Comments on Proposed Delisting of the Island Night Lizard
by
Gary M. Fellers

INL habitat changes

The amount of lizard habitat and trends in the quantity and/or quality of INL habitat is not consistently handled in the proposed delisting. The data are somewhat ambiguous on this point, especially for SCI and SNI.

On SCI there has been a decrease in lizard habitat (6% for *Lycium* and 10% for *Opuntia* spp.) from 1992 to 2008 (page 7917, column 2). There have also been changes in rainfall that may account for some or all of the decline, but this relationship appears to be entirely speculative, yet it is accepted as fact. Making matters word, throughout the rest of the document it is stated that there has been no change in the amount of INL habitat on SCI, even though the actual numbers show a downward trend. Since the amount of habitat on SCI and the large number of lizards this habitat supports is a key element in the proposed delisting, the downward trend in suitable lizard habitat on SCI needs to be properly investigated. Let's examine this in more detail.

Lycium and *Opuntia* provide the majority of high quality habitat occupied by INLs on SCI (as well as the other two islands), so the loss of habitat would have an important impact on the lizard population. If we use the percent loss noted above and use the lizard densities for each of these habitats (page 7913, column 3), the habitat loss would result in a loss of 3.4 million lizards, representing 16% of the total INL population for the island. This is a non-trivial impact that should be evaluated to clarify 1) whether the decline in prime lizard habitat is really this large, 2) whether a loss of habitat has resulted in a significant decline in the INL population, 3) if the habitat decline represents a long-term trend related to climate or something else. Overall, I do not agree with the subsequent statement that "This slight reduction in percent cover is not a cause for concern . . . " (7919, 1).

On SNI the proposal reports an apparent increase in INL habitat, but the study techniques and the effort that went into the two estimates vary a great deal. Fellers and Drost looked at aerial photos, but did not try to develop an island-wide vegetation map, nor did they do any significant amount of ground truthing (7912, 3). Their work represents a reasonable first approximation of INL habitat on SNI. Junak conducted a far more detailed, island-wide vegetation study that involved a huge amount of work with both maps and on-the-ground error checking (7912, 3). Because of this, Junak was able to locate smaller patches of habitat, and map INL habitat at a much finer scale than Fellers and Drost. Hence, while the quality and quantity of suitable INL habitat are changing, it is important to document such change with studies conducted with comparable techniques. Junak's work provides a good baseline for doing that.

Overall, statements about increasing amounts of high quality habitat on SNI (e.g. 7914, 2; 7917, 3) are unjustified given the significant differences in technique for assessing this.

Proportion of neonates on SCI (page 7911, column 1)
There is an important distinction between the number of neonates (young of the year) captured and the number of neonates in the population. Seasonal activity of INLs varies between size classes (Fellers and Drost, 1991). Neonates are more active and more likely to be captured in the fall, while adult lizard activity peaks in the spring. This is probably do the fact that recently born lizards need to find food in order to survive that first winter, while adults can live off their body fat during the colder winter weather. The importance of this is that 1) differences in fall survey times (i.e. just before or just after the time when lizards give birth) and 2) differences in weather can have a large effect on the percentage of neonates captured without necessarily reflecting a change in population structure.

INL Management Areas
The establishment of an INL Management Area on SCI is a really good idea that should be applied to SNI. Nearly all of the high quality INL habitat on SNI occurs outside of areas where most Navy activities take place, so establishment of an INLMA on SNI would not impact military activities much, if at all. However, establishing an INLMA would serve to highlight and protect an important island resource – INLs and their habitat. It would also show a long-term commitment to protecting lizards on SNI. This would also address Action 11 in the INL recover plan (7915, 3).

Factor A Summary
For reasons stated above, the concluding statement that " . . . current evidence indicates that native vegetation, including that favored by the lizard, is recovering on all three occupied islands . . . " (7926, 3) is not supported by current research. The trend on both SNI is uncertain because of significant difference is how vegetation has been evaluated (SNI). The actual data on SCI show a decline in INL habitat; whether that is due to natural fluctuations in weather is unknown.

