

### Comment Response Matrix

House Mouse Eradication from the South Farallon Islands:  
Administrative Draft Environmental Assessment, January 2011

#	Location of comment			Comment	Priority (1-3)	Reviewer	IC response
	Page	Line	(Section)				
	25	10	5.2.1	<i>Remove last sentence of paragraph</i>	2	JD	<i>Text revised per comment</i>
1.	2	28	1.3.1	We do have some evidence on predation on LHSP from whole carcasses recovered and some very long wing lengths from wings. I think you can say PRBO unpublished	3	RB	
2.	3	1	1.3.1	From 2003-2010 mean owl contribution to recorded ASSP predation has been 43%, SD 17%. Annual range from 21 to 81%.	1	RB	
3.	3	5	1.3.1	This is not essentially true; Jim Tietz is putting together a summary of the proportion of banded owls seen alive in consecutive years on SEFI.	1	RB	
4.	3	19	1.3.1	We have no evidence of this from modern SEFI. We also did a 3 year study in the early 2000's using quail eggs, clay eggs and track plates to assess mouse predation on ASSP-like eggs. We saw lots of mouse visitation to sites, but no predation attempts on the quail eggs (our proxy for ASSP eggs)	1	RB	
5.	4	20	1.3.2	Playback netting and burrow traps have made capturing BUOW much easier and we have had good success in recent years; the comment in the text was true maybe 5 years ago.	1	RB	
6.	4	36	1.3.2	The gull colony has moved more to the slopes, and been decreased in the flat terrace areas	2	RB	
7.	5	6	1.3.2	Reference in the middle of a word	3	RB	
8.	4	25	1.3.2	To play devil's advocate, be aware that an argument can be made that a continuous BUOW translocation program would still be much cheaper than mouse eradication	1	RB	
9.	5	43	1.3.3	Maybe you should say "potential predation pressure on salamanders", we have no evidence of direct predation	2	RB	
10.	9	1	1.3.4.4	What is the 70% in the Hyperpredation figure, what does it imply, I think it's unclear	2	RB	

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11.	12	46	1.6.4.2	Chinook Salmon, Lingcod, Rockfish (Blue, Black, Widow, Cabazon etc.)	3	RB	
12.	13	1	1.6.4.2	Marine reserve and special closures are in place <a href="http://www.dfg.ca.gov/mlpa/maps.asp">http://www.dfg.ca.gov/mlpa/maps.asp</a>	1	RB	
13.	14	32	2.1	I agree with Dan, Alternative C should be dismissed due to 1) lower likelihood of success, and 2) increased overall disturbance from thousands of bait stations and additional human presence setting,. Maintaining, and removing them.	1	RB	
14.	16	16	2.3.2	Like it or not, as fallout from the Rat Island project, the use of brodifacoum we need to be discussed in more detail, with specific mention of the Rat Island Project. It seems likely it is still the right bait choice, but lessons learned from Rat Island – and how we will change our plans because of it -will need to be discussed in thorough detail	1	RB	
15.	16	38	2.3.2	This is not true for gulls, which can die from consuming just a few pellets	1	RB	
16.	18	1	2.3.2	We know gulls will intentionally consume pellets as food from trials on SEFI	1	RB	
17.	21	12	2.3.5	If you are flying a helicopter at an altitude of 50m any Common Murres will take off pretty quick and likely not come back. When murrees flush in winter they usually don't come back to the colony the same day.	2	RB	
18.	21	40	2.3.5	Proposing and sticking to appropriate bait rates will be crucial, particularly in light of Rat Island.	1	RB	
19.	22	25	2.3.5	There needs to be more info on how supplemental land based baiting would occur, and how the density of bait would be established accurately.	2	RB	

