



McChesney, Gerry &lt;gerry\_mcchesney@fws.gov&gt;

---

**Howald Review for FINWR March 2018.docx**

1 message

---

**Gregg Howald** <gregg.howald@islandconservation.org>  
To: "Gerry\_McChesney@fws.gov" <Gerry\_McChesney@fws.gov>

Mon, Mar 12, 2018 at 3:24 PM

Dear Gerry,

Please find attached comments on the study: An assessment of the potential hazards of anticoagulant rodenticides to Plethodontid salamanders, by Gary Witmer, USDA, National Wildlife Research Center.

I have attached a number of comments in the report (attached) to help improve the report, however, many of the comments are minor, and just help improve the readability and conclusions.

Overall, the study was well designed, but hampered by the low sample size that limits the strength of the conclusions that were drawn. Regardless of the sample size, I do agree with the conclusion laid out in the report that the exposure pathways investigated represent a worst case scenario, and infers an unlikely field exposure scenario (i.e., less exposure would likely occur in field settings), and the risks are probably low for an island population.

Relating the results to a potential population level impact by the literature review from island rodent eradications could be improved by a more comprehensive literature search on other projects with known impacts and outcomes. I have made a few suggestions from other islands.

The challenge of a laboratory toxicology study of this nature is that definitive evidence to support or negate a risk is unattainable. However, there are no other tools or studies that can be used to draw the conclusions until the bait application is completed and before and after studies on salamanders is documented. Inference from other island eradication projects is a valid comparison, taken together with this laboratory study, it is clear that some risk to individual salamanders may exist, it is unlikely to have a population level impact to warrant significant concern. Regardless, I would agree with the conclusion and that the Farallon salamander population is unlikely to be at a population level risk should an aerial based eradication of house mice proceed with either diphacinone (which is highly unlikely to succeed in eradication of house mice) or brodifacoum.

Due to some, and I believe small, uncertainty that remains due to low sample size, short duration of the study, and lack of a large number of projects to compare to, the FINWR may wish to consider mitigation measures such as eliminating exposure to a sub sample of the salamander population by bringing them into captivity, holding, and release after any risk period passes.

Please feel free to reach out to me with any questions, comments, or concerns regarding this review.

Sincerely,

Gregg Howald  
Director, Global and External Affairs  
Island Conservation

---

**2 attachments****Howald Review for FINWR March 2018.docx**  
1322K**ATT00001.txt**  
1K