take into consideration the very serious potential health impacts to the public that would occur by allowing increased harvest of striped bass**.** The Office of Environmental Health Hazard Assessment has posted health warnings regarding the health hazards for the consumption of striped bass as they are contaminated with mercury and polychlorinated biphenyls (PCBs) that can have disastrous health impacts on children and unborn fetuses. Given the current advisory on striped bass consumption from the Department of Health, sportfishing regulations should be designed to help ensure the public complies with the fish consumption guidelines while discouraging consumption harmful to public health.

Due to the plight of our listed salmon, steelhead, and delta smelt**,** we are cognizant that the striped bass fishery must be managed in a manner consistent with the Department's long-term mission and public trust responsibilities. Unfortunately, none of the Central Valley anadromous fisheries are being managed at sustainable levels! We therefore urge the Commission to establish with CDFW the absolute importance of managing all of the fisheries and the San Francisco Bay-Delta Estuary's food web on a sustainable basis as required by the Fish and Game Code. The proposed regulations would have just the opposite effect and establish an egregious precedent not supported by the science or the Fish and Game Code.

For all of the preceding reasons, we urge you to not repeal the 1996 striped bass management plan and to not adopt the proposed Delta Fisheries Management Policy. Instead, we recommend the Commission inform the Department that they should focus their resources on the significant impacts caused to the estuary's ecosystem

and fisheries by the State and Federal water projects if we are to stop the collapse of the estuary's productivity and the prolonged decline of its fisheries.

Sincerely,

David J. Ostrach Ph.D., Science Advisor
Allied Fishing Groups and Nor-Cal Guides & Sportsmen's Association

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June 10, 2019

Comment Document #2 on the Proposed Repealing of the 1996 Striped Bass Management Plan and Adoption of the Delta Fisheries Management Plan

by Allied Fishing Groups and Nor-Cal Guides & Sportsmens Association
Science Advisor David J. Ostrach, Ph.D.

Scientific evaluation and Comments on the Proposed Repealing of the 1996 Striped Bass Management Plan and Adoption of the Delta Fisheries Management and their potential adverse effects on the SFE ecosystem.

Mr. Eric Sklar, President & Members of the Commission
California Fish and Game Commission
1416 Ninth Street Suite 1320
Sacramento, CA 95814

Dear President Sklar and Commission members:

I am a Research Scientist founder and former director of the Pathobiology, Conservation & Population Biology Laboratory at UC Davis. I have been studying the collapse of the fisheries in the San Francisco Bay Estuary ecosystem using striped bass as a biological model for ecosystem health for 32 years (1987 – 2019) in my research at

U.C. Davis and my consulting firm. My laboratory was an integral part of the Pelagic Organism Decline research team supported by various State and Federal agencies. I work in close collaboration and communication with the other laboratories and State & Federal agencies working on the problems related to the collapse of fisheries and the San Francisco Bay Delta ecosystem.

I have reviewed the proposal to repeal the 1996 Striped Bass Management Plan and adopt the proposed Delta Fisheries Management Policy. Requesting management policy and fishing regulation changes for striped bass and black bass using the rationale that these regulation changes would somehow reduce predation on salmon and assist population level recovery of listed species is unjustified and not based on the best available peer-reviewed science. I'm deeply disturbed that we are forced to waste taxpayer time and money as well as NGO and conservation group's time and money on this issue again. I presented documentation the last time a regulation change was requested for striped bass based on false predation claims. There is absolutely no new credible scientific evidence since that time that should alter the last Fish and Game Commission's ruling on this subject and the fishing regulations and the Striped Bass Management Policy should not be changed.

In fact the striped bass population has continued to decline dramatically since the last time this issue was brought before the Commission. The current status of the striped bass population is that it's in severe decline and is not currently managed at a sustainable level. Changing the regulations would not only destroy more of the fishery adversely affecting the striped bass population, it would also likely be extremely detrimental to salmon and delta smelt. Striped bass feed on several other species including inland silversides and native pike minnow. Reducing striped bass numbers would almost certainly increase the population of inland silversides and pike minnows (1, 2, 4, 6 & 7). The inland silverside is a highly invasive introduced species that has supplanted the ecological niche of the delta smelt, it feeds on its eggs and larvae and it competes for the same food sources as juvenile salmon. The pike minnow is one of the most voracious predators on juvenile salmon and other small native fish. An increase of its population would certainly have a deleterious effect on listed species and the ecosystem.

The San Francisco Bay Estuary ecosystem is in collapse. It is irresponsible to further perturb the ecosystem by anthropomorphic intervention to attempt to assist listed species that is not based on any credible scientific evidence. In fact the current peer-reviewed and sound scientific evidence suggests that this type of regulation change most likely would adversely affect the ecosystem (1, 3, 4, 6 & 7). I feel the Commission should be made aware that there is no valid scientific evidence that striped bass and black bass predation on native endangered species has any effect on their population levels (2). The vast majority, if not all independent scientists, conclude that predation is one of the lowest level stressors affecting the health of the San Francisco Estuary ecosystem and its fisheries.

There are far too many important stressors/problems with the San Francisco Bay-Delta estuary ecosystem that require immediate action as identified by leading scientists

investigating the Pelagic Organism Decline, CALFED, a State Water Resources Control Board expert review panel investigating predation and a National Science Foundation independent expert review panel investigating predation. All of these experts have come to the same conclusion using sound scientific principles and peer reviewed science. Striped bass predation and predation in general is not affecting population levels of listed species and is one of the lowest level stressors on the ecosystem. The major stressors that are causing the collapse of the listed species being the loss of appropriate habitat for salmon and delta smelt and the lack of adequately timed river flows and temperatures. These problems are caused by water project engineering and operations and must be corrected if we are to recover the estuary and its ecosystem.

Vilifying fish that have coexisted in the ecosystem at sustainable levels for over 150 years is not the answer. This request to deregulate the striped bass and black bass sport fisheries is an attempt by water contractors to distract attention from the problems responsible for the ecosystems collapse caused by the water projects. The manner in which the State and Federal projects are operated and the removal of more than 50% of the ecosystem's water is what scientific experts have determined is responsible for the collapse of the estuary and its listed species.

There is absolutely no credible scientific evidence that striped bass or black bass predation on salmon, delta smelt or any endangered species is responsible for the decline of these species. If I thought that striped bass or black bass was adversely affecting endangered fish or the ecosystem I would be the first person raising a red flag and asking for action. However this is just not the case. Striped bass, salmon, delta smelt and various other fish populations coexisted and thrived in this estuary for over a hundred and fifty years when the estuary was a healthy environment for aquatic life. Sadly, we are now faced with a collapsing ecosystem. According to the best available science, the small amount of unnatural predation that does take place will not impact the populations of listed species (2, 4, 5 & 6).

All of the research groups from various universities, State and Federal agencies are working together to understand the collapse of the fish populations and ecosystem in general. In none of these studies or biological opinions is striped bass or black bass predation considered even remotely the cause of the fish declines in this ecosystem. Rather, it is the combined effect of what we term multiple stressors on the ecosystem including: the impacts from water project operations pumping 5 to 6 million acre feet of water out of the system on average per year, lack of appropriately timed river flows in proper amounts and temperatures, the impacts of toxic pollution and their effects in the delta's waters, unintentionally introduced invasive clams, fish & zooplankton species, habitat deterioration as well as climate change (1,2,4 & 6).