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20.	23	22	2.3.6	You mention the issue of “inquisitive” gulls, but I just want to stress the point –after working with WEGU for a decade – that if they think something is food they will stop at nothing to get to it – so these stations that will be accessible to gulls should be very sturdy – considering that a gull breaking into one likely means it’s death	2	RB	
21.	24	24	2.3.6	The amount of rock and soil anchors (hundreds, perhaps thousands) required for Alternative C is another example of the strong impact that Alt C would have to island resources	1	RB	
22.	25	32	2.3.7	Compost is already being stored in sealed buckets as of December 2010	2	RB	
23.	25	46	2.3.7	Keep in mind that others buildings besides the residences may be just as critical “mouse havens” than the houses and may need to be fumigated. The following buildings need the same level of attention as the houses: Carp Shop/Pipe shop, Powerhouse, and North Landing Boathouse.	1	RB	
24.	26	23	2.3.8.1	I only see 2 lines in this figure, looks like there should be 3 from the legend	2	RB	
25.	27	23	2.3.8.2	I think the arrival of gulls back to the island in large numbers ~December should be strongly taken into account as well.	1	RB	
26.	28	16	2.3.8.3	We have all the weather data – what do you want specifically in terms of time windows and outputs – be as specific as possible	1	RB	
27.	28	19	2.3.8.3	I remember this statement form the last draft – Fairly calm and 30 knots are not 2 things that should be in the same sentence. You can barely stand up in 30 knots out there – bait pellets would be blowing everywhere. Shouldn’t the wind threshold be more like half that, say 15 knots?	1	RB	
28.	29	40	2.3.12	Helicopter landing on West end MIGHT be possible but I don’t know how may flat areas you’re going to find with seabird burrows and without needing a hover exit.	1	RB	

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29.	30	12	2.3.13	I think carcass removal should be done daily, particularly in accessible areas.	1	RB	
30.	30	24	2.3.13	I think the highest concentration gull roost areas might be included in this as well.	1	RB	
31.	31	8	2.3.14.1	Large tangible, benefits – without negative impacts - of having dogs for mouse detection after eradication would need to be fully demonstrated to me. I think if there's any way we can avoid introducing other non-native mammals (even temporarily) we should.	1	RB	
32.	32	3	2.3.14.3	Much, much, more than acoustic surveys to determine seabird impacts. We should be able to compare regularly breeding censuses over time and look before and after to determine impacts.	1	RB	
33.	32	8	2.3.14.3	Detailed, quantitative vegetation mapping would be extremely helpful to assessing impacts on native and non-native plants.	1	RB	
34.	32	27	2.3.14.4	Many existing datasets can be used to assess the effects of the eradication: seabird breeding surveys and productivity, weekly pinniped census data to assess disturbance during eradication, salamander surveys. You mention crickets – we have absolutely no studies on camel crickets so some sort of baseline would be helpful there. More quantitative plant baseline info would be excellent too.	1	RB	
35.	33	6	2.3.14.4	There is no hard evidence on mice eating Cassin's Auklet eggs, though they may disturb borrows and nest boxes at night.	2	RB	
36.	33	14	2.3.15	Don't forget to include the new special closure areas around the island as well – with maps, all part of the MLPA network.	2	RB	
37.	33	18	2.3.15	There might be a need to do an information session with naturalist from tour boat companies to explain the project so they can better relate it to visitors.	1	RB	

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38.	34	19	2.3.16.1	I agree that we need a thorough and fully enforced re-introduction plan. We at PRBO think, and have always maintained, that this is one of the most important aspects of the program. This would require a major shift in how we conduct Farallon operations. We need to make this program a priority, and not just pay “lip service” to it.	1+	RB	
39.	39	12	2.4.3.3	Add m to 10 x 10	3	RB	
40.	43	3	2.4.4.1	A solid estimate of mouse abundance will be key in moving forward – in particular comparing it to other islands. How high is the density recorded on the Farallones relative to other islands where they have been eradicated – or relative to the mainland? If mouse density is extremely high and we can quantify it into a good sound bite – that may help with our rationale and outreach.	1	RB	
41.	46	19	2.4.4.4	Using the upper limit of your preliminary estimates, and assuming strong gull attendance in December of >10,000, there is a potential for more than 5,000 gull mortalities (mostly WEGU) in the world’s largest WEGU colony – almost 1/3 of the population.. This is addition to negative effective on the efficacy of bait delivery to mice. While this is a worst case scenario, it would be a disaster of epic proportions. With the potential for such massive non-target impacts, gull mortality needs to be evaluated in this process as thoroughly as possible to decide whether to go forward.	1+	RB	
42.	47	8	2.4.4.5	December and January results need to be incorporated here. Numbers of gulls increased massively during these months. Dec max count was 15,463 and Jan was 17,460.	1+	RB	
43.	47	32	2.4.4.6	Measures to reduce gull consumption ARE necessary, not “may be”	2	RB	

