On Tuesday, September 8, 2020 I and two other Leger Lab technicians, Cathy Silliman and Madeline Lowe, visited four *Eriogonum tiehmii* sub-populations: ERTI 1, ERTI 2, ERTI 3, and ERTI 6a. The day was clear, cool, and sunny, with variable wind. We intended to fill out general observation datasheets on the site conditions and phenology of *E. tiehmii* at ERTI 1, ERTI3, and ERTI 6a, and to take three 50m ground cover transects with six 1mx1m plots scattered randomly along them at sub-population one. While we were setting up the first transect, starting at the base of the hill at the far southern end of ERTI 1 and running up roughly parallel to the ridgeline, we noticed that quite a few of the mature plants near our transect had holes dug around their bases. Many plants were completely excavated and were lying beside the holes with their taproots severed. The cuts on the taproots were not straight and clean as if they had been mechanically clipped, but were uneven, with ragged edges and bark missing near the ends, suggesting that they had been gnawed off. Most of these remnants were fairly intact, with the caudex, leaves, and flower stalks appearing un-chewed; however, some larger plants had been completely shredded, and were lying in scattered pieces below the holes. We did not notice any human or large animal tracks immediately surrounding the holes, and the disturbance looked very similar to what we had observed at the transplant sites I’d worked on earlier in the summer, which had primarily been caused by a couple species of small rodents, so we assumed they had been created by some small mammal.

At ERTI 1, the damage seemed more extensive in the soft soil on the slope and ridgeline of the southern portion of the site, and less extensive in the flatter areas. After completing our plots and transects at the base of the hill, we hiked up along one of the ridges near the center of the population to the top to see if the plants at the top had been dug too, and we saw some evidence of it there as well. Overall, it looked like around 25-50% of the plants, depending on the area, had been impacted at this site. Out of curiosity we also drove a little farther up the road to look at ERTI 2, and saw the same thing there. Those ERTI plants are generally a little smaller and more cryptic, but there were a good number that had been dug and chewed at that site as well.

Next, we turned around and went to our 2nd planned survey site, ERTI 3. Hiking in, we didn’t see any digging around other plants in the small canyon or wash. There were a lot of footprints at this site, both human and something with hooves, maybe deer, sheep, or pronghorn, and some evidence of an erosion channel forming in one part of the hillside. But again, no big footprints right around ERTI plants, and pretty extensive digging here too, probably affecting 50% of the plants, maybe more. What we saw here still didn’t suggest that the holes were caused by large ungulates.

Finally, we drove up and parked at the pull-out by our third planned survey site, ERTI6A. As we were driving, I saw several small furry animals racing off of the road ahead of our truck, bodies mostly grey with some white around their rear. They were too small and we were moving too fast to identify them. Walking across the desert here we did see some rabbit droppings, but a normal amount for the
NV desert. There were occasional holes dug out in the open in the soft dirt that looked like burrows, and one or two places where we saw minor depressions dug closer to shrubs. When we arrived at the site, we saw the same pattern as at the other three sub-populations, with many ERTI plants having big holes dug at the base, many severed and lying whole or shredded by the holes. Most of the plants that seemed to be targeted were the larger plants, but it varied, with some medium and smaller plants also being dug. Here, we were able to see that some plants that weren’t totally severed had evidence of chewing on the main taproot. There were also some plants where it looked like digging had begun, then been abandoned before the roots were reached. This site is the most vegetated of the sub-populations that we went to; however, the holes still seemed to only be dug around ERTI plants. The Atriplex and grasses were ignored.

Below are some photos we took:

Above: ERTI 6a, severed small-ish plants lying on dirt
Above: ERTI 6a, shredded plant near hole
Above: ERTI 6a, plant dug and roots chewed but not severed
Above: ERTI 6a, same plant as previous photo
Above: ERTI 6a, lots of human footprints
Above: ERTI 3, plant mostly shredded
Above: ERTI 3, plant lying beside hole
Above: ERTI 3, multiple holes
Above: ERTI 3, patch of intact plants
Above: ERTI 3, digging and shredding of plant
Above: ERTI 3, pedestal erosion around bases of small plants—probably not animals
Above: ERTI 3, plant dug and partially shredded
Above: Erosion and large animal tracks at ERTI 3
Above: Erosion and large animal tracks at ERTI 3
Above: Erosion at ERTI 3
Above: Erosion and large animal tracks at ERTI 3
Above: Digging at ERTI 2
Above (2 photos): Digging at ERTI 2
Above: Digging at ERTI 2
Above: Digging at ERTI 2
Above: Plant damage at ERTI 1
Above: Digging and shredded plant at ERTI 1
Above: Digging and clipped plants at ERTI 1
Above: Digging at ERTI 1
Above: Clipped plant at ERTI 1
Above: Digging at ERTI 1
Above: Digging at ERTI 1
Above: Uprooted plant and hole at ERTI 1
Above: Uprooted plant and hole at ERTI 1