



"The New Voice of Salmon"
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September 24, 2012

Mr. Phil Isenberg, Chairman
Delta Stewardship Council
980 9th Street #1500
Sacramento, CA 95814

Dear Chairman Isenberg:

Attached are the comments of the Golden Gate Salmon Association on the Final Delta Draft Plan. We have focused specifically on the issues that impact the Central Valley salmon.

We are concerned that the Final Draft Plan does not include enough salmon actions to recover the species. The salmon cannot be recovered with Delta habitat actions alone. Improved Delta flows are critical as the Draft Plan points out. In addition, we believe there are a number of upriver actions that must be included if the salmon are to be recovered. We are providing you with our current Salmon Plan draft and urge the Council to include several of these key projects in its plan.

We appreciate the opportunity to comment and will be pleased to provide additional technical assistance if it can be helpful.

Sincerely,

A handwritten signature in black ink that reads "Dick".

Dick Pool
Secretary
Golden Gate Salmon Association

cc. GGSA Executive Committee
Victor Gonella, John McManus, Roger Thomas, Zeke Grader

Golden Gate Salmon Association
Comments on the Delta Stewardship Council
Final Delta Draft Plan

September 24, 2012

Summary

GGSA has reviewed Chapter 4 of the Final Draft Delta Plan titled “Protect, Restore, and Enhance the Delta Ecosystem”. Our comments relate particularly to the provisions of the plan that relate to the recovery of the four runs of Central Valley salmon.

GGSA commends the drafters of the draft plan in the comprehensive science analysis included in the plan. It has identified and detailed most of the stressors that have been responsible for the rapid declines of the salmon populations in the past decade. However, too often the plan assumes that the same fixes that apply to delta smelt and other resident Delta species also apply to salmon. Salmon cannot be recovered with habitat improvements in the Delta. The most significant Delta action that can assist in salmon recovery is improved Delta flows. The final draft plan recognizes the needed flows and suggests solutions but the BDCP does not. There are many upstream problems which are created by the operation of the State Water Project and the Central Valley Project that the Delta plan ignores. We have included a number of the projects that solve these problems in our salmon plan and we urge that the draft plan be amended to include them. In the 2009 State legislation, the Delta Stewardship Council was given the authority and responsibility to deal with upriver problems dealing with migratory species. One of the serious shortcomings of the BDCP plan is that it assumes habitat changes in the Delta will recover salmon. It appears that the Delta Council has picked up a number of the projects that do not benefit salmon.

Comments

GGSA has highlighted a number of statements made in Chapter 4 of the draft plan. In a number of cases the draft plan discusses a stressor in detail but then either generalizes a solution or fails to present a solution. In other instances it suggests a solution that GGSA feels is inappropriate for salmon or does not apply to salmon. We will highlight these. Our comments are in italics.

Page 144 Line 4 Statement on Stressors:

“Stressors include altered flows, habitat loss, entrainment in Delta diversions, degraded water quality, harmful nonnative species, migration barriers and impacts from hatcheries.” At the bottom of page 144 the plan adds harvest management as a stressor.”

GGSA agrees with all of these except impacts from hatcheries and harvest management. We do not consider these as stressors and suggest they be removed from this statement. We will elaborate on both of these later in these comments

Page 150 line 22 Statement on Water Quality and Flow Objectives

“Updating the water quality objectives of the Delta, including an update of flow objectives, is important to protect the Delta ecosystem and the reliability of the Delta’s water supplies. The sooner these objectives are set, the earlier the ecosystem can be protected and restored, the greater possibility that a successful BDCP can be approved, the earlier a more reliable water supply can be approved and therefore the coequal goals can be achieved. That is why the Delta Plan calls upon the SWRCB to complete its work by specified deadlines.”