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44.	47	38	2.4.4.6	Can you be conclusive about salamander response? I heard that no salamanders were present in the areas baited where new cover board were set out. Because sallys are so territorial, those examined from the regular study area, where they had no contact with bait – has no chance of really being exposed to biomarker	1	RB	
45.	49	2	2.4.4.6	There are additional caves that could harbor mice that are not listed here -Great Murre Cave, a small high elevation cave on the backside of Lighthouse Hill above the old trail in the wilderness area, 2 big caves on Aulon Islets.	1	RB	
46.	52	4	2.4.3	Weather windows should be thoroughly discussed – how many consecutive days without rain to we need before an application?	1	RB	
47.	55	4	2.5	We think this alternative should be dismissed. There are 2 major issues. Reduced chance of effectiveness in making bait available to all mice, and increased disturbance due to the installation, setting, monitoring, and refilling of many thousands of bait stations. If bait stations were the primary technique this level of disturbance would continue year round – subjecting the refuge to unprecedented levels of human disturbance.	1+	RB	
48.	57	39	2.5.5	8000 bait stations! Visited daily! From my experience of over 10 years of working on the island, I think this would be a complete and total disaster. Massive disturbances to pinnipeds, seabird habitat, and plant communities. Again, it is probably better is this alternative is not even listed as a viable option.	1+	RB	
49.	60	24	2.5.7	Should be Additional mitigation	3	RB	
50.	61	9	2.6.1	6 weeks seems extreme here	2	RB	
51.	62	2	2.6.1	Under this alternative, if this was done in December, you might be actively flushing breeding female E seals – which would be a bit of a challenge. Also it would take a lot more hazing to keep gulls out of the treated zone. How would you haze birds off of West End? Let alone daily?	1	RB	

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52.	66	41	2.6.5	I highly doubt that you could prevent sea lions from hauling out on SEFI with just plywood fencing. I have seen California Sea Lions crawl up and over pretty much anything out there – so I think if they wanted to haul out – you would have to actively haze them daily.	1	RB	
53.	69	23	2.6.7	Just to keep in mind – this level of hazing and disturbance would be unprecedented on the Farallones – worse than the really bad old days (circa 1800) when it was death and destruction everyone. It would require daily hazing of gulls across an entire island.	1+	RB	
54.	77	22	3.1	Why is Brandt’s Cormorant the only species with a Latin name listed	3	RB	
55.	78	8	3.2.1	I think this is suspected, but unconfirmed. I am wondering if we should discuss the idea of surveying for mice out there and whether that is necessary	1	RB	
56.	78	24	3.2.3	Again, PRBO can provide weather data – we just need to know the specifics of what is needed. Some of our data from 1971-2007 is already included here.	1	RB	
57.	79	10	3.3.1	I think water is still be occasionally tested, but it’s no longer 3-4 times per year and no longer by Alameda County Water District	2	RB	
58.	79	28	3.3.1	This septic system went in 2005, I don’t know if that is still recent or not.	3	RB	
59.	79	38	3.3.1	I thought there was a bit more information available than “extent of contamination is unknown”. I thought levels of radioactivity detected in fish, invertebrates etc. from around the island were not above background – by the Sanctuary will have the best info	2	RB	
60.	81	32	3.4.2.1	Should say largest “Pacific” colony outside of Alaska	3	RB	

