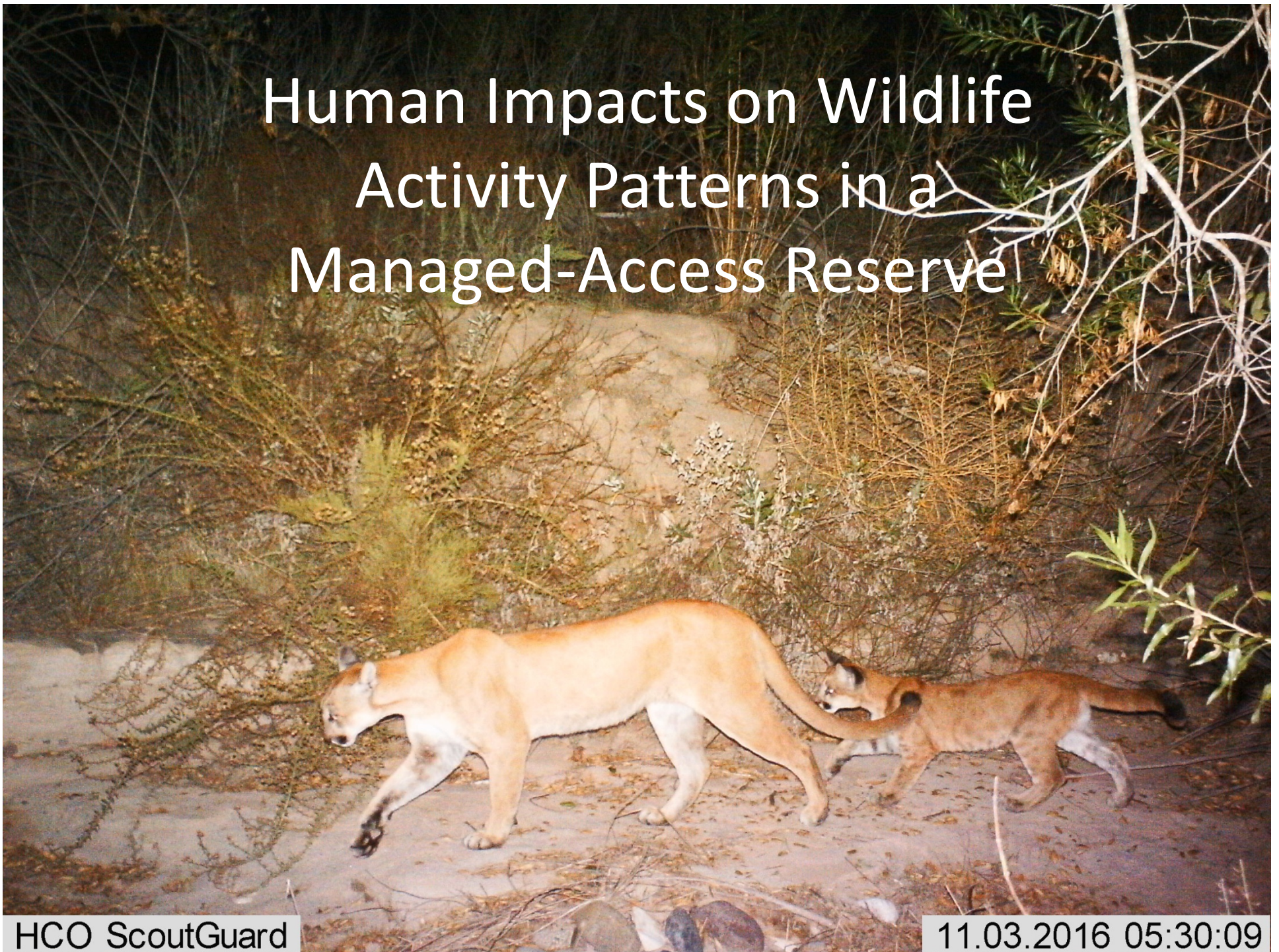


Human Impacts on Wildlife Activity Patterns in a