|  |  |
| --- | --- |
|  | Intro: Over the past few years, open space near my home has suffered from continual encroachment by land development. Hundreds of new homes have penetrated further and further into what was once remote terrain. Construction has been a continual process, and has resulted in the destruction of a vast area of surface and sub surface living areas. In addition, recent extreme weather conditions, i.e. lots of rain, have put stress on the ecosystem of this habitat. The weather has lengthened the cold season, and has kept a normal life cycle from developing for many species, including many flowering plants, and organisms who reproduce typically in the spring and require warmer weather to ensure the survival of weaker offspring. I was curious to see how wild life was responding to these new environmental stimuli. The effects of land development on the organisms in our wild areas are fascination and importaant to understand. It would be interesting to see how sensitive the certain species are to human encroachment.  Certain questions immediately arise; can one species exist in the presence of man, while one can not? Charting the adaptability of certain species when pressured in such a way, which would undoubtedly occur again, could be extremely useful in the future. In addition, the fundamental question still remains, how does the encroachment of man into a traditionally wild habitat effect the populations of species in that habitat? So, it became clear that in order to address the question, I must analyze the population of an easily trappable and recordable species, that, at least in some way, represents the relationship between encroachment and population.  Thus, I decided to run a population study of rodentia in the habitat. I expected to trap a variety of specimens, however, I felt the in order to secure the most reliable results, I would isolate the species Peromyscus maniculatus, or the Deer Mouse. It is the most common and easily recognizable rodent indigenous to the environment in question. Its behavior patterns, large numbers, and familiarity made it the best candidate for study. The deer mouse is found in virtually all habitats including forests, grassland, brush and chaparral. It feeds on many kinds of seeds, making bait more practical, and also consumes insects and terrestrial larvae. Its breeding season spans from April through November, perhaps even December, and is determined mainly by the abundance of food. A litter generally consists of two to eight offspring. It will nibble on virtually anything but metal or glass, and has been known to invade all sorts of structures during the winter. Generally, a deer mouse is 150 to 200mm long, head to tail, and weighs in at 14 to 25g. In addition to being easily attainable, the deer mouse plays a critical role in the preservation and continued success of this particular ecosystem. The deer mouse is a cornerstone species. That is, it provides food for foxes, coyotes, snakes, and many predatory birds. A decline in their population would have reverberating effects throughout the local ecosystem. The deer mouse also plays a critical role as a vector for the distribution of seeds, and thus the continued survival of many plant populations. Finally, the deer mouse serves to turn soil with its burrowing habits, promoting new growth, a necessary part of any thriving ecosystem. Also, its relationships to humans should be of great concern. For example, the deer mouse is a known carrier of human diseases such as Bubonic plague, and Lymme disease. If the deer mouse integrates itself into a more developed area of land, the interactions between person and mouse will increase, and thus the risk of exposure for a human population with an infectious agent will undoubtedly increase. In this scenario, it becomes quite obvious that better understanding the dynamic relationships between man and nature are of paramount importance.  The timing of the variant weather patterns also plays an interesting role in the plight of the deer mouse population. The long term rains stretched well into the early breeding season. It would be fascinating to explore the effects of a shortened breeding season on the populations size as a whole and the make up of the population based on age. One must take into account that despite the shorten period of time available, food resources would be plentiful once good weather rolled about. Investigating the ability of the deer mouse to exploit this bountiful harvest in a shorter time frame would shed light on the species survivability.  Thus, in understanding the plight and health of the deer mouse population; a base line consumer, food for many predators, carriers of disease, vectors for plants, etc., we can better understand the condition of our precious open spaces, and in turn their effects on our lives. |

*This Web Site is Best viewed with 256 or more colors.*

*For More Information about Creekwatch, please contact Eric Thiel at* [*ethiel@pleasanton.k12.ca.us*](mailto:ethiel@pleasanton.k12.ca.us)