GGSA agrees with part of this statement. We are submitting comments to the SWRCB on Delta flow improvements that are needed and will provide the Council with a copy of our filing. Improved delta flows are not part of the BDCP. The BDCP attempts to substitute Delta habitat work for recovery instead of flows. There are only a few Delta habitat projects proposed by the BDCP that will benefit salmon. Therefore, GGSA does not believe there are enough salmon improvement projects included to allow the current BDCP habitat plan to be approved by the fishery agencies. We urge the Council to help correct these deficiencies. Flow improvements must be made as proposed by the Council and the BDCP or other entities must address upriver problems if salmon are to be recovered.

Page 153 line 5 Statement on Entrainment

“In the Delta, entrainment occurs primarily at the CVP facilities, (Tracy Fish Facility and the nearby Delta Mendota Canal) and the SWP facilities including Clifton Court Forebay and the Skinner Fish facility, as well as other smaller Delta intakes. Much of the time, net channel flows in most of the south Delta are toward the pumps. This increases the possibility that small weak-swimming young smelt or salmon will be entrained. Depending on the type and size of the fish, the closer a fish is to the pumps, the more likely it is to be entrained. Greater reverse flows caused by pumping in the south Delta increase the numbers entrained.”

GGSA commends this statement by the Council and the science behind the statement. This is a very strong statement and refutes the allegations that have been made for years by the exporters that “other stressors” are the problem and not the pumps.

Page 153 line 14 Statement on Salvage

“Some of the entrained fish are “salvaged,” meaning they are caught in facilities at the pumps and then trucked and released to an area beyond the pumps’ influence. The salvage process decreases the number of entrained fish (including salmon). Unfortunately, however (most) fish including delta smelt are not able to survive the collection, handling, transport, and release.”

GGSA strongly agrees with these statements. The salvage process is archaic at best. Since year 2000 over one hundred million fish (102.856,027) have been “salvaged” with this obsolete process. This figure includes twenty six million valuable gamefish many of which are endangered. GGSA believes this system kills more fish annually than any other man made facility or process in North America. In its salmon plan GGSA proposes a modernization of this process including the use of modern recovery and release pens. We urge the Council to support this project.

Page 153 line 19 Statement on Predation

“Alteration of water flows also leads to losses of fish from predation. High rates of predation occur at the pumps and the sloughs and channels near the pumps. Small fish drawn into this part of the Delta have a very low chance of survival.”

GGSA research indicates that predation in and around Clifton Court Forebay is a major problem which may be as big or even bigger than entrainment. The number of juvenile salmon lost to predation in this area likely runs into millions. The GGSA plan proposes two projects which will deal with much of this predation. The elimination of predation at the pumps combined with a modernized salvage process has the potential of saving millions of salmon smolts and tens of millions of other fish which now perish. These are two other projects we urge the council to support.

Page 154 line 17 Statement on Habitat Loss and Exploitation

“Habitat loss and fragmentation resulting from human land use causes species loss worldwide (Foley et al 2005). In estuaries and coastal areas, habitat destruction coupled with exploitation like overfishing are the leading causes of species declines and extinctions (Lotze et al 2006).”

There are two statements here. One deals with habitat loss and the other deals with overfishing. GGSA fully agrees with the habitat loss in the Central Valley as a root cause of the salmon declines. GGSA agrees that worldwide there are many instances of continued overfishing, but the overfishing statement does not apply to Central Valley salmon. The federal government and California have rigorous laws and regulations that are in place to ensure that overfishing does not damage a fishery. Even when fishing is

not the problem, a fishery will be shut down to prevent extinctions. This occurred in the California salmon industry in 2008 and 2009. The problem was over pumping and other freshwater habitat destruction and poor ocean conditions. The federal government completely shut down California salmon fishing to save the species. The problem was not overfishing. GGSA suggests this draft plan statement either be dropped entirely or clarified to eliminate the overfishing implication.

Page 156 Statement on the Yolo Bypass and other Habitat Areas

GGSA strongly supports the early implementation of the Yolo Bypass project and the notching of the Fremont and other weirs to provide a continuous flow of water down the bypass. This will eliminate stranding of both upstream and downstream salmon migrants. We believe this project should be strongly supported by the Council and accelerated if possible. We are concerned that it will be held up by the delayed BDCP process. On page 159 line 45 the draft says:

“Floodplain restoration should thus focus on early flooding followed by rapid draining. This provides important migration and nursery habitat for native species while keeping nonnative species, including predators at bay.”

