

Policy Options to Preserve the Health of the Delta smelt

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Figure 1. Juvenile Delta smelt (Daniel Kolke/ Department of Water Resources).

Delta smelt populations continue to decline as more water is diverted out of the Delta for agricultural and drinking water uses. The Delta ecosystem is an important California natural resource due to the amount of water that it provides the state. The Delta smelt, endemic to the Delta, is an important indicator species that can signify the overall health of the Delta. Declining Delta smelt can indicate an increasingly unhealthy Delta. Because the Delta smelt is an endangered species, it is required to be protected under the Endangered Species Act (CDFW, 2017).

In order to protect the Delta smelt, policy must be implemented to ensure that the Delta is healthy enough to sustain their populations. However, the Delta also provides water for 4.5 million acres of farmland in California (Water Education Foundation, n.d.). In order to create a policy that effectively manages the Delta, the policy must also adequately accommodate the needs of farmers that rely on water to irrigate their crops. An effective policy is one that combines the needs of both the Delta ecosystem and the needs of farmers.

Policy Options

There are three policy options that may adequately manage the Delta ecosystem, while benefiting farmers. These policies include creating collaborative group to manage the Delta that has the ability to enforce, implementing a “God Squad” type exemption to the ESA for the Delta smelt, and enacting an improved diversion reduction program for farmers. Table 3 outlines each of the three policy options and gives them a rating when compared to four criteria. The criteria are benefit to farmers, protection of Delta smelt, cost, and time. By evaluating each of the three policy options in terms of these four criteria, an educated decision can be made in order to determine the best possible way to manage the Delta. It should be noted that for policy option one, there is a range of medium to strong for both the benefit to farmers and the protection of Delta smelt. This is because it is difficult to know what decisions the collaborative group would be making.

Table 1. Policy options with criteria.

Criteria	Policy Option 1: Create a collaborative group with the ability to enforce.	Policy Option 2: Implement a “God Squad” exemption for the Delta smelt.	Policy Option 3: Improved diversion reduction program for farmers
Benefit to Farmers	+/- to +++	+++	+/-
Protection of Delta smelt	+/- to +++	---	+/-
Cost	---	+/-	---
Time	---	+/-	---

Key: (Strong) +++ (Medium) +/- (Weak) ---

Policy Option 1: Create a Collaborative Group with the Ability to Enforce

Policy option one is to create a collaborative group with the ability to enforce. In terms of managing the Delta, collaborative groups have been used before. Two of these groups are CALFED and the Delta Stewardship council. CALFED was a large collaborative governance group comprised of many representatives from a variety of stakeholder groups representing federal, state, and other interests. Although some would consider CALFED to be somewhat successful, it was a very expensive project and there was a lack of decisions made (Water Education Foundation, n.d.-c). The Delta Stewardship Council replaced CALFED and is still being used today. The Delta Stewardship Council, although more effective than CALFED, is unable to legally enforce their decisions (Legislative Analyst's Office, 2015). A group with participants representing environmental, agricultural, and government agency interests, and with the ability to legally enforce their decisions, may be more effective at managing the Delta. This option would require extensive time and money in order to gather all of the necessary representatives. This option has a potential to benefit farmers and protect the Delta smelt, but it is difficult to determine how effective this group would be at achieving these goals, as the decisions made through this group cannot be accurately predicted.

Policy Option 2: Implement a “God Squad” Exemption for the Delta smelt

Policy option two is to implement a “God Squad” exemption for the Delta smelt. The “God Squad” is a group comprised of a variety of federal and state agency representatives that can decide to allow a species listed under the Endangered Species Act to go extinct. An exemption to the Endangered Species Act is not commonly done and can only be implemented if the benefits of the proposed project outweigh the cost of having a species go extinct (Yuknis, 2011). This option would benefit farmers, as it would allow them to continue to grow their crops without having their water use regulated in order to protect the Delta smelt. Additionally, this option would require a medium amount of time and money in order to make the exemption decision, as proper studies must be conducted, and agency representatives would have to devote time to making their decision. However, this time and money needed would not be ongoing and once the decision was made, no further time and money would be needed to implement the decision. Policy option two would be the worst option to protect both the Delta smelt and the

Delta ecosystem as a whole. Morally, many environmentalists believe that letting a species go extinct is wrong. Furthermore, Delta smelt are an important indicator species and without them it may be difficult to tell how healthy the Delta is and how other fish species, such as salmon, will be impacted (Horst, 2019).