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61.	81	40	3.4.2.1	In high productivity years (like 2010), Cassin's Auklets will "double brood" with those 2 <sup>nd</sup> brood chicks often present until October. Pelagic Cormorants and Tufted Puffins have been later in recent years too – fledging most chicks in September	2	RB	
62.	82	35	3.4.2.2	Change "land birds" to "migratory birds"	3	RB	
63.	83	18	3.4.2.3	Rhinoceros Auklet and Tufted Puffin populations are at their highest population levels in at least 40 years. 2010 TUPU breeding pop estimate was 234 birds, RHAU (from 2009 burrow census) was 3,192 – 6x the 1989 burrow census.	2	RB	
64.	83	28	3.4.2.3	In the past 2 years, Brandt's Cormorants have still been breeding deep into September, with some fledglings not departing until late October	2	RB	
65.	83	31	3.4.2.3	Like Brandt's, Pelagic cormorants have been shifted later in the past few years – with their peak in Late July or August and chicks into late September/early October.	2	RB	



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66.	86	1	3.4.3.2	<p>You should have the 2010 Salamander report, which has lots of the details you need. I've pasted the executive summary into this comment:</p> <ol style="list-style-type: none"> <li>1) Under Cooperative Agreement with USFWS/Farallon NWR, PRBO monitors the population size and reproductive success of Arboreal Salamanders, <i>Aneides lugubris</i>, on Southeast Farallon Island (SEFI), California and has done so since 2007.</li> <li>2) Mark-recapture and cover board surveys were conducted twice per month from 15 Sept to 15 July.</li> <li>3) Salamander cover board population estimate appears stable, but additional analyses are needed to obtain robust estimate of population status and trend.</li> <li>4) Farallon Arboreal Salamanders are largely sedentary, but significant emigration movements are also present.</li> <li>5) The species has delayed maturity (average age of maturity = 3 years), high adult survival (0.78 – 0.88), and long life spans (average adult age = 8-11). These life-history parameters are similar to Cassin's Auklet and Northern Elephant Seal.</li> <li>6) We recommend that management plans take salamanders into consideration as an important part of the natural resources of the FNWR. This is a special, insular population and is the only native terrestrial vertebrate of the Farallones whose individuals and habitat would benefit from levels of protection similar to other island fauna.</li> <li>7) Surveys and monitoring as described by the attached protocols should be continued. We recommend using photo mark-recapture for all captured animals to</li> </ol>	1	RB	

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67.	87	15	3.4.3.5	I would suggest adding more detail about mice indirectly being involved in the ASSP decline, as they are an owl food source	3	RB	
68.	89	19	3.4.5.1	Peak #'s of California sea lions in some recent years have exceeded 10,000	2	RB	
69.	89	22	3.4.5.1	This is not true, the Farallones are not a big breeding site, but several dozen pups have been born each year in recent years, not "only a few"	2	RB	
70.	89	39	3.4.5.2	We provided 2000-2009 data on counts; a range is listed as annual counts per month. This is incorrect. What is listed in the min and max of weekly counts for a 10 year period. Means should be included here	1	RB	
71.	91	7	3.4.5.3	Like the E seal section, This Harbor Seal data is misrepresented. Average counts do not equal 0-200 – That's the min and the max. Means would probably be more useful.	1	RB	
72.	91	21	3.4.5.4	Max fur seal #'s from 2010 ground censuses were 282.	2	RB	
73.	93	17	3.4.6	Gerry can elaborate on the spinach control – it has involved pulling, spraying, and recently burning.	2	RB	
74.	93	46	3.5.1	The 300ft special closure restriction is now in effect pretty much year round for the whole island, except landing areas.	2	RB	
75.	94	1	3.5.1	These MPAs are in place	2	RB	
76.	94	15	3.5.1	Fishing is not allowed in the reserve, but in lots of adjacent areas 1 mile away from the island and at Middle Farallon etc.	2	RB	
77.	96	4	3.5.3	Details can be found at : <a href="http://www.dfg.ca.gov/mlpa/northcentralhome.asp">http://www.dfg.ca.gov/mlpa/northcentralhome.asp</a>	2	RB	
78.	100	35	4.3.1	Change "rats on the atoll" to "mice on the island"	3	RB	
79.	105	44	4.4.2.1	There are no other ESA listed species	2	RB	
80.	107	14-15	4.4.2.3	Remove mention of Palmyra Atoll	3	RB	
81.	107	47	4.4.3.2.1	New research is showing that some owls do indeed survive the winter and return to the Farallones in consecutive years.	1	RB	