This “rapid draining” statement is wrong particularly with respect to the Yolo Bypass. The bypass has been a major problem for migratory salmon and other species like sturgeon for years. When the bypass floods many thousands of salmon smolts enter the bypass. When the flood passes a high proportion of these fish are trapped and perish in the stagnant pools left along the bypass. The same problem exists for upstream salmon and sturgeon migrants, Every year Fish and Game must attempt to save these fish by wading into the pools and moving the adults by hand. The only way to solve this problem is to use variable notches in the weirs such that enough flow continues down the bypass all year to eliminate upstream and downstream stranding.

GGSA has reservations about the benefits to salmon of some of the other habitat areas cited on this page. The thing that salmon need the most in these areas is the recreation of shallow water habitat along their migration paths so that the migrants can avoid predators. In addition, they need restored nursery habitat in Suisun Bay and Cache Slough. Flooding of islands can be a negative for salmon. Under the Cash Slough write-up the flooding of Liberty Island is mentioned. The levy breaches in that project have mostly created predator habitat highly detrimental to salmon. On page 153 line 38 the draft plan expresses the same flooding concerns that can harbor predators.

Page 156 line 14 Migratory Corridors for Native Species

“In the past, the Delta was a migration route and also an important nursery area for young salmon (or smolts). Much of the Delta today presents real risks to the migrating salmon: it is no longer a suitable nursery for salmon smolts.(Williams 2006). Some Delta channels do provide a greater chance of fish survival than others. For example, salmon leaving the Sacramento River and entering the interior Delta through the Delta Cross Channel have significantly lower survival rates than fish that stay in the river (Newman 2008), demonstrating that the central Delta has become a gauntlet of risk instead of a viable migration corridor.”

GGSA agrees the nursery areas for salmon have been mostly lost. We urge priority support by the Council for the restoration of Cache Slough and Suisun Marsh.

GGSA concurs with the language in the following paragraphs that identifies the CVP and the SWP pumping and predation as the primary killers of the salmon smolts. The draft plan does not cite the solutions to these problems. GGSA suggests that the plan cite the National Marine Fisheries Service biological opinions and the resulting Reasonable and Prudent Alternatives of 2009 which partially reduced pumping and restricted flows through the Cross Channel gates as necessary to avoid extinctions. GGSA also points out that much of the remaining solutions lie in increased through Delta water flows. The migration corridors section of the draft plan does not mention these increased flows as part of the solution to the problems highlighted on page 156.

Page 159 line 1 Impact of Physical Barriers

“Physical barriers in the Delta help maintain water supplies for agriculture but interrupt fish migration with ledges and drops such as bridge pilings, boat docks, narrow channels with riprapped edges, or the intakes of the SWP and CVP pumps, create attractive spots for predator fish to feed on migrating species, The Delta Cross Channel is an example. Sometimes a barrier can have a positive effect. Federal state and local officials have recently tested novel bio-acoustic fish fences (BAFFs) at Old River and Georgiana Slough that use light sound and air bubbles to steer migrating fish into channels that are thought to provide better habitat and greater chances of survival.”

GGSA concurs that the Delta Cross Channel interrupts migration. The other barriers mentioned such as pilings, boat docks narrow channels etc. are more attractive spots for predators than they are migration barriers. The GGSA salmon plan targets a number of these predation “hot spots” with proposed solutions. GGSA is providing the Council with these plans and we suggest that the solutions be incorporated into these write-ups.

Page 159 line 48 Actions Above the Delta

“Actions above and below the Delta also compliment actions in the Delta to restore migratory corridors for fish and wildlife. Working through the Central Valley Project Improvement Act (CVPIA) and other programs, the Bureau of Reclamation, USFWS and DFG have modified Shasta Dam to release colder water for salmon and trout, removed barriers to fish migration such as the Red bluff Diversion Dam, screened water diversions to reduce entrainment, restored habitats at the Sacramento River National Wildlife Refuge (NWR) and San Joaquin River NWR ,and improved habitats in Sacramento and San Joaquin River tributaries where salmon spawn.”

