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Successfulness of Live Capture Eradication Efforts of the Golden Eagle on the Channel Island Fox

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Background

- The Golden Eagle invaded the Channel Islands in the 1990s due to resources becoming scarce in their native territory (Coonan et al., 2005).
- The Golden Eagle thrived in its new territory, and highly preyed on the Channel Island Fox.
- The Channel Island Fox population dropped to near extinction due to never before having to protect itself from a predator (Roemer et al. 2002).
- Live capture eradication efforts of the Golden Eagle were implemented to help recover the Channel Island Fox population (Latta et al., 2005).

Specific Aim

- This proposal will specifically look at the Channel Island Fox population and determine the successfullness of the eradication of the Golden Eagle. This will be determined by recording and documenting the Channel Island Fox population.
- If growth in the population is seen, eradication efforts can be deemed to have been successful. If no growth is seen, eradication efforts can be deemed to have been unsuccessful.

Possible Conclusions

- The Channel Island Fox is experiencing a population growth, concluding that the eradication efforts were successful.
- The Channel Island Fox is experiencing a population decline or is static, concluding that the eradication efforts were unsuccessful.

Importance

- A follow up study to determine if the eradication efforts of the golden eagle were successful will provide the data to prove that the Channel Island Fox population is recovering.
- If the eradication efforts used are determined to be successful, they may be used for future cases of invasions.
- Invasive species are at an all time high, so it is very important to determine that what is being implemented is as effective and concise as possible, or risk the chance of losing species forever.

Possible Pitfalls

- Lack of sufficient data to determine the Channel Island Fox population.
- Channel Island Fox Population pre-eradication is not significantly different than post-eradication.

Future Directions

- When the Golden Eagle first invaded the Channel Islands it was able to sustain itself on non-native species such as the feral pig and deer. Future eradication of these non-native species may lead to a more secure environment for the native species.

Proposed Methods

Foxes on Santa Cruz, Santa Rosa and San Miguel islands will be trapped on various sized grids during late summer and fall. Capture data will be analyzed from the Islands grids using SECR models in R (Efford 2011). Average adult density from the grids will be multiplied by island size to estimate island-wide adult fox population size (Cooch and White 2006).

Compare pre-eradication population to post-eradication population to determine if growth is taking place.

Literature Cited