We no longer have a dynamic estuary ecosystem with appropriate river flows, tidal influences, salt marshes and the natural habitat required for salmon, delta smelt and striped bass populations to survive, recover and thrive. What we have now in the San Francisco Estuary is a severely altered ecosystem operated as if it were a huge freshwater reservoir suitable for fish like large mouth bass, small mouth bass and the plant life found in such a habitat. It's clear that estuarine zooplankton and fish species

can no longer survive and thrive in this essentially freshwater ecosystem. This along with other stressors such as contaminants and introduced invasive clams/zooplankton is why all of these fish populations including striped bass have concurrently declined to extremely low levels some bordering on extinction.

These population declines are not due to striped bass or black bass predation. Managing and maintaining a healthy striped bass population would be one of the best things for this ecosystem. If the striped bass population were healthy, it would indicate a healthy **estuarine ecosystem** for all of the local endangered endemic fish whose populations would all benefit. This is not only my opinion but one held by many other fisheries biologists including Dr. Peter Moyle the pre-eminent freshwater/estuarine fishery biologist on the West Coast of the United States.

In the following, please note my responses to the statements and citations in the petition #2016-011 submitted by the Coalition for a Sustainable Delta in 2016 when this issue was last brought before the commission and additional information I feel is important for the commissioners to understand when evaluating the merits of repealing the 1996 Striped Bass Management Plan and adoption of the proposed Delta Fisheries Management Plan.

1) In first paragraph of CSD'S petition it says "The fact that predation is a major source of mortality of listed fish including Central Valley Spring run Chinook salmon, Central Valley steelhead, delta smelt, and Sacramento River winter run Chinook salmon is well documented." This statement is misleading and not representing the true picture of predation. There is no evidence that predation is a major source of mortality for delta smelt or any of the wild run-non-hatchery salmon listed in their comment. It is well documented that unnatural predation is occurring at hotspots where water project operations and engineering have put salmon in the position of essentially being food fed to predators like you would feed a fish tank in your home aquarium. These operations and hotspots attract not only fish predators but a variety of avian and mammalian predators as well. This documented and unnatural predation needs to be mitigated by reengineering the hotspots not by vilifying fish predators. Additionally, they state in the petition that the report says "studies of striped bass feeding habits indicate they consume an enormous volume of fish, overlap in their geographic range with the listed species, and have historically consumed listed species, at times in substantial quantities." (CSD's reference #5). Striped bass are a piscivorous fish. Their diet consists mainly of eating other fish and they fill the apex predator niche in this ecosystem. So to say they eat large quantities of fish is akin to saying that cows eat a lot of grass. The areas in which striped bass geographically overlap with the other species they fail to mention striped bass are feeding exclusively on non-listed species such as inland silversides and American shad. The statement is inaccurate in there is not historical data that striped bass have consumed listed species in substantial quantities (except that water project operation hotspots). In fact the two populations survived and thrived for over 150 years in balance with the healthy ecosystem. The ecosystem

is no longer healthy and is in a state of collapse. There is no peer-reviewed scientific evidence that indicates that predation by striped bass or black bass is affecting population levels of salmon. The information they cite is the report that was submitted to the Fish and Game Commission the last time regulation changes were requested for the same erroneous reasons (CSD's reference #5). It is a California Department of Fish and Game report not a peer-reviewed document. At that time the Commission found the report not to be based on good scientific principles or peer-reviewed science and rejected the arguments keeping the fishing regulations the same. At the end of the first paragraph it is stated that in the 2014 recovery plan for Central Valley Salmonids the National Marine Fisheries Service placed predation in the "highest stressor category" (CSD's reference #7). This partial quote is taken out of context. National Marine Fisheries Service developed a lifecycle stressor matrix in the report listing many stressors of "Very High importance." In this matrix they state "Predation during juvenile rearing and outmigration" (by birds, mammals and fish) as an important stressor on juvenile salmon." As previously mentioned the predation on juvenile salmonids during rearing and outmigration is well documented and occurs at water project operations where habitat has been altered leaving the juvenile salmon no areas to hide and feed and at project hotspots. This is unnatural predation caused by the water project operations and the hotspots. In the National Marine Fisheries Service report they further go on to say that predation needs to be minimized "at weirs, diversions, and related structures outside of the Delta". We all agree predation needs to be minimized at these water project operations and hotspots. The way to accomplish this is by restoring habitat, reengineering water project operations and the hotspots they create not by vilifying predator fish. However, it needs to be restated that this predation has not been demonstrated in any peer-reviewed scientific study to affect population levels of salmon or listed species.

2) In paragraph two of their petition they state in "for example, in a 2008 report on the Central Valley Project Improvement Act Fisheries Program (CSD's reference #3), a blue ribbon panel of scientists characterize predation as a "key limiting factor" on Central Valley salmonids and they concluded that predation reduction efforts are among these actions that have the greatest ability to improve fish populations in the near term." This is a portion of a quote taken out of context to serve their purposes. In that 100 page report the word predation is mentioned a total of eight times. The report provides significant information on various restoration efforts needed to improve anadromous fishes and although predation is mentioned a few times (predation at barriers and water project operations) it is certainly not considered to be the main thrust of what is necessary to recover the anadromous fish populations. The quote they use is not from the report but from the appendix where it documents questions and answers to the panel from the audience. The quote is found in Appendix A: Critical Questions and Panel Responses . These were questions asked to panel members directly after presentations and prior to the panel reviewing all materials, writing a final report and coming to their conclusions. To provide a quote from an appendix citing the report in its petition to the Commission is

unprofessional at least if not unethical. It's an attempt I believe to mislead Commission members into believing that this is the conclusion the blue ribbon panel came to when it is not. They provided this partial quote completely out of context. The full quote from the panel member's response to the audience question is: "Programs designed to increase flow, remove barriers, improve water quality, and reduce predation appear to have the greatest ability to improve anadromous fish populations in the near term. However in the long term, the synergies among the tools can also be considered but only when implemented in concert with other activities designed to restore ecosystem function." CSD states at the end of their paragraph that "Furthermore, the populations of a number of these fish are at or near historic lows. For example, the four major indices of delta smelt abundance-the spring Kodiak trawl, the 20 mm survey, the summer townet survey, and fall midwater trawl-all indicate the species is at the lowest point on record." This quote is referring to delta smelt not salmon, and there is no evidence that striped bass or black bass predation is in any way related to the collapse of the delta smelt population. What they failed to mention is the same indices indicate that the striped bass population has collapsed and is at an all-time historic record low as well along with other Delta fish populations including threadfin shad and longfin smelt. All of these fisheries have collapsed due to the reengineering and managing the Delta environment as essentially a freshwater reservoir where these estuarine species cannot survive and thrive.