GGSA suggests that the CVPIA projects be separated from the other projects The Shasta Dam cold water project was not a CVPIA project nor was the Red Bluff Dam project. The Battle Creek Restoration Plan mentioned on line 1 of page 160 is not a CVPIA project. We suggest that the CVPIA be discussed separately. The reason is that GGSA and many others conclude that the CVPIA restoration plan has been mostly a complete failure. The CVPIA restoration fund was created in 1992 by the CVPIA legislation. The water contractors and the power companies are required to furnish \$50 million annually to the fund. The fund was supposed to be used for the doubling of the wild salmon populations. Instead of on the ground projects, most of the funds have gone to Bureau and Fish and Wildlife agency staffing, overhead spending and studies. Congress is unhappy with the program and the water contractors who put up the money are also upset with it. In December 2008 a panel of independent scientists issued a report on the CVPIA restoration plan titled “Listen to the River”. In it they said,

“The specific “doubling” mission itself may make little scientific or policy sense, especially within the time frames demanded. Yet it is also far from clear that the agencies have done what is possible and necessary to improve freshwater conditions to help these species weather environmental variability, halt their decline and begin rebuilding in a sustainable way. A number of the most serious impediments to survival and recovery are not being effectively addressed, especially in terms of the overall design and operation of the Central Valley Project system.”

In 2011, a GGSA study concluded that less than \$4 million of the nearly \$50 million available that year in the Restoration Fund was spent on projects that would provide real salmon progress.

There is some evidence that the USFWS and the Bureau are making efforts to turn the program around. GGSA recommends that the Council commend the program for the positive diversion screening work that has been accomplished in the past and then urge that the program focus more on the critical early projects that demonstrate they can provide positive improvements to the ocean fishery. GGSA believes it has several of these in its salmon plan.

Page 160 line 7 Battle Creek Restoration

“For example, on Battle Creek CVPIA Restoration Plan actions to remove multiple dams and fish ladders are being implemented through the Battle Creek Salmon and Steelhead Restoration Project.”

The Battle Creek project is an excellent project but it is not part of the CVPIA Restoration Plan. It is separately funded. The project is designed to assist in the recovery of the listed winter and spring run salmon. A segregation weir has been installed at the Coleman hatchery to block fall run salmon from being able to migrate up Battle Creek and cross breed with winter and spring run fish. GGSA agrees with this action but points out that 48 miles of spawning area is now being denied to the fall run. The fall run itself is in deep trouble and other spawning areas need to be developed to allow the fall run to recover.

GGSA also points out that production in the upper tributaries does not necessarily translate to adult salmon in the ocean. Current predation losses down the Sacramento River and predation and entrainment losses in the Delta can negate most of the upriver gains. The Coleman hatchery is the largest salmon hatchery in the state releasing 12 million smolts annually. It is located on Battle Creek. Yet, because of the river and Delta losses, Coleman ranks next to the bottom of the all the hatcheries in its contribution to ocean adults. This further emphasizes the urgency of dealing with the river and Delta problems in order to realize upriver improvements like Battle Creek.

Page 165 Line 3 Hatcheries and Overfishing

“The use of hatcheries to breed fish, and regulations to limit overfishing, have long been important tools for aquatic resource management. But they carry their own risk. Hatcheries can allow interbreeding, weakening the genetic fitness of a fish species (Israel et al 2011).”

Recently the Hatchery Scientific Review Group (HSRG) produced a report on recommended changes in hatchery practices. GGSA strongly supported the proposal to breed wild fish with hatchery fish to minimize the impact of interbreeding. This planned action should be noted in the Draft Plan write-up. GGSA has a number of concerns with other HSRG proposals. We have furnished our comments to the Council.

Page 166 Line 6 Harvest Risk

Harvest of hatchery enhanced fish stocks can pose additional risks to native species. Overfishing itself reduces genetic diversity.