Policy Option 3: Improved Diversion Reduction Program for Farmers

The third policy option is to create an improved diversion reduction program for farmers. In 2015, a voluntary diversion reduction program was proposed by farmers. Around 200 diversion reduction plans were submitted by farmers and these plans proved to be moderately successful. Using a similar framework to what was created in 2015, a more widespread program could be implemented. This program would not be mandated, but farmers could be given financial support if they submitted a diversion reduction plan. In 2015, some of the strategies farmers used to reduce their diversions included planting less water intensive crops, reducing the amount of irrigation time, and using more efficient irrigation equipment/techniques (George, 2016). Although farmers would have to change their behavior, this option would educate and empower farmers to use the strategies that worked best for them. If they reduced their water use, they would receive money from the government, which would likely be a strong motivator. Environmentalists would also likely be satisfied with this decision. This option would likely have a high cost to the government.

Recommendation

In terms of the three policy options, policy option two is a promising option because it would satisfy farmers and Republican government stakeholders. This policy would not satisfy environmentalists because it would likely cause the extinction of the Delta smelt. Furthermore, although this policy option is seemingly very promising for farmers and Republican government stakeholders, it could potentially cause a higher cost to these stakeholder groups because of the way an exemption to the ESA is allowed. The 1978 amendment to the ESA, which outlines the process of creating an exemption to the ESA, explains that the exemption applicant is required to pay for mitigation measures for the lifetime of the project. In the case of the Delta smelt, the exemption applicant could likely be farmers desiring more water. If their exemption was granted,

these farmers would have to pay for mitigation efforts, which would likely last forever. Furthermore, because the Delta smelt is listed as endangered through both the federal ESA and the California ESA, the exemption process through the God Squad would only apply to the Federal ESA and the Delta smelt would still be protected through the California ESA (Corn et al., 2017). Although policy option 3 seems promising, it would require an extensive amount of time and money to implement an exemption to the federal ESA, and it offers no solution for creating an exemption to the California ESA.

Policy option one is to the best compromise for both farmers and environmentalists. Because representatives from the important stakeholder groups would be a part of this collaborative governance group, a compromise that satisfies both farmers and environmentalists could possibly be reached. Although this is a promising option for farmers and for the protection of the Delta smelt, gathering many representatives may take too much time and money to make a significant impact in the declining Delta smelt population. Additionally, the group could face the same issues that CALFED did and it could prove to be difficult to make decisions with so many stakeholder representatives. Furthermore, the group would likely need a representative from an agency that had the legal power to enforce decisions. This could prove to be difficult, as agencies with the legal power to enforce are likely busy enforcing laws elsewhere.

After reviewing each of the three policy options, I would recommend policy option three. Because a program similar to policy option three has been successfully implemented in the past, this option seems promising. Furthermore, this option allows farmers to continue to irrigate their crops. It would likely have more support from farmers than a policy that required farmers to change their behavior. Farmers would instead be incentivized to change their water use. I believe that this option is also the most feasible. Farmers use extensive amounts of water and they should change their water use. This option places the responsibility on the farmers, without requiring them to stop farming or greatly limiting the water available to them. It should be noted that policy option one is the best option for allowing all stakeholders to be a part of the decision-making process. Policy option three does not allow environmentalists to voice their concerns. Additionally, policy option three would likely not have as much immediate support as policy option two. Farmers may still be hesitant to be a part of a diversion reduction program, whereas with policy option two would seem appealing to farmers because it would allow for more water diversions. However, policy option three would provide more benefits to farmers, when

compared with the long-term costs of a God squad exemption. Overall, policy option three is the most promising and should be pursued as a viable option to properly manage the Delta.

In order to ensure that policy option three was implemented in the most effective way, a variety of water diversion reduction strategies should be explored. Clear reduction strategies should be outlined for farmers. The strategies could include, but are not limited to, planting less water intensive crops, reducing the amount of irrigation time, and using more efficient irrigation equipment/techniques, which were the strategies that were effectively used in the 2015 (George, 2016). Because the 2015 program was a success, farmers that participated in that program could be contacted and be mentors for new farmers entering the diversion reduction program. This mentorship could ease farmers' worries and further convince them to participate in this voluntary program. This, along with a monetary incentive from the government if water use is decreased, would encourage farmers to participate in this program and would make it as successful as possible.

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