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Request to review draft recovery plan

Daniel Marschalek <danmarschalek@hotmail.com>
To: "Anderson, Alison" <alison_anderson@fws.gov>

Sun, Mar 27, 2016 at 9:39 PM

Alison,

Attached are my comments on the draft recovery plan. Thanks,

Dan

Date: Wed, 10 Feb 2016 16:30:01 -0800
Subject: Request to review draft recovery plan
From: alison_anderson@fws.gov
To: danmarschalek@hotmail.com
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 **Marschalek_LMS Review.pdf**
387K



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27 March 2016

United States Department of the Interior
Fish and Wildlife Service
Ecological Services
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

Dear Dr. Anderson,

Thank you for the opportunity to review the Draft Recovery Plan for the Laguna Mountains skipper (*Pyrgus ruralis lagunae*). Over the last two years, I have conducted research designed to assess monitoring population sizes and habitat requirements of the skipper. The basic natural history of the skipper is presented. A number of potential threats are discussed, as well as interactions between threats which is not always considered in conservation documents. The discussion about temperature and precipitation trends was particularly interesting.

Below are comments related to the Draft Recovery Plan. At the end I list minor edits.

There is an error or clarification is needed. The skipper is “assigned a Recovery Priority Number of 6C” in the Executive Summary but 3C is listed on page I-1.

p. I-9: There seems to be a contradiction when describing the conceptual model. It is stated “...using hypothetical example values based on captive rearing observations (egg production and hatch rate); information in Table 2 (spring to summer peak abundance ratio); surrogate values for larval survival; and discussions with experts.” Captive rearing observations and Table 2 represent actual data and not be hypothetical. If the values are hypothetical, then the model cannot be used reliably. Any number could be inserted to fit a certain scenario. If the model results are used to make conclusions, I would like to see some type of sensitivity analysis to assess the stability of each variable in the model. Understanding how variation influences the population would be important. Currently, the model is being used to suggest the second generation is critical to the persistence of the skipper populations. This may in fact be true but hypothetical numbers can be created to support or refute this claim. Overall, it appears the conceptual model is also being used as a population model.

p. I-10: I like the discussion about stability vs. resilience. Insect often experience large fluctuations in population size. An assumption is made about surveyor detection rates and skipper’s ability to find mates being related. But on p. II-3, the recovery criteria states that “Resilience is demonstrated

by an average summer to spring peak abundance ratio of 0.5 (representative of stable population growth)...” A resilient population will fluctuate in population size year-to-year due, likely due to precipitation (also discussed in this draft plan). These fluctuations could result in an average summer to spring peak abundance ratio less than 0.5 for a resilient population that has been exposed to several years of suboptimal conditions. Again, stability is not an expected characteristic of insect populations.

I would like to see more justification or discussion about the down listing and recovery criteria. For example, why were the numbers of resilient populations selected? This will be useful for those assessing the status of the skipper in the future.

p. I-15, Factor C: It is stated that ...”plant parts that are commonly consumed by grazers...” in a discussion about livestock grazing. It should be clearly stated if these citations are referring to livestock or herbivores in general. Animals such as deer can be very specific foragers. For example: Rooney and Waller, 2003, Forest Ecology and Management, 181:165-176. If grazers other than livestock are negatively impacting the Horkelia or skipper, management addressing a perceived threat of livestock foraging is unlikely to be effective.

p. III-1, 1.1: Population size indices can be used, and are often used, to detect changes in population sizes. This includes the Pollard Walks/Index. An actual population size may be desired but is not necessary for detecting population size changes. Several European countries have butterfly monitoring programs that involve the use of transect counts for detecting changes in butterfly population sizes.

At several locations in the draft plan, the idea of maintaining or restoring genetic characteristics are discussed. I do not recall seeing any reports describing the genetics of the skipper and should be considered in the Recovery Actions (Section III). Item #3 recommends establishing genetically representative populations within its historical range. With the extirpation of the Laguna Mountains, this is not likely realistic as any unique genetic characteristics of this region will have been lost.

Minor edits:

p. iv: Delisting criteria #3 paragraph is shifted to the right compared to the other paragraphs.

p. I-12, line 7: Marschalek is misspelled as Marschaleck.

p. I-13, last line: appears to be two different font sizes.

p. I-14, line 9: “In 2015” should be followed by a comma.

p. I-19, first paragraph: Marschalek is misspelled as Marschaleck on two occasions.

Thank you again for the opportunity to review this document. Please let me know if you have any questions.

Sincerely,

Dr. Daniel Marschalek
Postdoctoral Researcher
San Diego State University