3) Paragraph 3 of their petition states "There is ample precedent for regulatory action to address impacts of predators on native fish." They cite what's being done in the Columbia River system, a river system that is not comparable to the San Francisco Bay Delta Estuary. It's like comparing apples and watermelons with the only commonality being predation and that the predation on the Columbia and Snake Rivers and the others described is due to water project operations and structures such as dams. However pike minnow sitting at the base of dams waiting for fish to come down the fish ladders in the Columbia River is not comparable to striped bass or black bass and what the juvenile salmon face in the Bay Delta estuary system. Pike minnow fills a different ecological niche, the predation caused in these river systems again is unnatural predation caused by water project operations and the methods being used to remove the predators at these water project operations using nets or angling. Reference #1 in this paragraph of their petition is a Bonneville Power Administration website advertising various habitat improvement projects they have been forced to undertake. Bonneville Power is responsible for the water project operations and dams on these River systems that have been responsible for the collapse of the salmon in these River systems. As such Bonneville Power is being held responsible for mitigating and restoring the populations. This website is merely a public service message advertisement not a peer-reviewed statement or agency report. We should hold our water contractors accountable as the Bonneville Power administration is being held accountable and require they reengineer water project operations and hotspots. They cite several other instances where fishing regulations have been changed in an attempt to control

predators reference numbers 8, 9, 11 & 12 (CSD's reference #9 is a link that does not work and I cannot find the information to evaluate it). In every case the attempt is being made to control predators at water project operations and dams in river systems not estuaries. With the exception of some success on the Colombia and Snake Rivers the other programs have been largely unsuccessful. These are River systems not estuaries and the types of problems salmon encounter in our Bay Delta system are more complex and not comparable. Attempts at predator control in the Bay Delta estuary will not solve the issue responsible for the collapse of virtually all of the Bay Delta's once great fisheries removing over 50% of the water from the system. In estuarine and riverine systems it is well documented that if you remove 50% or more of the water from the system it results in ecosystem collapse.

4) In paragraph 4 CSD claims "The regulatory change sought will advance coequal goals of providing a more reliable water supply for California and protecting, restoring, enhancing the Delta ecosystem, because the change will reduce the adverse effects of predation by non-native fish and fish species that are native to the Delta ecosystem in danger of extinction or likely to become endangered extinction in the foreseeable future." They go on to reveal their true intentions later in the paragraph where they suggest that this action will allow them more flexibility to manage water/pump more water and that the regulatory change will "help realize the full benefits of various upstream actions that have and will continue to be taken to help recover native salmon and steelhead species." The upstream efforts dealing with habitat restoration that help to recover salmon is laudable but has nothing to do with this regulation. The majority of the upstream predators on the native and endangered fish are not striped bass or black bass. They are the native pike minnows, birds and mammals and this regulation change has nothing to do with solving these unnatural predation issues.

5) National Marine Fisheries Service lead scientist on the projects investigating salmon decline and predation in the Bay Delta Sean Hayes made a presentation to the California State water resources control Board in April 2016 on the decline of salmon and the effects of predation and predator control on salmon and listed species (6). In this presentation he describes how this unnatural predation is really a function of poor habitat conditions/habitat altered by water project operations and emphasizes the need for hotspot predation control. He provided a detailed example of why predator control won't work in the Bay Delta and it would likely be like opening "Pandora's box" and likely have adverse effects on the ecosystem. So NMFS's lead scientist on the project clearly believes predator control is in no way the answer to restoring salmon or other listed species and would likely cause more harm than good.

6) National Marine fisheries service scientists published a paper modeling striped bass predation and its potential effect on Chinook salmon extinction (5). The papers purpose was to try and determine what would happen if the current striped bass population (estimated at that time to be 700,000 adults) was artificially enhanced and tripled using various mitigation techniques. They had

no accurate predation rates for the Bay Delta and used predation rates from squaw fish (which fill a completely different ecological niche than striped bass or black bass) which most scientists agree are 2 to 3 times higher than predation rates in the Bay Delta by striped bass. Their conclusion using elevated predation rates was that "at current striped bass population levels there is no statistical difference between the quasi-extinction of Chinook salmon as compared to zero striped bass in the model." This means that if you removed every striped bass from the Bay Delta system the model shows that it would have no effect on the potential extinction of Chinook salmon in the ecosystem. The striped bass population has declined to approximately 200,000 adults since the paper was published which indicates striped bass predation would have even less effect than what was calculated in the manuscript and has no effect on salmon population levels. Additionally in the same manuscript the authors state that "The predicted decline of the adult striped bass population from 700,000 to 512,000 contributes a smaller effect to increase survival probability then does the effect of conservation measures." Again, supporting the notion that the striped bass population at current levels does not have any significant effect on the quasi-extinction of Chinook salmon and that conservation measures would have a greater effect on restoration of salmon populations.

7) Another example indicating that massive mortalities on juvenile salmon occur where there are no or very few striped bass and black bass was shown in radio acoustic tagged studies performed in 2007. An array of radio receivers was placed from the upper reaches of the rivers to the Golden Gate Bridge such that radio tagged fish movements can be tracked in real time with the lead person in charge being a NMFS scientist and colleague Bruce McFarlane. Results from the 2007 tagging of late fall Chinook smolts and juvenile steelhead indicate survival estimates of ~20% from the release point at Coleman Hatchery (near Red Bluff) to ORD Bend near Chico (see short narrative and graph at the end of this document). Although there may be a very few individual striped bass and a small population of black bass in the area of ORD Bend and downstream, over 95% of the striped bass population and the black bass populations are located much further downstream in the estuary with the striped bass at that time (when salmon are released from the hatchery) located mainly at the confluence of the Sacramento and San Joaquin Rivers. Only during the spawning run (April-May) do significant numbers of striped bass inhabit the upper Sacramento (or other rivers) and only travel up river to the area between Knights Landing and Colusa which is downstream of ORD Bend where 95% of the juvenile salmon mortality is occurring. However, the native Sacramento pike minnow inhabits these sections of the river and are known to congregate and feed on salmon smolts and juvenile steelhead along with thousands of birds and mammals. In a 2008 attempt to avoid pike minnow & other predators, aggregations of tagged fish were released at 3 sites downriver of the hatchery and the survival to ORD Bend was similar (pers. communication with Dr. Pete Klimley on 4/20/09). This suggests the vast majority of mortality is occurring in areas where striped bass and black bass are not present and that other factors such as other predators (eg. pike minnow, birds and mammals), water quality, river flows, river temperature

and food are responsible for the vast majority of salmon smolt and Steelhead mortality seen in recent years.

8) Predation on early life stages of fish with reproductive strategies such as Chinook salmon, steelhead and striped bass is a normal natural part of the food web, and part of ecosystem checks and balances in a healthy environment. For a young salmon to survive it must grow as fast as it can because the larger it gets the likelihood of predation becomes less, and then it must get to the ocean as fast as possible. This requires good water quality, appropriate habitat and adequate food supplies. Current river flows and water quality has been shown to be poor, habitat has deteriorated or been destroyed, and food for salmon smolts is much less abundant now that in the past when the population was healthy.