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32.	109	19	4.4.3.1	The result here is no longer recent. The data used in this paper goes to 1992 – over 18 years ago. While this decline is definitely real – recent analyses of mistnet data show many more captures in the 2000’s compared to the 1990’s. However, model selection from negative binomial regression modeling showed that year to year variation explained the data better than any particular trend. This may be a result of declines in mistnet captures over the past 2 years. I am happy to discuss this more if need be.	1	RB	
33.	112	43	4.4.4.2	You state “we do not anticipate that helicopter operations in association with the action alternatives would cause more than a nominal disturbance to wildlife”. Seeing that you will be flying dozens of passes at ~150 ft, and the normal air restriction is 1000ft, I think it is likely that most pinnipeds on the island, except maybe elephant seals, will flush.	1	RB	
34.	113	9	4.4.4.2	I guess this is still true, we should discuss more of these operational details – how many people would be required.	1	RB	
35.	115	21	4.4.4.4.1	So do you have to come up with an estimate of “exposed to impacts” for every species? Do we need to come up with a mortality estimate for every species? Are we basing this on the last 10 years of abundance data and will variance be included in the estimates?	1	RB	
36.	115	1	4.44..4.1	If we are capturing raptors, owls, ravens etc. I suggest we individually color band all of them so we can asses what happens to them after they are released.	1	RB	
37.	119	20	4.4.4.4.1	Owl should changed to Peregrine Falcon	3	RB	
38.	120	8	4.4.4.4.1	Owl should be changed to Raven	3	RB	
39.	133	9	4.4.4.4.2	Keep in mind that Northern Elephant seals are far less susceptible to be flushed by disturbance than seal lions or harbor seals. They just have a much higher tolerance.	2	RB	

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90.	133	26	4.4.4.4.3	Elaborate here that bats will likely not be disturbed as the proposed time window – after October – is outside of the normal period of bat attendance. It is highly probable that no bats will be on the island at the time	2	RB	
91.	138	33	4.5.2.3	This is true now	2	RB	
92.	138	42	4.5.2.4	This is true now	2	RB	
93.	139	4	4.5.2.5	This is true now	2	RB	
94.	139	38	4.5.3.4	Any such grid would definitely interact heavily with cultural and historical resources, in addition to natural habitat	2	RB	
95.	140	12	4.6.1	Most species on the island are also currently adjusting to the effects of climate change	1	RB	
96.	141	18	4.6.5	There will be more impacts to pinnipeds under this scenario	2	RB	
97.	141	38	4.7.1	You should look at our more recent storm petrel trends analysis – which I can provide	1	RB	
98.	A-3		Appendix C	Note that in recent years we now also have breeding Peregrine Falcons and Common Ravens	2	RB	
99.	A-7		Appendix C	Peregrine Falcon is listed as “very rare” in winter with winter residents being “uncommon”. The same results are listed for other alternatives. This is not true in the past few years, when PEFA have been breeding. They have been sighted throughout the winter.	1	RB	
00.	A-23		Appendix E	2 areas should be added for Brown Pelican – West End Head (the west slope up from Shell Beach), and Saddle Rock.	2	RB	
01.	A-28		Appendix F	Another gull roost area should be added, the southern half of the very eastern (steep) part of Maintop on West End	2	RB	
02.	A-39		Appendix I	Can you translate the amount of bait needed to reach toxic level in # of pellets consumed to reach this level. I think this is a more meaningful statistic	2	RB	

## Instructions

For each comment, list Page and Line number (Section number optional).

For awkward or inaccurate language, provide an example of alternative or more accurate language.

For spelling or grammar errors, enter the correct grammar/spelling for the relevant line(s) in the matrix when possible.

If appropriate, mark your comments with a Priority level:

- *Priority 1*: For major issues that may require discussion
- *Priority 2*: For factual errors, spelling errors, or other substantive issues that need to be changed
- *Priority 3*: For editorial suggestions

To add a line, place cursor in the bottom row and choose “Insert row below”.

Thanks!