**Response to Q&A**

**Webinar on USFWS Restoration Plan for the Farallones**

*The 86 questions received in the Q&A box during the webinar on July 16, 2020, have been aggregated into broad topics below to avoid duplication and answered briefly by our team of scientists. For most questions, more detailed and documented answers may be found in the Environmental Impact Statement (EIS) prepared by the US Fish and Wildlife Service for the plan to eradicate introduced mice from the South Farallon Islands.*

**What’s happening with the California Coastal Commission (CCC)?**

1. Why does the State Coastal Commission have jurisdiction on the federally owned and administered Farallon Islands?
2. What reservations would the Coastal Commission have to approving the eradication project?
3. I submitted a letter in support a few years ago. Do I now submit another one?
4. What changes were made since the last consistency hearing?
5. Is the Coastal Commission the same make-up as when Anacapa Isl. eradication was "approved."
6. Would you like letter of support from the US Navy?
7. When is the deadline for comment letters?

The CCC, a State agency, has oversight in the California coastal zone, which includes the waters adjacent to the Farallon Islands. The CCC considered the Service’s plan in July 2020. The CCC staff’s scientific report agreed with the plan and recommended a “consistency determination.” The Commission itself is composed of political appointees and changes regularly. The CCC requested additional information on operational details, which are usually developed after plan approval. The Service’s plan is now tentatively scheduled be considered at the CCC’s November meeting. The public and other agencies are encouraged to submit comment letters, although the CCC has not yet formally called for comments.

**Other agencies and consultations**

1. Do you have input from the GGRO vis-a-vis use of rodenticide?
2. Is it not the case that the State of California is a formal partner in this restoration project as a Natural Resource Trustee under the Oil Pollution Act in the Luckenbach matter?

**Who is against the USFWS project and why?**

1. Who is against the eradication project? And why is their pushback on the plan?
2. Who's against it?
3. What has been the main opposition to this project?

WildCare is the main organization opposed to the Service’s plan, along with Richard Charter with the Ocean Foundation and Loretta Mayer with the veterinary drug firm Senestech. Most of the conservation (e.g. Audubon, The Nature Conservancy, American Bird Conservancy, BirdLife International) and scientific (e.g. Point Blue Conservation Science, Cal Academy, Island Conservation) working in the field of ocean conservation support the plan along with wildlife rehabilitators (e.g. BirdLife International).

The main arguments against the plan rest on an opposition to lethal take of introduced as well as native wildlife and the prohibition of any use of rodenticide. Those in favor of the plan understand there will be lethal take, but reason that on balance there will be less animal suffering and take with the removal of the mice. Further, the proposed one-time use (two applications) of rodenticide formulated for island conservation purposes and approved by the EPA is different from the chronic use of rodenticide on the mainland.

**What is the distribution and status of the introduced house mice on the Farallones?**

1. Are the mice found only on South Farallon Island or on other islands of the Farallones?
2. Are there mice on West End?
3. how did house mice get to the Farallones in the first place?
4. Is there an estimate for the number of mice that will be on the island at the time of the project implementation? Will the mice affected by the process be counted as confirmation of estimates?
5. How big (inches/ounces) are these mice?

**How is the USFWS plan designed to take into consideration mouse behavior?**

1. I imagine the team has figured out the best timing, but would targeting the mice at the tail end of the annual die-off be a good strategy (i.e., a small population of hungry mice would consume the rodenticide, so perhaps lower amounts could be used).
2. Can they swim to other islands to escape?
3. Has trapping of the mice been tried?
4. I heard Roger mention that mice have not been observed predating seabirds on SEFI, but Pete noted that seabirds are part of the mouse diet. Please clarify the direct impact from predation of mice on storm-petrels or other seabirds
5. What about the risk of a few mice taking refuge on tiny islets and escaping eradication?

**What can be done to prevent house mice from being reintroduced?**

1. How can /will another infestation be prevented?
2. What measures are in place to ensure that mice do not get re-introduced to the islands?
3. How did the Farallones avoid having rats and how do you guard against reintroduction of mice?
4. Once mice are eradicated from the island what measures will be taken to prevent their reintroduction.
5. With a successful eradication of the mice (seems likely with all of the great work done in planning), what are the plans to ensure mice will not be reintroduced to the island and negate all of the restoration work?
6. What will be done to prevent reintroduction of mice?
7. How can we ensure that once the mice are eradicated, they are not accidentally reintroduced?

**What will be done with the dead mice?**

1. What would be done with the deceased mice
2. how will you collect the carcasses?
3. To collect carcasses, won't you have to trample burrows?

**What are the risks to burrowing owls?**

1. How many burrowing owls might die from eating poisoned mice, in spite of the mitigation efforts?
2. Is the trapping for birds of prey successful enough to mitigate any mortality given that BUOW and PEFA are both species of concern, and can you explain how that process works?
3. Question to Pete: what are the expected effects of poisoned mice carcasses on burrowing owls present at the time of the eradication and how will you reduce those risks?

**How is the plan designed to take into consideration burrowing owl behavior?**

1. Did burrowing owls migrate to the island in significant numbers prior to introduction of Mus domesticus?
2. Have you tried killing the non-migrating owls to see the effect on the Petrels?
3. Please explain the ideal balance of owls to insure an increase in the petrel population. When the mice are gone won’t the owls just go straight to eating the petrels?
4. For Pete: Is there potential risk that Burrowing Owls could return to the Farallons and predate native wildlife after mouse eradication?