GGSA does not understand the statement that the harvest of hatchery fish can cause risks to native species and the statement that overfishing itself reduces genetic diversity. We see no supporting logic for these statements and suggest they be dropped. As stated earlier, GGSA does not believe the California salmon stocks are overfished. Salmon fishing is one of the most closely regulated fishery stocks in the country. We believe that comments along these lines tend to confuse the reader as to what is most important in the recovery of the salmon. We believe these are minor issues in the overall recovery strategy and serve no real purpose.

Page 165 Line 10 Fishing Regulations

Fishing Regulations are generally used to protect fish from overharvest, but regulations also help or hurt other fish species. For example DFG recently proposed changes to striped bass sport fishing regulations allowing greater harvest of striped bass in the hopes of reducing bass predation on native fish especially salmon. These changes were rejected by the Fish and Game Commission, but it is likely other regulations will be recommended particularly as the emphasis on saving native fish from nonnative invasive species continues. Future proposals should be based on an improved understanding of anglers' behavior as well as a better understanding of the likely response in populations of striped bass and other predators.”

GGSA does not believe that angling regulations can be effective in regulating the populations of striped bass for a variety of reasons. First, there is evidence that the majority of the striped bass predation occurs in the vicinity of Clifton Court Forebay and behind the louvers and trash racks that lead to the pumps. These are no fishing zones. The draft plan points out that there are many other aquatic salmon predators than striped bass. These include pike minnows, black bass, sunfish, crappie and catfish. GGSA believes better predation avoidance policies for all aquatic predators can be developed using other methods.

- *Avoid the concentrating of salmon smolts at predation locations. Keep the smolts spread out and give them places to hide in turbid water or shallow habitat.*
- *Remove striped bass and other predators at known hot spots where smolts are forced to congregate (Clifton Court).*
- *Remove the hotspots where predators can hide and attack passing smolts.*

GGSA has fourteen projects in its salmon plan that target heavily on predation using these different techniques.

Page 166 line 13 Biological Risks

“Wild and hatchery fish of the same species often compete in nature. For Example, wild and hatchery reared Chinook salmon share the same habitat and diet. Hatchery released salmon are larger than wild salmon, resulting in possible predation on wild salmon of the same age.”

We know of no basis for this hypothetical statement. It assumes predation is selective. We suggest it be dropped

Page 166 Line 16 Hatchery Production

“Hatchery production of salmon masks the decline of wild salmon, contributes to the genetic dilution and loss of wild salmon, and increases competition for limited freshwater and ocean resources on which wild salmon depend (McGinnis 1994). Throughout the world overfishing has led to collapsing fish stocks and food web disruptions (Pauly et al 1998) Hatchery and harvest effects often also interact. Harvest of salmon from waters where both hatchery and wild fish occur has put wild salmon and steelhead at risk. (lackey 2003). Wild salmon mortalities occur even with controlled fishing regulations. A portion of all fish released after being hooked and caught do not survive. Capture methods such as the use of barbless hooks and use of landing nets can help reduce mortality of released fish.”

These are the arguments of those who oppose hatcheries of any type. If the Central Valley were a system teeming with salmon without pumps, diversions, reservoirs and operations designed to deliver water to agriculture industry and homeowners some of these issues could be problems but even then, they would be minor problems. The facts are that since the construction of the dams up to 90% of the salmon in the Central Valley are produced in hatcheries. It has always been that way and hatchery production will continue to dominate the mix of salmon in the ocean. The ratio of hatchery fish to wild fish is not a mystery as the statement implies.

We see no value in comments like “Wild salmon mortalities occur even with controlled fishing regulations.” In a mixed stock fishery it is obvious that some of both stocks will be harvested. Statements like this make no contribution to the management of salmon and the need to boost the production of wild fish. That problem will be solved in the fresh water not in the ocean. There is not enough natural spawning area left in the Central Valley system to ever be the sole support of a commercial and recreational fishery. Absent the current flow, temperature and water operational problems of the Central Valley there is strong evidence that the combined hatchery and wild fish system is very capable of sustaining populations of well over one million ocean adults. From 1977 through 1995 this same system averaged over 750,000 ocean adults peaking at 1.6 million in 1995. Following the drought of the early 1990s the system again

averaged over 750,000 ocean adults peaking over 1 million again in 2002. In recent years there have less than 200,000 returns. GGSA contends that most of the statements made under biological risks are insignificant hypothetical possibilities. We see little or no value in their inclusion.