9) Striped bass, Chinook salmon & steelhead populations co-existed and thrived in this Estuary/ecosystem for over 150 years together. It was not until multiple stressors beginning with water project operations in the 1960s followed by contaminants, unintentionally introduced invasive clams and zooplankton, poor river flows and extensive habitat deterioration that all of the species including striped bass concurrently began and continue to decline. Striped bass and salmon populations on the East Coast of the US have co-existed and thrived for thousands of years. So to conclude that striped bass in this ecosystem are causing the decline of salmon and other species has no credible scientific basis and in my opinion is absurd.

10) I have been involved in electro-fishing for adult striped bass for laboratory spawning and research during the spring spawning runs every year from 1988-2009. In examining the gut contents of hundreds of adult male and female striped bass I have never found a salmon smolt, delta smelt or adult salmon. The gut contents of striped bass during the spring spawning run are made up almost exclusively of American shad. Striped bass prefer much larger prey than salmon smolts and the shad run the river at the same time as striped bass.

11) Would the proposed new regulation attempting to control striped bass predation be effective and allow the endangered species populations to increase? The answer is no. So many other factors are suppressing fish populations ranging from exporting massive amounts of water out of the delta, other water project operations, contaminants, wastewater discharges, inadequate timing and amount of delta inflows controlled by the water projects, increasing water temperatures as well as unfavorable ocean conditions (for salmon). All of these stress fish potentially changing behavior making it likely they are less able to avoid predation. A predator removal program would also have to be complete to be effective. Predation control could not just focus on two species (striped bass & black bass) but would have to focus on all possible predators including channel catfish, Sacramento pike minnow, steelhead, sea lions, otters and fish-eating birds. Where does it stop? Efforts would be better spent on restoring the delta habitat to estuarine conditions and in changing water project operations to

protect fish and to remove hot spots of predation rather than singling out and vilifying striped bass and black bass.

12) An important food source for adult striped bass has historically been juvenile striped bass. So if we allow anglers to overfish the adult population it is likely that the juvenile survival rates would increase. Due to habitat changes juvenile striped bass no longer have the previously abundant *neomysis* shrimp to eat (their historical food source) and have switched to benthic (more contaminated) prey and small fish to survive. The proposed change in the fishing regulations could possibly increase juvenile striped bass predation on salmon smolts and other listed fish species.

13) Predation by striped bass on juvenile salmon and steelhead is documented, but there is no evidence it makes a difference to numbers of returning salmon (5). The majority of salmon that are eaten by striped bass are confused naive hatchery fish. These are fish that have never lived in a river or ecosystem but only in a controlled hatchery with artificial conditions and are newly released into the delta ecosystem. This problem is more likely to be alleviated by changing hatchery rearing and release practices rather than attempting to eradicate the striped bass and black bass populations.

14) There are serious human health and social justice implications if the proposed regulations are adopted: By changing the sport fishing regulations anglers will likely first overfish the largest striped bass. These large fish are known to be laden with mercury, PCB's, PBDE's and other contaminants. Human consumption guidelines have been in place for years such that only a few fish at most should be eaten every month. Human consumption of striped bass from this estuary is discouraged as they are regarded as unsafe to eat. It is unlikely that anglers would catch and discard the fish (not eat them) in an effort to eradicate striped bass. If any regulations should be changed there are good reasons for a catch-and-release fishery with no human consumption allowed. The adverse human health risks and social justice implications of low income anglers that fish to provide food for their families is unacceptable! Changing the striped bass fishing regulations as suggested would encourage subsistence fishermen in the delta to catch and eat more contaminated and unhealthy (to consume) striped bass. Is that something that the Fish and Game Commission or CSD really wants to advocate?

15) In May 2016 preeminent West Coast fishery ecologist Dr. Peter Moyle and his colleagues at UC Davis Andrew Sih, Anna Steel, Carson Jeffres and William Bennett published online an article titled "Understanding Predation Impacts on Delta Native Fishes" (7). These authors are highly respected independent academic scientists with no vested interest in the predation issue other than to understand the health of and collapse of the Bay Delta ecosystem and its fisheries. Their article is extremely clear and goes through various scenarios regarding predation and potential predator removal in the Bay-Delta ecosystem. Their conclusion is that "All this indicates that programs aimed at direct striped

bass control are as likely to have no or negative effects, as to have positive effects, on populations of desirable fishes." I've included the entire article at the end of this document and urge the Commissioners to read it as I believe it will clarify the predation problem and potential solutions in a clear and concise manner.

16) In the most recent peer-reviewed publication on the subject published in July 2016 "Predation on fishes in the Sacramento-San Joaquin Delta: current knowledge and future directions" (Grossman, G.D., 2016) the author comes to the same conclusion as almost every independent scientist "the most likely outcome of striped bass removal is the competing predator will increase in abundance and there will be little reduction in predation mortality for Chinook salmon. It is likely that the most productive management strategy for decreasing predation on Chinook salmon and other delta fishes is to restore natural habitat and flows, especially in predation hotspots."

Am I wrong? Are Dr. Peter Moyle, NOAA Chief of Protected Species branch Sean Hayes, the POD agencies/scientists, the State Water Resources Control Board panel of expert scientists, the National Science Foundation expert scientific panel investigating predation as the cause of the decline of listed species and the preponderance of peer reviewed scientific literature on the subject all wrong? How can the proponents for changing the striped bass fishing regulations expect serious consideration when the experts working on delta problems and the independent science panels all came to the same conclusions? They all agree that predation is an extremely low priority stressor and that the most significant stressors, poor delta water management and habitat needs to be addressed immediately?

I implore you to reject the proposal to repeal the 1996 striped bass management policy and adoption of the proposed Delta Fisheries Management Policy and remove it from any future commission agenda. If these recommended proposals are approved, it will do nothing to restore California's once great salmon fisheries. It provides absolutely no benefit to the estuary's ecosystem or fisheries and in fact would likely cause further ecosystem harm.

I am available to meet with the Commission staff or the Commission to discuss this further. If you require any additional information or clarification please don't hesitate to contact me.

Sincerely,

David J. Ostrach Ph.D., Science Advisor
Allied Fishing Groups and Nor-Cal Guides & Sportsmen's Association