Overutilization for Commercial, Recreational, Scientific or Educational Purposes
INLs on SNI are being collected for apparent commercial or recreational purposes. An entire population of INLs at one of our long-term study sites has been wiped out by illegal collecting. This has been reported many times over the last five years to Navy staff (in person, in writing, and during field visits to the site), to FWS staff (via phone conversations), and in a written report provided to both the Navy and FWS (Fellers and Drost, 2008). Collecting was obviously occurring as recently as fall 2012. This has not only destroyed one of the most well-studied populations on SNI, it reflects a lack of serious interest in protecting a federally listed species. It has also eliminated our ability to track an INL population understand important aspects of their biology, including growth, dispersal, population stability, and annual variation in reproduction. Equally disturbing is fact that neither the Navy nor FWS has taken any significant action (that I know of) to curb this illegal activity, even though our research team has met repeatedly with the Navy and suggested ways to address this issue.

There are three subsequent statements in this same section of the document that are simply not true:

> "To our knowledge, island night lizards are captured only for scientific purposes or for relocation efforts . . . " (7927, 2)
>
> "Capture of island night lizards for commercial or other nonpermitted activities is unlikely to occur on San Clemente or San Nicolas Islands because access to these islands is strictly limited by the Department of Defense." (7927, 2)
>
> "Although it is possible that someone visiting or working on any of the islands could collect island night lizards, based on the best available information, there is no indication that such activities are occurring." (7927, 2)

I do not know how such statements could be included in the delisting document when we have made repeated efforts every year for the last five years to inform both the Navy and FWS that illegal collecting was occurring and that it was having a significant impact on INLs on SNI.

Minor comments

- The summary says that the petition would delist the INL from SCI and SNI (7908, 2), but the proposal later implies that SBI would be included as well because the entire species would be delisted (page 7936, column 1).

- It is stated that the majority of information on INL biology and life history comes from SCI (7910, 3), but that is not the case. Fellers and Drost (1991) published a monograph on INLs on SBI that describes all aspects of INL biology in much greater detail than is available for any other island.

- There seems to be confusion regarding what habitat has the highest density of INLs. In different places the proposal states that the highest densities are found in *Lycium* (7909, 2), while elsewhere the same statement is made regarding beach cobble and driftwood (7912, 3 and 7914, 1). On SNI, the statement is true for the cobble/driftwood (Fellers et al., 1998).

- Mixed scrub habitat on SNI supports a self-sustaining population of INL (7914, 1), though the densities are much lower than in high quality habitat.

- The amount of high quality habitat on SBI is reported as increasing (7913, 2) and as having little change (7914, 3). The reference to increasing amounts of habitat is apparently unpublished. FWS should decide whether to use that information or not, and then be consistent in the description of habitat on SBI.

- Restoration of native habitat is discussed for both SCI and SBI (7917, 1), but not SNI. Is there no active habitat restoration program on SNI? There is a subsequent reference to restoration on SNI (7917, 3), but no detail is provided.

- It is stated that “other potential threats” were investigated; these threats should be identified (7918, 1).

- The discussion of the noxious weed program on SNI sounds good (7920, 3; 7928, 2), but I am concerned about whether most of the actions are actually taking place. I have flown to SNI on many occasions and I have never noticed inspections of the aircraft or any of the cargo prior to landing on the island.

- The potential for fire on SNI might be low, but this would not be due to “limited amount of human activities” (7922, 3). There is a considerable amount of human activity on the island including the launching of missiles. I would agree that the potential for a large fire in prime lizard habitat is low, but that would be due more to the type and density of vegetation that could sustain a significant fire. A fire might burn through the nonnative annual grasses, but that is not good lizard habitat. Curiously, the discussion of fire potential on page 7927 (1) presents a more realistic view.

- I am not aware of any erosion control efforts on SNI (7933, 2). Is this really occurring?

- While I agree that the southern alligator lizard is not likely a threat to INLs, there is no specific research to support that idea (7933, 2).

- The statement about the lack of commercial or recreational collecting is wrong (7933, 2), as noted above.

- As discussed above, the statement “It is likely that the number of lizards has increased in association with the increase of quality habitat on all three islands” (7933, 3) is not supported by data on changes in INL habitat.