

UC Santa Cruz Puma Project

LAG #P1382110

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Study Objective and Outcomes

The objective of this project was to document possible connectivity for mountain lions between the Santa Cruz Mountains and the Diablo Range by way of the Coyote Valley and to determine the specific path that dispersing mountain lions would utilize. We did not document any mountain lions entering the coyote valley or crossing the highway 101 corridor before or during the monitoring period. We speculate that absence of appropriate vegetative cover habitat is likely a key contributor to the lack of use of the coyote valley. The dominant habitat cover types are human development/ag lands and open grassland, types that are largely avoided by mountain lions. In one case, mountain lion 35m came within 1.5km of the valley floor of the coyote valley but then changed direction to the west and continued his dispersal across hwy 17 and towards South San Francisco. It must be noted that though pumas do appear to avoid the coyote valley due to lack of appropriate cover type, our sample size of dispersal aged mountain lions upon which our inferences are based was small (6 animals).

Cub collaring efforts

Since March 2014, we have collared six cubs from three litters. Small cubs are wearing VHF collars which do not supply GPS locations.

Litter #1: On June 24, 2014, we collared two 5-week old cubs on El Sereno Open Space Preserve property. Cub 49M was a 2.9 lb male, and his brother, 50M was 3.7lbs at the time of the capture. They are the offspring of a collared female, 19F, who we have been tracking since November 2010. The expandable collars broke and fell off of both 49M and 50M in early January 2015. We had trail camera video from August 2015 showing that both cubs were still alive and continuing to travel with their mother. 19F died from fighting with another mountain lion (presumably an adult male) in September 2015. The whereabouts of her 2 cubs are unknown.

Litter #2: The second litter was comprised of only one female cub, 47F. When we collared her on April 20th, 2014, she was 4 weeks old and weighed 5.5lbs. Her last known location was on June 15th, before her expandable collar came off. She is the daughter of 43F, a female we have been tracking since October 2013.

Litter #3: Mountain lion 25F birthed a litter of 3 male cubs in mid-May, 2015, and we collared all of them (now designated mountain lions 57M, 58M, and 59M) on June 22, 2015. A male mountain lion killed and consumed cub 57M, while the expandable cub collars eventually broken off of cubs 58M and 59M.

Litter #4: Mountain lion 43F gave birth to another litter in late June, 2015, comprised of two cubs. We collared them in late July and named them mountain lions 60F and 61M. The expandable collar came off of 60F.

Litter #5: Mountain lion 29F consorted with 36M in late July and gave birth in late September. We collared 29F cubs 63M, 64M, 65M in October 2015. The expandable collar came off of cub 64M, while 63M was killed, eaten, and cached by a predator which we believe to be a male mountain lion.

We captured the dependent male cub of an uncollared female mountain lion in December 2015. We did not collar this young male because he only weighed 57 lbs and we he was about to undergo rapid growth in body size, including his neck. We have since developed expanding cotton links to install in collars that allow the circumference to slightly expand over time, which will allow us to place collars on mid-sized juvenile mountain lions.

GPS collar locations for female mountain lions 10F and 55F show them consorting with male mountain lion 51M in January 2016. We anticipate both females will give birth in early April 2016.

We also monitored 4 nurseries by mountain lion 23F near Nisene Marks State Park between 2012 and 2014, however, she has never had a documented cub survive to dispersal. Mountain lion 53F consorted with 26M in mid-April but did not give birth.

Mountain lion Subadult Dispersal

Subadult #1: We placed a GPS tracking collar on a subadult male, 54M, on private property on April 8, 2015. According to the GPS tracklog from 54M's collar, it appears that we caught him in his dispersal process rather than in his natal range. In the five days following his collaring, 54M traveled 28km east to the urban edge of Gilroy, CA. Upon encountering the urban edge, he turned south and traveled near the junction of US Hwy 101 and CA Hwy 129, and then turned westward to the urban edge of Watsonville, CA, where he continues to live.

Subadult #2: A young male mountain lion was captured by CDFW personnel in the city of San Mateo on May 18, 2015. We met the CDFW personnel at the release site and fitted the 1.5 year old mountain lion, 56M, with a GPS tracking collar. He was released at Crystal Springs Preserve and has lived near the cities of Pacifica and Daly City since being released.