The use of barbless hooks for trolling to reduce mortality has been in the California regulations for years. The use of circle hooks for mooching is also required to reducing hooking mortality. The statement should be amended to note these practices are the law in California.

The GGSA statement does not mean that we accept the dwindling returns of wild salmon as acceptable. What we mean is that hatchery practices are not the primary reason that the ratio of wild fish to hatchery fish is declining. Neither are hatchery practices the solution to strengthening the wild runs. Line 25 on page 166 says the same thing. "Hatcheries and harvest are not the root problem of species declines in the Delta and the Central Valley DFG and NMFS 2001)"

There is strong evidence that the spawning rearing and migration paths of the wild fish have not been maintained to the degree necessary to sustain a healthy population of wild salmon. We believe these should receive strong emphasis by the Council because they can be repaired if they are given priority

- The spawning area below Keswick Dam down to Redding represents some of the best spawning conditions in the Central Valley. However, the area must be periodically replenished with spawning gravel. This has not been adequately accomplished and today much of this area is bedrock where no wild salmon can spawn.*
- In the same upper Sacramento zone, when wild salmon fry emerge from the gravel there is a lack of protective habitat along the edges of the river where the fry can hide from predators. This creates a huge predation loss. It is correctable.*
- There are a number of upriver tributaries that would be capable of supporting wild spawning. They have been allowed to silt up and are currently unusable for salmon spawners. They can be recovered.*

These are some of the examples where improvements need to be made for wild salmon. However, without changes in river and Delta conditions and flows most of the upriver projects would be unproductive. Changes have to be made in both areas and the wild runs will rebound. The GGSA plan includes nineteen projects that will improve the production of wild salmon. The paragraph beginning on line 25 of the draft Delta Plan supports these same conclusions.

Page 167 line 23 Problem Statement as Part of the Policy Recommendations

“The best available science suggests that currently required flow objectives within and out of the Delta are insufficient to protect the Delta ecosystem (SWRCB 2010). Additionally, uncertainty regarding future flow objectives for the Delta impairs the reliability of water supplies that depend on the Delta or its watershed. The predictability of water exports cannot be improved and the BDCP cannot be implemented without timely SWRCB action to update flow objectives.”

GGSA strongly agrees with this statement and believes it is the overarching policy that demands salmon solutions to meet the co-equal objectives.

Page 168 line 24 Problem Statement Regarding Delta Habitat

“Features of the Delta landscape, particularly the condition of its waterways, the elevation of its land, and other environmental conditions, have changed dramatically over the past 160 years. Damage to the habitats that support native species in the Delta has led to declines in native animal and plant populations, affecting both resident and migratory species.”

This statement leads to the policy statements on page 170 and the recommendations on page 173. Most of these habitat projects are taken from the BDCP. There are some very important elements of the proposed habitat plan that can help salmon. They include opening The Yolo Bypass and restoring the tidal marshes of Cache Slough and Suisun Bay as nursery habitat. The creation of shallow water habitat in the salmon migratory paths is also critical. GGSA is concerned with the huge cost of the habitat plan proposed by the BDCP and the long delays in its implementation. The cost of setback levies is one example. We believe that the creation of the shallow water habitat that salmon need by modifying levy banks is a vastly cheaper solution and can be accomplished much sooner.

GGSA is concerned when statements are made that the BDCP habitat plan and the Delta Plan will recover migratory species. Salmon cannot be recovered by spending billions of dollars rebuilding the Delta. We think it is very important that the Stewardship Council, the BDCP, the governor and the Department of interior understand this. Delta habitat changes alone cannot recover the salmon. Improved flows are the primary fix that salmon need in the delta. Beyond that, there are many upriver changes that must be made if the salmon are to be recovered. We urge that the Delta Plan include language on these upriver needs.