References

1) Moyle, P B. (2011). Striped bass control: cure worse than disease? California Water Blog. January 1, 2011.
2) Grossman, G., Essington, T., Johnson, B., Miller, J., Monsen, N. and T. Pearsons. 2013. Effects of fish predation on salmonids in the Sacramento River – San Joaquin Delta and associated ecosystems. Report for Cal. Fish Wildlife/Delta Stewardship Council/NMFS.
3) Doherty, T. S. and Ritchie, E. G. (2016), Stop Jumping the Gun: A Call for Evidence-Based Invasive Predator Management. CONSERVATION LETTERS. doi:10.1111/conl.12251
4) Grossman, Gary D.(2016). Predation on Fishes in the Sacramento–San Joaquin Delta: Current Knowledge and Future Directions. *San Francisco Estuary and Watershed Science*, 14(2). jmie_sfews_31669. Retrieved from: http://escholarship.org/uc/item/9rw9b5tj
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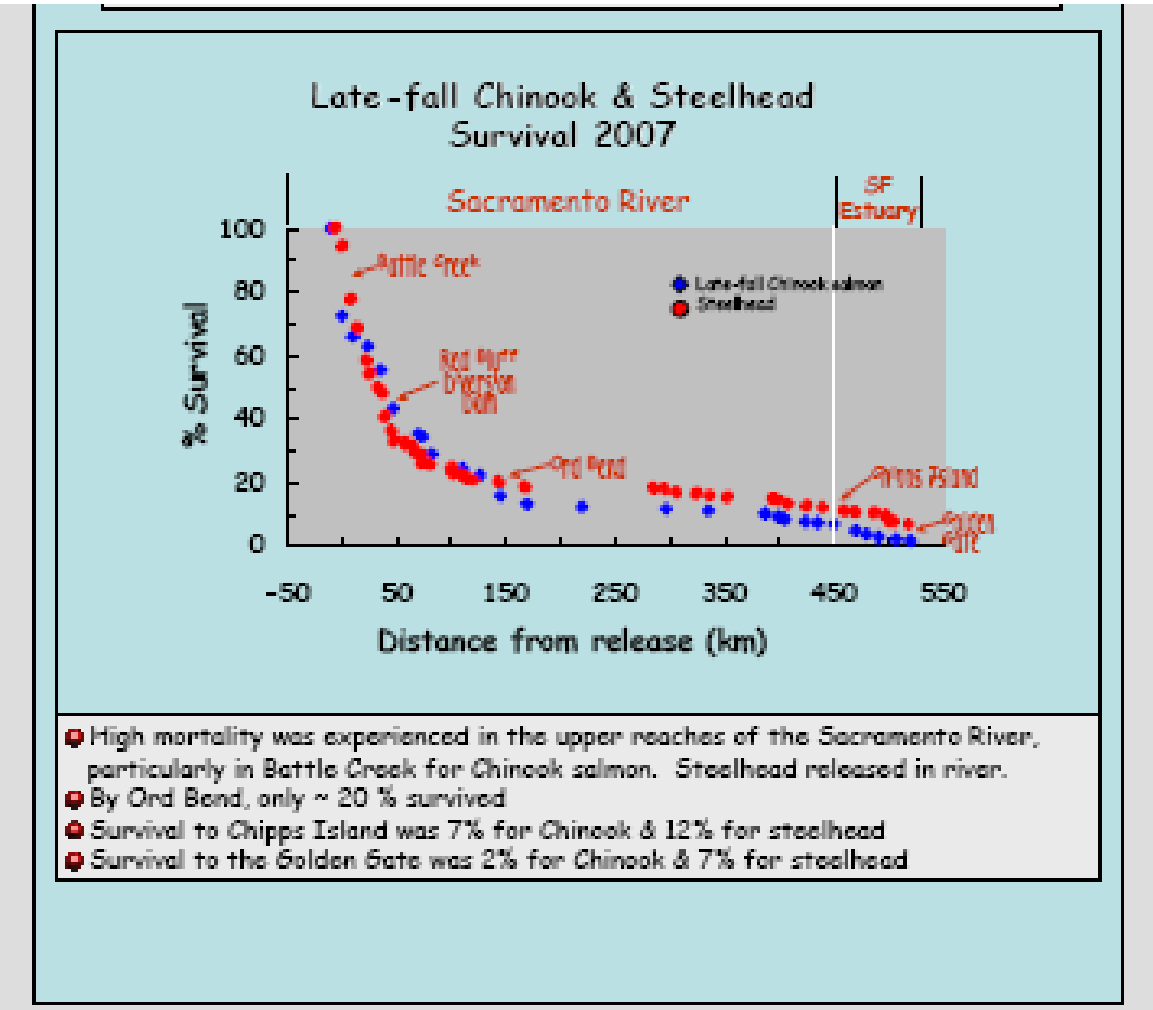
6) Hayes, Sean, NMFS lead scientist presentation to the California State Water Resources Control Board April 19, 2016. Factors that influence salmon predation in the Sacramento-San Joaquin Delta. (http://waterboards.ca.gov/board_info/media/apr2016/swrcb_brdmtg041916.shtml - his presentation starts at approximately 3:45 minute mark and runs for about 45 minutes).
7) Moyle, Andrew Sih, Anna Steel, Carson Jeffres and William Bennett, (2016). Understanding predation impacts on Delta native fishes. Published by U.C. Davis Center for Watershed Sciences on the California Water blog May 22,2016. (https://californiawaterblog.com/2016/05/22/6206/)

The graph below is a portion of a poster titled: Survival & Migratory Patterns of Central Valley Juvenile Salmonids: Overview (McFarlane et al., 2007). It shows as discussed in comment #7 above salmon smolt and steelhead mortality from the release points indicating approximately 80% mortality by the time they reach ORD bend. This is an area of the river not inhabited by significant numbers of striped bass during the late-fall Chinook and Steelhead migration.



Understanding predation impacts on Delta native fishes

Posted on May 22, 2016 by UC Davis Center for Watershed Sciences

Native threespine sticklebacks pumped from the stomach of a single 22 inch striped bass. The bass was feeding in water being drained from a duck club in Suisun Marsh, The sticklebacks were abundant, concentrated, and confused so were easy prey for the bass. Sticklebacks continue to be one of the most abundant fish in Suisun Marsh. Photos by Teejay O'Rear April 2010.

By Peter Moyle, Andrew Sih, Anna Steel, Carson Jeffres, William Bennett of University of California, Davis.

Will endangered fishes, such as Chinook salmon, delta smelt, and longfin smelt, benefit from control of predators, especially of striped bass? This question is of interest because if the answer is 'yes', then predator control might increase the benefits of other actions, such as provision of environmental water for native species. In this blog we express our skepticism of large-scale predator control as a conservation tool, based on eight principles.

1. ***Predation 'problems' do not have simple solutions.***
   Predation is one of many stressors affecting declining species. In ecosystems such as the Delta, predator-prey relationships are complex. Many predators forage opportunistically on whatever prey species are most abundant and accessible at any time and place. As a result, predator control can have unintended consequences. For example, reducing striped bass populations might cause an increase in important prey species, such as Mississippi silverside, that prey on delta smelt eggs and larvae. In other words, controlling striped bass may backfire and increase predation on delta smelt. Grossman et al. (2013) have written a good overview of predator-prey dynamics in the Sacramento River. This review provides a basis for the above statements and the conclusion that predator control in the Delta will likely create more problems

than it solves. This conclusion can be applied broadly to predator control programs, such as those for invasive mammals. However, more research could provide a better understanding of predation as a stressor of fish populations, provided that such studies are linked with modeling, focusing on predator-prey interactions in the Delta (similar to work done for the lower Columbia River).

2. ***The best long-term strategy for increasing populations of small fish (prey) is to improve the ability of the ecosystem to support them.***
In a healthy ecosystem, multiple predators and multiple prey typically co-exist in dynamic fashion. Prey species such as delta smelt have highly effective predation defense mechanisms that operate best in an environment similar to the one in which they evolved. For the Delta, we suggest that ecosystem recovery efforts should focus on the arc of habitat that includes the Yolo Bypass, the Lindsey-Cache slough region, the Cosumnes-Mokelumne river region, the Sacramento River, Sherman Island and Suisun Marsh (similar to the String of Pearls concept for Chesapeake Bay). This region is tied together (the string) by the interaction of Sacramento River flows with tidal flows and contains the highest concentrations of native fishes in the upper estuary.