We attempted to capture the subadult cubs of collared female 38F during October 2014. On two occasions we succeeded in isolating one subadult but did not tranquilize and collar due to safety concerns (mountain lion was too high in the tree).

52F is currently the only collared female mountain lion with cubs that are the appropriate size for collaring prior to dispersal.

Subadults #3 and 4

Two young subadult brothers were caught in October 2013 and January 2014, 41M and 46M respectively. 41M died before he could disperse, but 46M left his uncollared mother's home range and wandered into downtown Mountain View in May 2014. He was tranquilized and set back in his previous home range. He was struck and killed on Highway 280 in October 2014.

Subadult #5

The ~15 month old mountain lion 39M was captured in the aqueduct in downtown Santa Cruz in May 2013. He was moved to the nearest green space from which he likely came. He was killed on Highway 17.

Subadult # 6

The subadult 35M was captured in April 2012 northeast of Loch Lomond. He dispersed from his mother's home range, made a large movement around the study area, and eventually settled near La Honda.



Figure 1. Mountain lion kitten being fit with an expandable kitten collar



Figure 2 Mountain lion subadult being captured and tranquilized in cage trap.

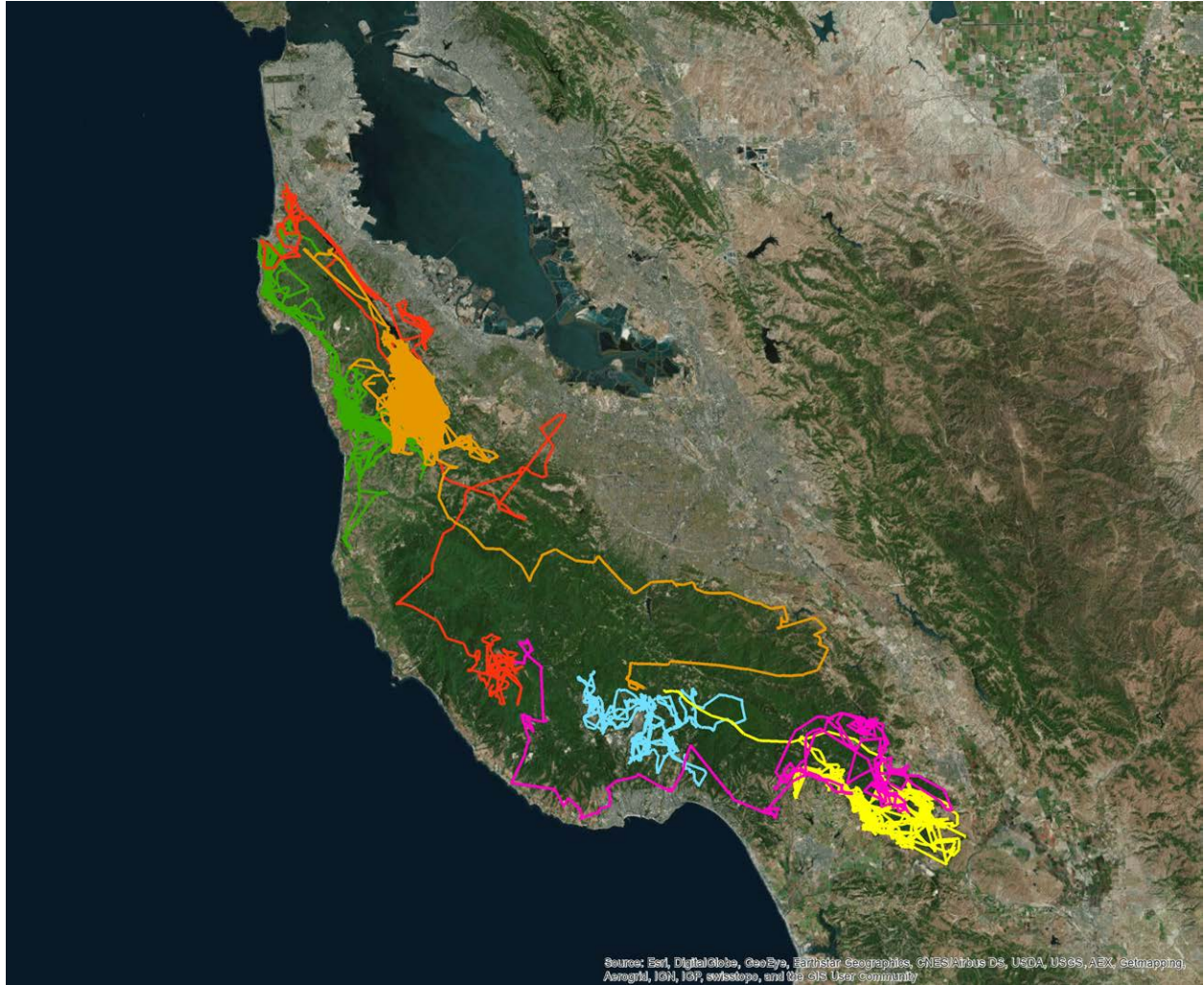


Figure 3. Dispersal tracks of 6 subadult males captured during the course of our study. 9m (pink), 35m (orange), 39m (turquoise), 46m (red), 54m (yellow), 56m (green)

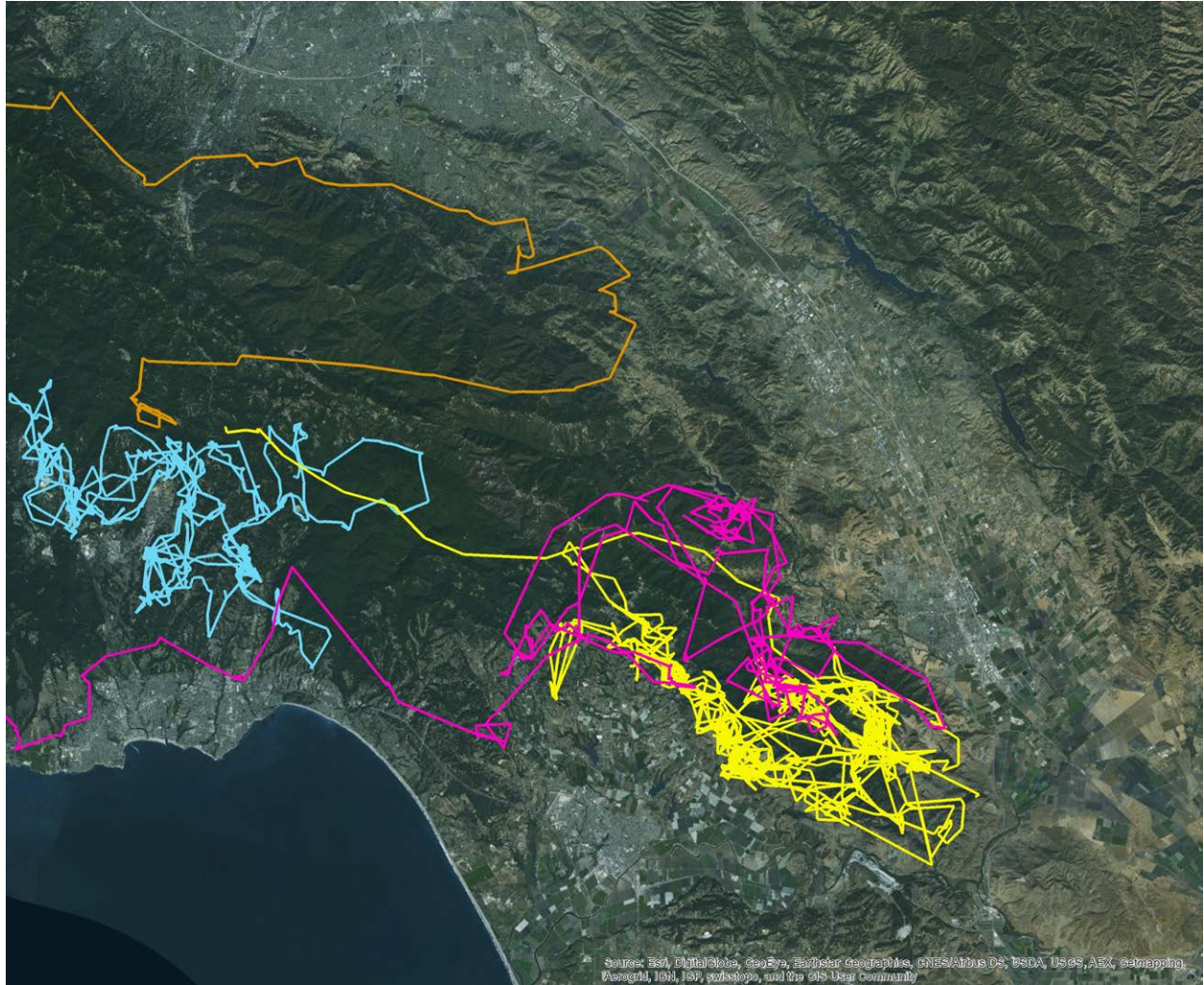


Figure 4. Zoom dispersal tracks for the southeast portion of our study area.

