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## **Self-Assessment by the Putah Creek Nestbox Highway Project through Use of Data**

### **Introduction**

Conservation projects in respect to wildlife typically revolve around the goal of protecting endangered species. These programs conduct research on a focal specie of interest to gain knowledge on the population standing. Education is another factor that helps project's become success stories. This is done by getting the general public's support and sometimes even action such as direct help or donations. Overall, conservation projects are meant to cause a positive impact on the subject under study.

A project that began in 1999 by Melanie Truan here in UC Davis and is still causing an impact is the Putah Creek Nestbox Highway Project. Due to habitat loss caused by the removal of old trees for development and farming resulted in a decrease in populations of secondary cavity-nesters or birds who use abandoned cavities in trees. The project responded to this misplacement of native Californian birds by conducting research in conservation and promoting education. The birds are surveyed in 14 sites along the creek by hanging wooden boxes from tree branches, mimicking the old trees with the natural cavity that were once there. The project continues to be an overall success with 95% of the boxes being used each year resulting in populations increasing.

This project differs from other in its use of discourse to self-evaluate their own impact. Data sets are an important genre for this community because it provides evidence of the effects the project is having on bird populations. This paper will examine the specific ways in which

self-assessment is done by evaluating data consistency to prove the community's impact. It will also focus on the methods of communication towards nonmembers through its outreach work to promote their conservation efforts.

### **Methods**

As a current intern, I studied "Putah Creek Nestbox Highway - Field Protocol 2018" by the UC Davis Museum of Wildlife and Fish Biology. The protocol is used by this group as a manual that guides and keeps everyone on the same page. I then looked over some data sheets consisting of current data. I compared two sheets from different sites and observed the notation for any differences/ changes and which crew filled out the sheet. I decided to also conduct a survey on current interns asking them some personal questions such as year and major, field and avian identification skills and other questions regarding the project such as data recording method. I conducted a group interview with members who have had experience in outreach in respect to the project to understand the educational aspect of it. I asked question about why participate in this activity, what's the significance, how was it executed in a way that was meaningful to nonmembers.

### **Results**

Regarding data consistency the "Putah Creek Nestbox Highway - Field Protocol 2018" has all the information on how to carry on with the project. Given that the protocol is of great importance, I took the time to look it over. The protocol covered in great detail a typical data sheet and how it should be filled out using the community's "universal language" as the coordinator described it during our interview. Birds abbreviation (species) are listed: TRES (tree swallows), WEBL (western bluebirds), and so on. Adults are marked on the data sheet depending if present as "#near"/ "#in"/ "#on" where # is the number of parents. Nets progress is recorded

using the nest-building stages for boxes: stage 1 ring of material, but no cup, stage 2 floor is not bare, but no cup, stage 3 cup is almost ready, and stage 4 the nest is ready for eggs. If a box is empty, a small dash running through the entire row is used to indicate that the box was checked and not skipped. Bird specific notes are taken for nest such as in the case of tree swallows, the community adds a slash next to the stage number and records number of feathers. Record the number of eggs and temperature as “#C” or “#W” meaning number of eggs and if they are cold or warm and include eggs that fail to hatch as “FTH”. Nestlings are counted and when banding is possible, measure body mass, wing cord, tail, tarsus, nares-to-tip, skull, and estimate fat score. Finally notes, write down any observations or unusual activity such as band number if adult possess one already.

After reading over the protocol and taking notes on the how data should be recorded, I examined data sheets to see how the protocol was applied. By comparing two different sites, Interdam in Winters and Russell Ranch in Davis, I noticed that some factors such as time and field site/ crew were different. Russell ranch was checked on Monday mornings and mostly had WEBL unlike Interdam which was checked Thursday afternoon and mostly had TRES. However, as I analyzed the sheets in greater detailed, I observed that the notation indicated by the protocol was consistency despite site differences. Both sheets might have had different birds, but abbreviations and other general recordings were consistent.

The surveys were distributed with a purpose to get to know some of the individuals. Most interns I surveyed were third years who were returners while first years were the least. Another difference was field and avian identification skills. Again, the upper classes have had more experience in both because of upper division courses such as WFC 111/ 111L or other internships. Despite the differences, the surveys I received all had a common ground, they were

all Wildlife, Fish, and Conservation Biology majors seeking to gain experience. They all contribute to data recording and are aware of the protocol.

I conducted a group interview with members that have previously presented the project in events such as Biodiversity day and Picnic Day to find out why and how the community reaches out to nonmembers. When asked why present the project, Member #1 said, "I work for the museum and well I really like teaching people what I do overall. There is no point in doing work like this if we don't share our findings with the community." Member #2 added that it's a conservation effort and by educating people a greater change can occur. This led to my next question about a targeted audience, is there such thing? Member #2 shared that they felt "there isn't a define audience, but there are definitely some people that want to learn more and even take action. I have had people asked me if they can set up boxes or what's the proper way to install them." Member #3 jumped in and added that the events are public so anyone in the community can come over and learn. How to successfully teach a community who is not familiar with the genres used was the following question. Member #1, who works for the museum and interacts with the public often mentioned that it all depends "how you sell it." "Obviously I am not going to be throwing out there big sciency words that one can't even spell because it would be meaningless. When I volunteer I mostly describe the unique characteristics of the birds and our purpose. If they are interested I am more than happy to throw in some facts and numbers. "Every member was on the same page. All 4 members agreed that as a conservation effort, it is important to educate people if anything is going to change.

### **Discussion**

The protocol is a great tool that creates the rules in a successful way that is easy to understand and adopt. As stated by James E. Brower in *Field and Laboratory Methods For General Ecology* not only does it state what the community is looking out for, but also how to

properly record it in a way that anyone within can interpret and understand. It is a very detailed guide that aids in communication within the community, but most important self-assessment. The community keeps a consistent method of recording data which will help them evaluate their impact on their targets.

In respect to the data sheets, I decided to analyze sheets from later in the season because there was not much activity going on earlier since the birds were still searching for mates and boxes. This part of my research proved consistency by analyzing real example of data that was recently collected. By using the “universal language” it makes it easier to decipher whether the community’s efforts are been successful or if changes need to be made.

The survey that was distributed to the interns was meant to get to know the community at an individual level. I was interested in finding out why and how they became involved in the field work. The results proved that the interns were not just trying to kill time, but they make this project happen with their passion and dedication for conservation. They can all execute the protocol and record proper data sheets proving their commitment to the project.

This goal is important to the project because by educating the general public about conservation, more can be done to help these birds. Aside from reaching to non-members, those being able to understand what we do is crucial because as mentioned by Member #1 there is no point in education if no one is learning something from the efforts done.

### **Conclusion**

The Putah Creek Nestbox Highway Project is a community that focused on conservation of native California songbirds. As a conservation project it relies heavily on their data to see and evaluate their effort on the target. It consists of passionate individuals who are adaptable which is important in order to collect data properly. By analyzing the protocol and conducting interviews and surveys, it is clear that consistency is crucial and therefore heavily practiced by everyone.

The common language of data method is shared within, but also translated to reach out to the general public. Outreach and education is achieved by public presentations where members of the community happily share their findings in ways that can easily be understood by any non-member.

## References

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