3. ***Bypassing problem areas can reduce predation impacts.***
Increasing flows from the Sacramento River down the Yolo Bypass in winter could carry large number of juvenile salmon from upstream areas to productive habitat in the Yolo Bypass. Such flows can also attract fishes such as splittail, and perhaps smelt from the Delta into the Bypass. Fish using the Bypass avoid the rip-rapped channels and likely high predation areas in the western Delta and lower Sacramento River. A similar strategy might work for the San Joaquin River and southern Delta if fish (except smelt) were directed towards the pumping plants and then trucked past predation hot spots in the Delta. This strategy will only work if predation on trucked fish is reduced by modifying the pumping facilities and adopting different release strategies (#4, #5).

4. ***Changing release strategies of captive fish can reduce predation mortality***.
Salmon and other fishes are most vulnerable to predation when they are transported to a release site, usually by truck, and then dumped into the water in large numbers in one place. This release strategy, used by the pumping plants in the South Delta and by many hatcheries, caters to predator behavior, because predators are attracted to concentrations of prey, especially prey that are confused following release. Release strategies need to be developed and carefully monitored, such as slow releases from barges towed at random times of day and night, which do not habituate predators to concentrations of prey. Similar release strategies are needed for hatchery salmon releases as well (#8).

5. ***The solution to reducing effects of predation 'hot spots' is to move prey around them (see #3) or to reduce their attractiveness to predators.***
Predatory fishes such as striped bass move around a lot. Therefore, predator control on a hot spot has to be continuous and intensive, because as predators are removed new ones are likely to move in. However, each hotspot has its own

problems that have to be dealt with individually. For example, Sabal et al. (2016) found striped bass consumed 8-29% of juvenile salmon passing through Woodbridge Irrigation District Dam on the Mokelumne River and reducing the numbers of adult striped bass could temporarily reduce predation rates. It helped that the 'hot spot' was some distance upstream from the Delta, where most bass reside. Their conclusion was not that universal striped bass control was needed but that " …it is important to consider habitat alterations and interactive effects when estimating large-scale predation impacts and when planning local management strategies (p 318)."This conclusion applies to Clifton Court Forebay, which is well-documented as one of the hottest of the predation hotspots. Striped bass and other predators concentrate there to feed on small fish drawn towards the giant pumps at the state pumping plant. Modifying its structure or operation should be the best way to reduce predation impacts in the forebay. In this light, the National Marine Fisheries Service is currently requiring that both long-term and interim measures to reduce predation on endangered fishes be implemented (letter from Maria Rea to Carl Torgersen, January 22, 2016). Essentially, NMFS is saying that just studying the problem is no longer a sufficient response to the documented high predation rates at this facility.

7. ***Striped bass are not the problem.***
Striped bass get blamed for declines of native fishes because they are an abundant, voracious, non-native predator. Yet striped bass have been part of the Delta ecosystem for nearly 150 years, plenty of time for co-adaptation of predator and prey. In periods when delta smelt, longfin smelt, and salmon were abundant in the past, striped bass were much more abundant than they are today, suggesting that the same factors that drive native fish declines are also driving striped bass populations. As generalist, wide-roaming predators, they feed on the most abundant prey available, which is often the result of 'ringing the dinner bell' release strategies of captive fish (see #4, above). *If* striped bass regulate populations of any other fishes, their effects will be mostly on small, consistently abundant prey fishes such as Mississippi silverside and threadfin shad that may compete with or prey on smelt and juvenile salmon. By reducing competition or predation by silversides or shad on smelt, striped bass might actually have a net positive effect on smelt. Indeed, other managers have found, to their distress, that reducing top predators has backfired because of this 'enemy of my enemy is my friend' effect. Repeating this error in our system would be unfortunate. All this indicates that programs aimed at direct striped bass control are as likely to have no or negative effects, as to have positive effects, on populations of desirable fishes.

7. ***Having a prey species in a predator's diet does not mean the predator controls the prey's populations.***
Dietary studies of predators in the Delta have often concentrated in areas where predation is perceived to be a problem, such as predation by striped bass near water diversion structures on salmon in the Delta and Sacramento River or below hatchery release sites. It is not surprising that prey are seen in predator

stomachs in those situations. Prey fish have evolved strategies to minimize the effect of predators. For example, a natural predation-reduction strategy of juvenile salmon is to migrate to the ocean in pulses, usually when river flows are high and muddy from run-off. Striped bass and other predators might have stomachs full of juvenile salmon at this time but the percentage of total population is likely to be low. Granted, such strategies may no longer be fully effective under conditions of drought, warm winters and reduced population sizes; however, reduction of overall striped bass predation will likely increase predation by other organisms, taking advantage of whatever increase in prey the absence of striped bass might cause.. In short, a predator control program based mainly on dietary studies is too simplistic to serve as a basis for management to increase prey populations.

8. ***Hatchery-reared salmon are exceptionally vulnerable to predation.*** Hatchery salmon start life packed together in cement troughs, with food pellets raining down from above. This does not give the fish much chance to learn how to avoid predators. They are then either released directly into a river or trucked to a release point in the estuary. It is scarcely surprising that predators take advantage of these naïve and fat-laden prey, gorging themselves. Many of these salmon die of stress and other causes. They are then scavenged by unlikely predators such as white catfish. Studies on the Yolo Bypass indicate that about 30% of hatchery salmon die within a day or two after release into food rich, nearly predator-free environments, in which most wild salmon thrive (Jacob Katz, unpublished data). Release of hatchery fish into rivers in large numbers mimics, to a certain extent, the predator-swamping strategy used by wild fish. But the rivers are rarely high and muddy during the release and the fish lack the behavior to avoid predation in clearer water, so predation rates are high. In short, heavy predation on juvenile hatchery salmon is more a reflection of hatchery practices than of un-natural rates of predation by striped bass and other predators.

***Conclusion*.** It seems unlikely that a large-scale predator removal program focused on striped bass would have a sustainable, measurable effect on populations of its prey species, specifically protected smelts and salmon. However, if managers deem enough uncertainty exists about the importance of predation as a source of mortality relative to other factors, then an integrated program of empirical studies and modeling should be instituted. If a control program moves forward despite scientific uncertainty, it should be implemented as an experiment, focusing on data collection and modeling to determine if the program achieves carefully specified objectives.