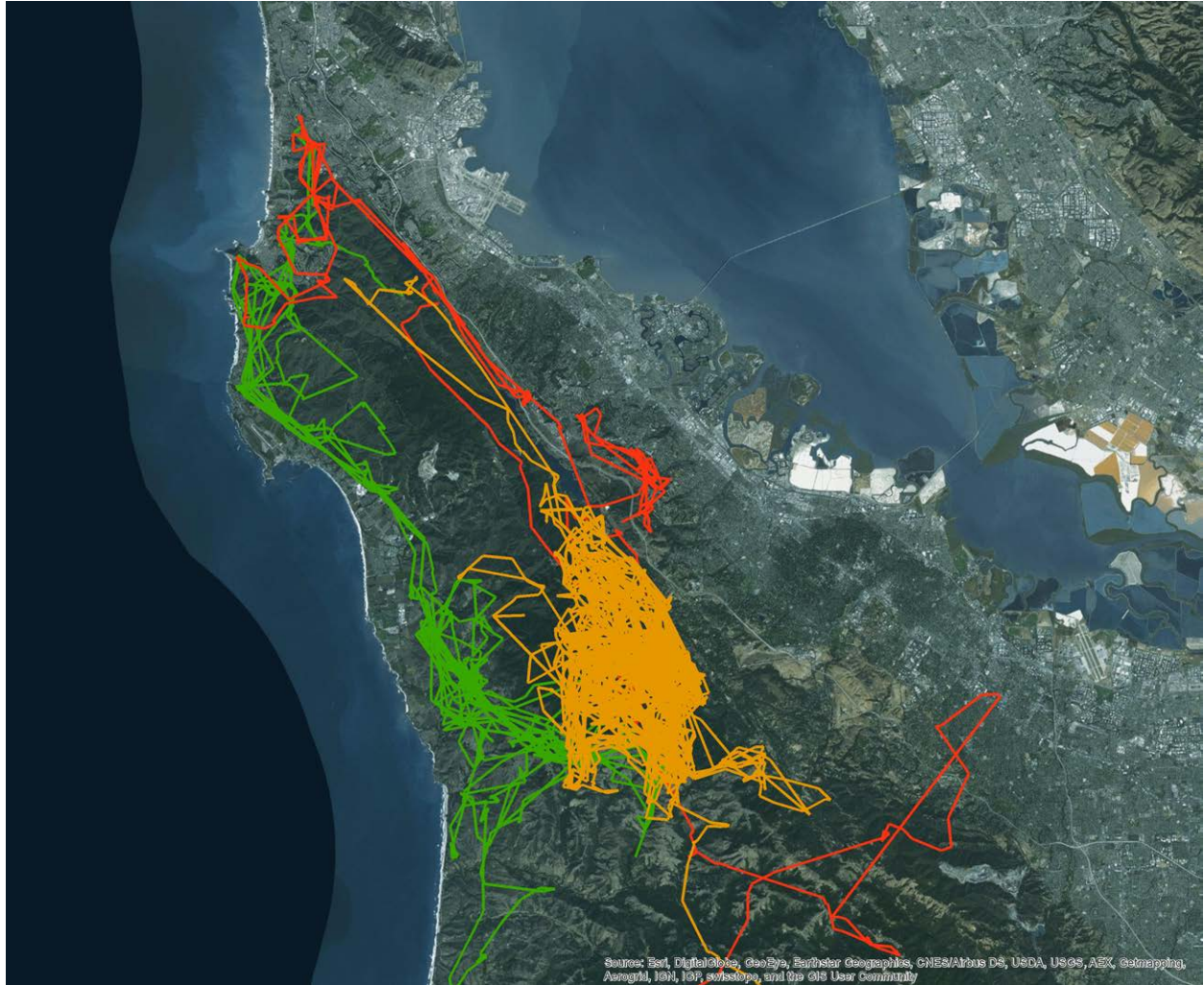


Figure 5. Zoom dispersal tracks for the Northern portion of our study area.