Page 175 line 32 Angling Regulations

“the Department of Fish and Game should develop, for consideration by the Fish and Game Commission, proposals for new or revised fishing regulations designed to increase populations of listed fish species through reduced predation by introduced sport fish. The proposals should be based on sound science that demonstrates these management actions are likely to achieve their intended out come and include the development of performance measures and a monitoring plan to support an adaptive management.”

Predation is unquestionably a major factor in the freshwater losses of juvenile salmon in the Central Valley system. It may in fact be the most important factor after lack of through delta flows. It occurs everywhere from when fry first emerge from the spawning gravel until those smolts lucky enough to avoid being eaten along the way swim under the Golden Gate. Much of it is built into the current water delivery system where juveniles are forced to traverse many miles of rip-rapped river channels where there is no place to hide or in places like the Delta export pumps where juveniles are pulled directly into a predator feeding zone. If the salmon runs are going to be recovered, predation clearly must be better controlled.

GGSA does not believe that angling regulations alone can or will be effective in controlling striped bass predation. As we pointed out in our comments on page 7, a lot of the predation occurs in an around Clifton Court Forebay where anglers do not have access. Also, a lot of aquatic predators besides striped bass impact the losses of juvenile salmon. These include pike minnows, black bass, sunfish, crappie and catfish. GGSA believes more effective predation programs can be achieved by targeting “hotspots” where significant predation exists. In some cases predation can be controlled by simply giving the juvenile salmon someplace to hide. In other instances places where predators hide to attack passing juvenile salmon can be eliminated. In Clifton Court Forebay there is no choice. The predators will have to be removed. GGSA has fourteen projects in its salmon plan that address predation. We suggest the Council review these for possible endorsement and inclusion in the draft plan.

Page 176 line 16 Manage Hatcheries to Reduce Genetic Risk

“As required by the National Marine Fisheries Service, all hatcheries providing listed fish for release into the wild should continue to develop and implement scientifically sound Hatchery and Genetic Management Plans (HGMPs) to reduce risks to those species. The Department of Fish and Game should provide annual updates on the status of HGMPs within its jurisdiction.”

GGSA does not believe sound Hatchery and Genetic Management Plans should be restricted to hatcheries producing listed fish. GGSA suggests these programs should be adopted in all hatcheries. Recently the Hatchery Scientific Review Group (HSRG) proposed improved genetic practices for all salmon hatcheries. GGSA does not agree with everything in their report but there are several good genetic proposals. GGSA released its comments on the HSRG report on September 18th and a copy was sent to the Delta Council.

Page 176 line 22 Implement Marking and Tagging Program

By December 2014, the Department of Fish and Game, in cooperation with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service, should revise and begin implementing its program for marking and tagging hatchery salmon and steelhead to improve management of hatchery and wild stocks based on recommendations of the California Hatchery Scientific Review Group, which considered mass marking, reducing hatchery programs and marking selective fisheries in developing its recommendations.”

GGSA does not believe the Delta Council should dictate these hatchery practices. Mass marking has genetic benefits but it is very expensive to implement and then manage the way the HSRG report suggests. The goal of the Council, the fishery agencies and GGSA is to implement changes that will rebuild and stabilize the salmon runs as part of achieving the co-equal goals. As stated earlier, hatchery genetics was not the cause of the salmon declines nor is it the most important solution. The recovery of the salmon is primarily a question of setting priorities and then getting funding for key projects. Money will dictate what is done, what is not done and when. GGSA is very concerned that if expensive programs like mass marking are forced ahead of projects that would more directly get at the solutions to rebuilding the runs, progress stops. The salmon runs will not be doubled and the co-equal goals will not be met.. The HSRG proposals are not mandatory. They are only advisory. GGSA believes the Council should suggest actions but leave the priority decisions on the best way to rebuild the runs to the fishery managers with the lead being taken by the Department of Fish and Game. See GGSA review of the HSRG report for more information.