Further reading

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California Sportfishing Protection Alliance - California Striped Bass Association – Chico Flyfishers-Crockett Striped Bass Club-Delta Bass Tactics – Delta Fly Fishers - Diablo Valley Fly Fishermen - E.C.Powell Fly Fishers - Fishery Foundation of California - Fly Fishers For Conservation - Fly Casters of San Jose - Fly Fishers of Davis - Friends of Butte Creek Gold Country Fly Golden Gate Angling & Casting Club - Golden West Women Flyfishers - Granite Bay Flycasters Grizzly Peak Flyfishers - Hi's Tackle Box San Francisco - ICON Products Inc. - Lock Lomond Live Bait - Mission Peak Fly Anglers-Monterey Peninsula Flycasters - Northern California Council of International Federation of Fly Fishers NORCAL Kayak - Pacific Coast Federation of Fishermen's Association - Pasadena Casting Club - Peninsula Fly Fishers Recreational Fishing Alliance - Salmon Restoration Association - Santa Cruz Fly Fisherman – Shasta Trinity Fly Fishers Southwest Council of International Federation of Fly Fishers - Striperfest -Tracy Fly Fishers - Tri-Valley Fly Fishers United Anglers of California - USA Fishing - Wilderness Fly Fishers

Nor-Cal Guides& Sportsmens Association
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Comment Document #3 on the Proposed Repealing of the 1996 Striped Bass Management Plan and Adoption of the Delta Fisheries Management Plan

By
Allied Fishing Groups Conservation Director John Beuttler &
Science Advisor for Allied Fishing Groups and Nor-Cal Guides & Sportsmens Association
David J. Ostrach, Ph.D.

June 10, 2019

The Primary Causation for the Decline of the Bay-Delta's Fishery Resources and Ecosystem is the Direct and Indirect Losses from Water Project Operations.

Mr. Eric Sklar, President & Members of the Commission
California Fish and Game Commission
1416 Ninth Street Suite 1320
Sacramento, CA 95814

The Allied Fishing Groups and Nor-Cal Guides & Sportsmens Association, collectively representing some forty sportfishing organizations and businesses (~40,000 fishers and businessmen) are submitting the following comments regarding the proposed repealing of the 1996 striped bass management policy and the proposed Delta Fisheries Management Policy to change sportfishing regulations for Striped Bass and Black Bass that inhabit the Bay-Delta estuary.

There has been a concerted effort by some of the beneficiaries of the State and Federal Water Projects to compel the destruction of Black Bass and Striped Bass fisheries of the Bay-Delta estuary because they apparently choose not to be responsible for the environmental impacts to the estuary cause by the State and Federal Water Projects.

Over the past sixty years many of sportfishing anglers, commercial fishermen and sportfishing businesses have

endured the consequences of the failure of the State and Federal government to properly manage the operation of the State Water Project (SWP) and Federal Central Valley Water Project (CVP). These consequences included Central Valley salmon, steelhead and striped bass fisheries that fell into prolonged decline with some runs being listed under the ESA (winter-run and spring-salmon, steelhead, and delta smelt). The collapse of the fall-run salmon, striped bass, and sturgeon soon followed as the ecosystem continued to decline.

In our efforts to help restore the estuary's fisheries, we have learned that SWP and CVP have killed many millions of salmon, striped bass, steelhead and other fish while they've ramped up delta water exports. These increases in water exports further exacerbated the impacts to the ecosystem by degrading its ability to produce the food web upon which life in the estuary is dependent. These monumental losses of fish are due to the "direct" and "indirect impacts" of the water projects.

To give you an accurate estimate of these fishery losses is not possible due to the lack of pertinent data on the estimated fish losses caused by the State and Federal Water Projects. Based upon a document from the Department of Fish & Wildlife of February 2015 entitled the "Delta Pumping Plant Fish Protection Agreement Fish Mitigation Report February 2015", we were able to review estimated fish losses for the period of 1986 to 2013 for salmon, striped bass and steelhead.

We are making an estimate of some of the fish that have been killed by the projects during this period to provide the Commission with an understanding as to the extent of the impact the SWP and the CVP have had on the public's fishery resources. The direct fish losses for the period of 1986 thru 2013 that follow are express as "smolt equivalents" for salmon and "yearlings equivalents" for striped bass and steelhead loss estimates provided by the CDFW and DWR. These estimates should not be confused with adult fish.

Losses from 1986 to 2013:

Salmon smolts: 11,779,656 / Striped Bass: 10,699,815 / Steelhead: 460,362

As far as we know, there is little if any meaningful data on their direct fish losses cause by the projects prior to 1986. However, from a historic perspective the impacts prior to 1986 are considered greater because the fishery populations that existed then were larger and more resilient. If we combined the losses after 1986 with those of the period when the project's came on until 1986, it would at least double the number of fish lost. The combined losses for prior to 1986 and from 1986 to 2013 are:

Salmon: 23,559,312 smolts - Striped Bass ye: 21,399,630 - Steelhead ye: 920,724

There are also significant fish losses caused by the federal CVP that exports water from the southern Delta. To the best of our knowledge there is no estimate for the federal project losses even though they were operating a decade before the SWP and had entered into the "Tracy Fish Agreement" with the DF&G to do so. For a ballpark estimate we used the losses from the SWP that assumed CVP losses would have been the same as the SWP. This doubled the direct losses. It is the opinion of several biologists we consulted that the CVP caused much higher fish losses than the SWP for most of it existence. Without those losses being documented, the best we could do was to assume the SWP and CVP estimated losses were the same. They are:

Salmon: 47,118,624 smolts - Striped Bass: 42,798,720 ye - Steelhead: 1,841,448 ye

It is important to note that the SWP has attempted to mitigate for the direct losses the project has caused to these fisheries, while the CVP has not complied with their "Tracy Fish Agreement" with the CDFW by refusing to mitigate for the direct losses cause by the CVP's direct impacts.

Our attempt to provide the Commission with a "rough estimate" of the number of salmon smolts, striped bass

and steelhead yearling equivalents lost due to the SWP and the CVP, does not include the indirect losses of these fish. Indirect losses occur when fish moving down river migration corridors to the ocean are pulled out of their normal migration paths and into the central and southern Delta by the pull of SWP and CVP pumps taking water out of the delta. As far we know, there is not an estimate for these losses. Several retired CDFW fisheries biologists believe that these indirect losses would be at least an order of magnitude greater than the direct losses as many of the fish die prior to being entrained into the project facilities.

If that were the case, we could increase the indirect losses by ten times! We know where all the fish have gone, along with the productivity of estuary's ecosystem. When over half of the water that flows into the delta is exported, at least half of the food production capacity of the ecosystem goes with it. Since this is usually happens on an annual basis, the ecosystem has lost it ability to support the dynamic productivity necessary to prevent the collapse of the estuarine food web.

If we are to restore what many considered to be one of the greatest estuaries on the North American continent, we urge the Commission to take a leadership role in concert with the CDFW and your constituency to rectify the damage that has been done to estuary and its fisheries by excessive water exports and water project operations. There is precious little time left to save and restore the estuary and rebuild the productivity of the ecosystem for the fish and wildlife that are dependent upon it for their existence. We therefore urge you to not repeal the 1996 Striped Bass Management Plan and to not adopt the proposed Delta Fisheries Management Policy.

Sincerely,

David J. Ostrach Ph.D., Science Advisor
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June 10, 2019

Comment Document #4 on the Proposed Repealing of the 1996 Striped Bass Management Plan and Adoption of the Delta Fisheries Management Plan

By
Allied Fishing Groups Conservation Director John Beuttler
&
Science Advisor for Allied Fishing Groups and Nor-Cal Guides & Sportsmens Association
David J. Ostrach, Ph.D.