**Ashy storm-petrels**

1. What are the actual numbers of Ashy storm petrels over the last 10 years on the island
2. Can you explain what would likely happen to the Islands’ ecosystem if the petrels were absent due to population extinction.

**How is hazing of gulls accomplished?**

1. Please define hazing with examples.
2. What is the hazing process like to keep gulls away from the islands?
3. Hazing gulls...how?

**What are the potential effects on fish and other marine organisms?**

1. May I ask a question about some potential unintended consequences regarding our crab fishery?
2. After the drop at Wake Atoll in the South Pacific (which failed to kill the rats) the USAF did their own testing of fish in the surrounding waters. A recommendation came back for a 942 day fishing ban. How is this going to be different?
3. What can we expect in terms of non-target death rates for fish and if they do not die will they be toxic. If they do die, and crab eat them will the crab be toxic and if people eat the crab will they get sick?
4. If the rodenticide tends to settle to the bottom, what are the potential effects it could have on species that live there? Particularly detrivores like sea cucumbers?
5. As a commercial fisherman, I am concerned about the unintended consequences occurring from runoff into the surrounding ocean. I do the Dominic acid testing for the state regarding our crab fishery. We are limited to 30 ppm in the crab meat. If it exceeds that amount our fishery is closed. How do you propose to protect the potential toxicity of the crabs which we will providing to the public?

**What is the lethal dose, possibility of bait avoidance, and cause of death of the rodenticide on mice?**

1. Is it possible for the mice to learn to stay away from the poisonous pellets/bait?
2. How many doses does it typically take to kill a mouse?
3. How do the mice die?

**What are the potential effects on scavenging animals?**

1. I would like to know if there are many turkey vultures that come to the islands and if more could be attracted by the large numbers of mouse carcasses.
2. Are there carrion eaters be attracted to the island to eat the poisoned mice?
3. Might bait-killed mice significantly poison predator/scavenger species? How minimal might such "side-catch" be?
4. And will members of all of the raptor species be captured for protection?

**What are the potential effects on humans and other animals?**

1. Can the toxin be absorbed through the salamander skin
2. Will other mammals on the island eat the bait?
3. Does the application of rodenticide or clean-up present any danger to humans working on the project?
4. I would like to know if there will be rodenticide testing in various species...ie insects, bird, reptile/amph. to see if they have rodenticide in their system. the Lord Howe Island eradication found the insects ingested the Brodi. but survived, but the birds ate the insects and died. they also found out that the lizards ate the insects and accumulated the brodi. in their bodies and didn’t flush out their system.

**What about alternatives to brodifacoum?**

1. Why was brodifacoum-25D the only SGAR that would work?
2. If regulations did not warrant a rodenticide, what was the 2nd option that would have risen to the top.

**How would the rodenticide be applied?**

1. What time of year do you plan to do the rodenticide application?
2. How is the rodenticide actually applied and how will it be kept out of the marine environment?
3. It was not mentioned how long the rodenticide would take to break down / how long it remains active.
4. Could the brodifacoum make it to the mainland in high amounts?

**What if the program does not remove all the mice?**

1. How many times and for how long will baiting of mice be necessary? Won’t the mice population quickly increase again if baiting is a one-time thing
2. OK... Eradication "one-time-application" program is executed. Ten mice survive. What is the plan for dealing with that situation?
3. Howald et al. 2007 cited a 19% eradication failure rate wrt attempted M musculus eradications. Has the success rate, techniques changed in the last 13 years to increase effectiveness?
4. How can you know that the one-time treatment will kill all of the mice? And what happens if they don’t all die?
5. Do you anticipate multiple eradication events? If the mice return will we have to initiate alternate methods, and if so, will we have to submit a whole new EIS for future eradications?
6. Is there a potential need for successive deployments of rodenticide? What if a colony of mice survive and repopulate the island?
7. If the mice are not eliminated after the application of rodenticide would a second application be necessary

**What are the contingencies if the plan fails?**

1. What if anything has gone wrong with past eradication projects using this rodenticide and this process? Any unforeseen, highly impactful losses?
2. What bad outcome, from other island eradication projects, could potentially befall here?
3. Is there a contingency plan if eradication is not achieved with a one-time application? Will there be additional applications or “spot-treatments” considered?

**Would new native species recolonize the Farallones with the introduced mice removed?**

1. Are there any new or former species likely to recolonize the Farallones after the mice are eradicated, as happened with the elimination of the rabbits (which I was responsible for), with the return of Rhinoceros Auklets?

The Farallones plan is modelled after the successful removal of introduced rats on Anacapa Island in southern California. After the rat eradication on Anacapa Island, the impacted Scripps’s Murrelet population rebounded and two seabirds previous unknown from Anacapa – ashy storm-petrel and Cassin’s auklet – now breed there. We cannot predict with certainty what beneficial effects mouse removal on the Farallones will have, but rebounding of the breeding populations of ashy and Leach’s storm-petrels along with other existing native plants and animals are expected and establishment of breeding fork-tailed storm-petrels is a likely possibility.