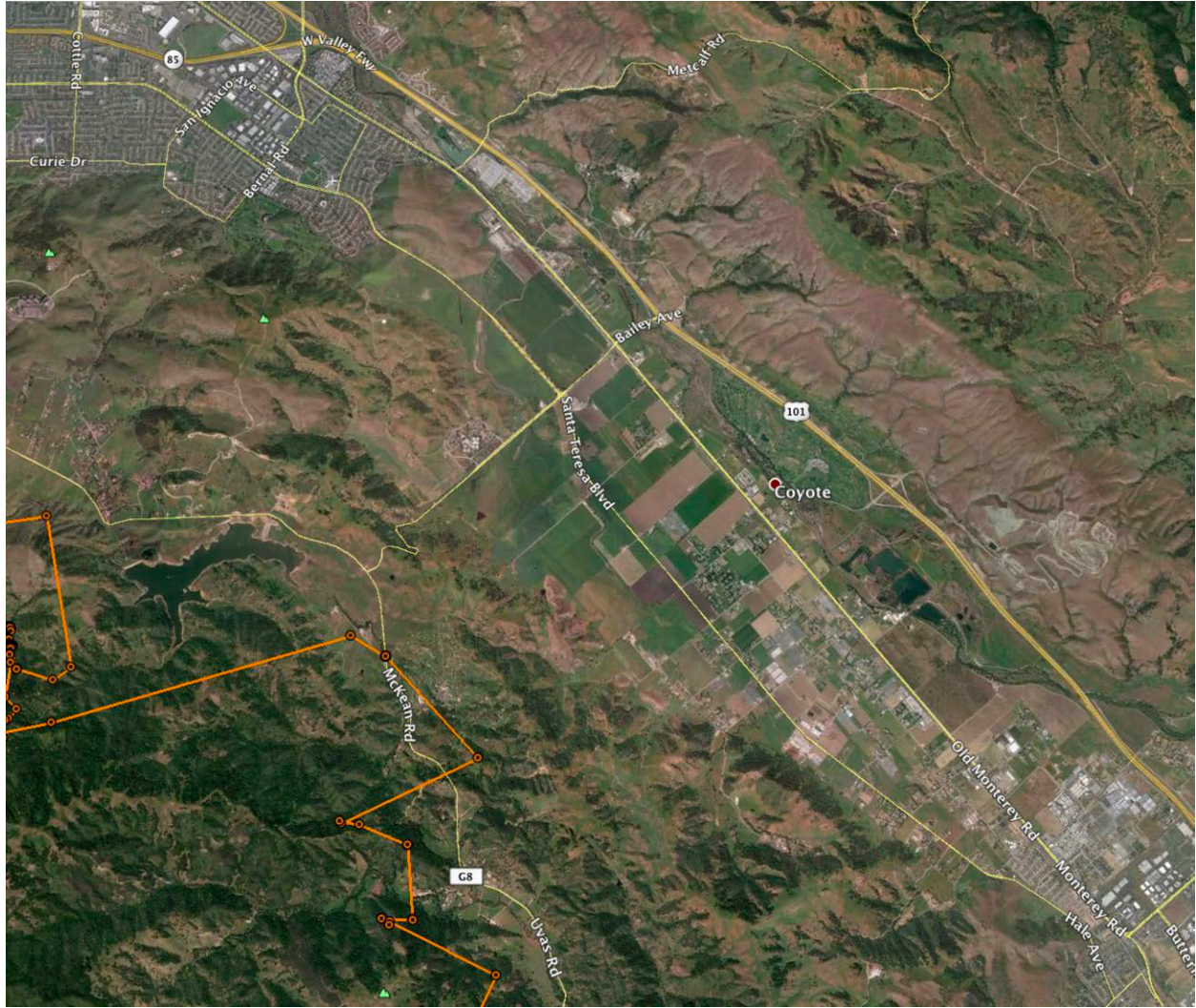


Figure 6. Zoom of 35m's nearest locations to coyote valley.