Summary of Actions to Destroy the Striped Bass Fishery

Background: Striped bass were intentionally introduced into the Delta in 1879 from several East Coast Rivers to create an estuarine sport fishery. They adapted well and became the premier sport fishery of the Bay-Delta estuary including San Francisco Bay and near shore ocean waters. During the 1960's impacts from the State and Federal Water Projects began to noticeably affect their population and that of Central Valley salmon. Over the next 50 years the population of striped bass continued to declined from an estimated 4 million adult fish to less than 300,000. This fishery's decline coincides with the declines of Central Valley salmon, steelhead, sturgeon, delta smelt and the collapse of the estuary's ecosystem and food web. While there a number of factors involved, the impacts of the State and Federal Water Projects are the dominant causative factors in the decline of the estuary's productivity, its collapsed food web and the Central Valley fisheries.

This highly valued sport fishery still manages to be an economic asset to the state by making the Bay-Delta estuary a world-class fishing destination that contributes hundreds of millions of dollars annually to the economy of state. Unlike salmon, steelhead, sturgeon and delta smelt, striped bass are a non-native fish and cannot be listed under the Endangered Species Act to prevent their extinction. However, it is an intentionally introduced fishery that is a significant part of public's natural resources protected under the Fish and Game Code and under the Public Trust Doctrine of law that contributes hundreds of millions of dollars annually to our economy and is of critical importance to the economy of the

Delta.

Litigation: On January 29, 2008, the "Coalition for a Sustainable Delta" and three water districts filed suit in federal court against the California Department of Fish & Game (CDFG) alleging that striped bass fishing regulations resulted in the unlawful "take" of the salmon, steelhead, and delta smelt listed under the Endangered Species Acts in direct violation of Section 10. The California Sportfishing Protection Alliance, the California Striped Bass Assoc., and the Northern California Council of the Federation of Fly Fishers along with the Delta Water Agencies, were granted status as Defendant Interveners in support of the DFG's regulatory authority over the fishery.

The federal court ruled on July 21, 2010 that the plaintiffs' motion for Summary Judgment was denied. **The primary basis for the court's decision was that the peer reviewed science on striped bass predation in the Delta found that predation did not impact the population levels on any of the ESA listed species in the estuary. Hence, the current striped bass regulations did not facilitate a population impact on any of the fisheries listed under the ESA according to the best available science.** The court rejected every cause of action cited by the plaintiff for this reason and the fact that the "science" they used had not been peer-reviewed to give legitimacy to their litigation.

Settlement Agreement: The plaintiffs and the CDFG entered into a Settlement Agreement that required the CDFG to develop a "Regulatory Proposal" to modify sportfishing regulations that would substantially increase the harvest of striped bass while significantly reducing predation on ESA listed species in the estuary. This was in direct opposition to the court's Summary Judgment ruling and would have caused a further decline to the fishery already on the brink of extinction. This proposal also contravened state law that requires the public's fishery resources to be managed at sustainable levels of abundance. Defendant Interveners strenuously objected to the Settlement Agreement to no avail as the Governor Schwarzenegger had made his decision to support the water districts.

Legislation: While the litigation above was in process, water districts mounted an attack on the striped bass fishery by having Assembly Member Fuller introduce legislation in 2009. Assembly Water, Parks & Wildlife Committee (AWPWC) heard AB 1253 that would terminate the striped bass status as a sport fish and allow an unregulated harvest of the fishery. Given the fishery's 50-year decline, this bill would have destroyed a resource of significant recreational and economic importance to the public, sportfishing business and other economic interests and the State based upon an inaccurate assertion that striped bass predation had an impact on the population level of salmon and other fish listed under the ESA.

Due to the effort mounted by the sportfishing community including the Golden Gate Salmon Association, environmental organizations and the academic community, the bill was "gutted and amended" by the author just prior to its Committee hearing. It was turned into a "study bill" by the author and passed out of the AWPWC. Due to substantial opposition when it arrived in the Senate Appropriations Committee, the bill was placed on suspense and later gutted and amended to address a totally different issue.

Introduced in 2010, AB 2336 Fuller's bill was heard by the AWPWC. It proposed to do additional studies of striped bass predation in the estuary. It passed the committee after being amended to require a review of all predation impacts in the estuary, instead of just that caused by striped bass. Following additional author amendments not in accordance with those made in the AWPWC, the bill died in the Senate Natural Resources & Water Committee.

Fish & Game Commission: The CDFG's regulatory proposal was heard by the Fish & Game Commission on February 2, 2011 with the Allied Fishing Groups (AFG) taking the lead in opposing the proposal. The CDFG spokesmen, and consultants from the "Coalition for a Sustainable Delta" (aka Water Contractors) spoke in favor of the proposed regulations. Highly summarized, the Allied Fishing Groups presented the counter argument that if the Commission were to adopt the proposed regulations they would be in violation of their fiduciary obligations to hold the public's fish and wildlife resources in trust for the public and insure their proper management.

During the hearing, the Allied Fishing Groups noted that the Commission's policies and statutory responsibilities, including their "Policy on Striped Bass Management", required them to preserve and protect the public's striped bass fishery by ensuring they were managed at sustainable population levels. The proposed regulations clearly did not meet these criteria since the regulations they sought to amend had not prevented the fishery's precipitous decline. Following the presentation by the Department (CDF7W) and consultants of the "Citizens for a Sustainable Delta, the Commission voted unanimously to reject the proposal.

<u>Predation Workshop*</u>: The California Department of Fish & Wildlife with support from National Marine Fishery Service, the U.S. Fish & Wildlife Service and the Delta Science Program convened the "State of the Science Workshop on Fish Predation on Central Valley Salmonids in the Bay-Delta Watershed" on July 22-23, 2013 at the University of California Davis. The purpose of the Workshop was to have an independent panel of expert national scientists summarize the current state of knowledge on predation of Central Valley salmonids by other fish.

The results of their evaluation were released in September 2013. Highly summarized, the Panel stated that available data did not provide unambiguous and comprehensive estimates of fish predation rates on juvenile salmon or steelhead nor did they demonstrate that population-level impacts to these species were taking place. **However, given the extensive impacts by the State and Federal Water Projects to the Delta and its tributaries, the public's fishery resources have suffered dilatory flow modification, significantly altered habitat conditions, temperature and dissolved oxygen limitations, massive fish losses and an overall reduction in historical salmon population size. <u>They could find no credible peer-reviewed scientific studies that demonstrated predation by non-native fish species was an obstacle to the restoration of any of the fisheries listed under the ESA.</u>**

Their finding substantiated previous findings by the National Academy of Sciences "Independent Review Panel" and a scientific panel of anadromous fish experts convened by the State Water Resources Control Board that found striped bass predation to be the lowest level stressor in the estuary and one that did not impact the populations of those species listed under the ESA.

We therefore urge you to not repeal the 1996 Striped Bass Management Plan and to not adopt the proposed Delta Fisheries Management Policy.

Sincerely,

David J. Ostrach Ph.D., Science Advisor
Allied Fishing Groups and Nor-Cal Guides & Sportsmen's Association

* The Science Panel's report from the Predation Workshop can be found at http://deltacouncil.ca.gov/sites/default/files/documents/files/Fish_Predation_Final_Report_9_30_13.pdf