

From: Novak, Karl
Sent: Tuesday, February 5, 2019 11:44 AM
To: 'susan@captainvineyards.com' <susan@captainvineyards.com>
Cc: Torfeh, David <David.Torfeh@ventura.org>
Subject: Raptor Program

Hello Susan,

Here are some responses to your questions.

1. No pre-count of ground squirrels or raptor density was reported so it is hard to evaluate control. *We used numbers of new ground squirrel burrows observed for evidence of method effectiveness. Preventing damage to our levees and dams is our primary concern. Red-tailed Hawks, Barn Owls, and Great Horned Owls are common in Ventura County. The perches do not necessarily increase their numbers but draw them to our levees and dams to focus their hunting. The Barn Owl boxes can increase their population in the area but can also take over a year to occupy.*
2. No predator pellets were collected from the control site. *Pellets were typically found below the raptor perches which were in the test site. There were no perches in the Control site so no pellets were found.*
3. There was no indication of which predator pellets produced which prey remains. *The full report appendix provides very detailed information on pellet type and prey remains found. We have since analyzed and additional hundred pellets taken from our newly placed perch sites throughout the county. Similar owl/hawk percentages (about 50/50) and percentages of pellets with squirrel or gopher remains (about 50%) have been found in these new pellets.*
4. It's impossible to know if prey remains were from the study area or somewhere else since the predators have large ranges. *Correct, but many raptors were observed on the perches so we concluded that they were drawn to the perch area to hunt. The wide and open agricultural area where the study occurred has few trees so perches are very attractive to raptors.*
5. The study did not appear to correct for land use variables. *Neighboring agricultural use and crop type was recorded and was considered and evaluated as a significant factor in the analysis. That is why the second phase of the study replaced the Control Site bait stations with perches. This provided a before and after analysis of damage (number of new burrows) when similar neighboring crops were grown.*
6. The study was not replicated anywhere else. *Correct. This is the only study comparing bait stations and raptor perch rodent control that we have been able to find through our internet research. We encourage others to replicate the study and report their results.*
7. No action threshold was reported in the study. *The study only needed to show that the perches worked better than the bait stations in order to replace the bait stations with perches. The study results support this conclusion for the conditions at this levee site. No conclusions are made to how effective perches will be at other sites. Sites that already have lots of trees may have not benefit from adding perches.*
8. Since they filled all burrows with grout before the study began, did they count the number of burrows? *No. There was no pre-count of burrows. The initial grouting was performed to set a clean baseline for the Perch and Control Sites. The large amount of initial grouting required to fill the existing burrows was a red flag that the baiting program was much less effective than thought.*
9. Are they using the grouting as part of their control strategy? One of the big differences in cost was the grouting: they calculated 4 crew days per year in the rodenticide program and 2 crew

- days per year in the raptor perch program, what is the reason for the difference? *The difference is that we observed 50% less burrows to grout at the Raptor-controlled sites than at the bait-controlled sites; so 50% less crew days are required for grouting.*
10. In their projected costs, why does the raptor perch program only have quarterly inspections (as opposed to the rodenticide program having weekly inspections)? *State pest control regulations (and label instructions) require weekly inspections of bait stations. We feel that quarterly inspections of raptor controlled sites is sufficient to flag and grout burrows prior to and during the during the rainy season. Others may have different requirements for rodent control.*
11. What is the situation in the study area now and in the rest of the County? *We have expanded the program and have installed about 170 perches and ten owl boxes. About 50% of our levees and dams are now covered. We should reach about 90% coverage by the end of the calendar year. We have removed over 300 bait stations from service. We have been very active with grouting and monitoring at all of our flood control facilities. The expansion is still in the early stages of monitoring so no overall conclusions have been made yet.*

I would be happy to discuss the study and our subsequent program expansion with you.

Karl