Managed-Access Reserve

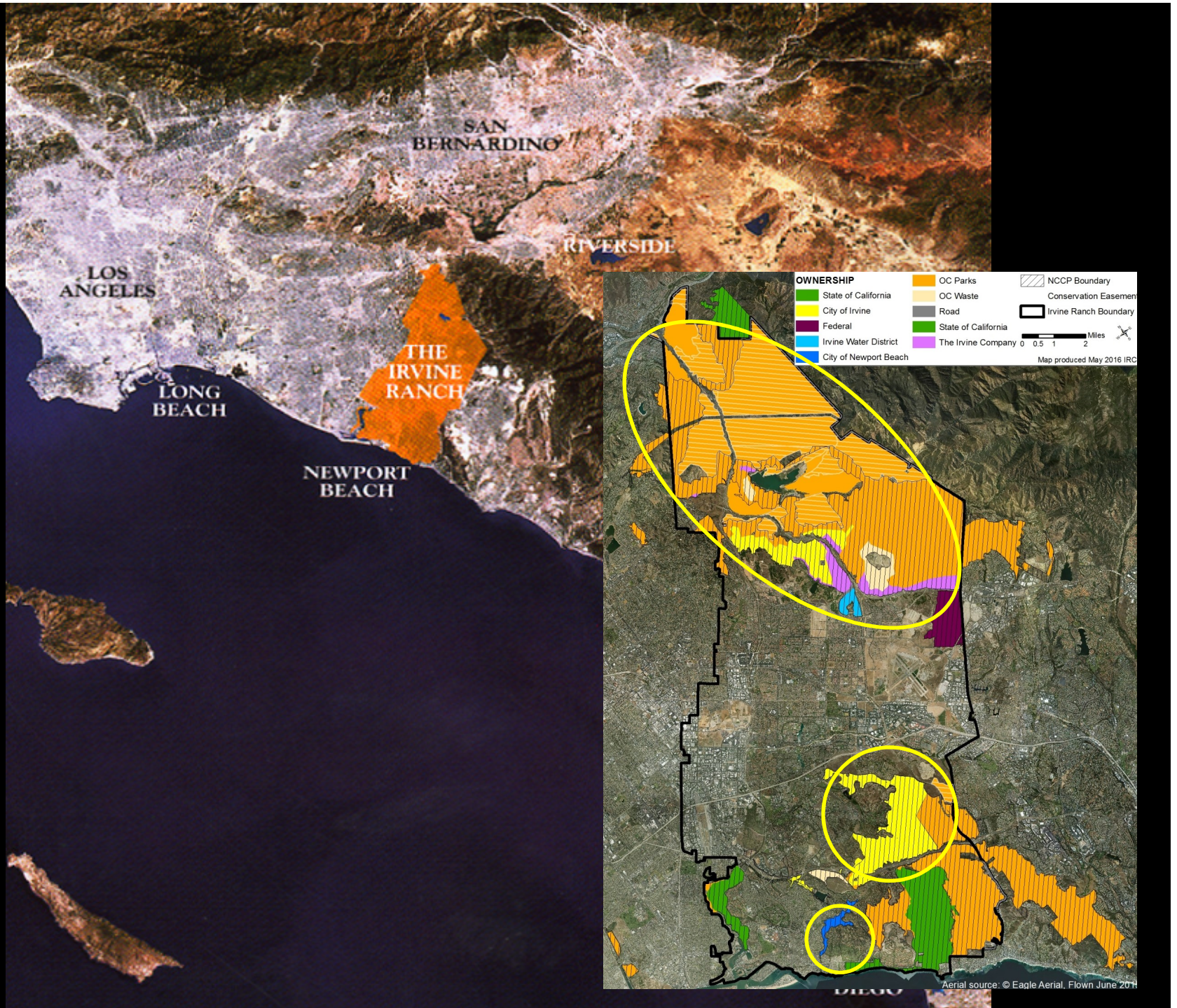


HCO ScoutGuard

11.03.2016 05:30:09

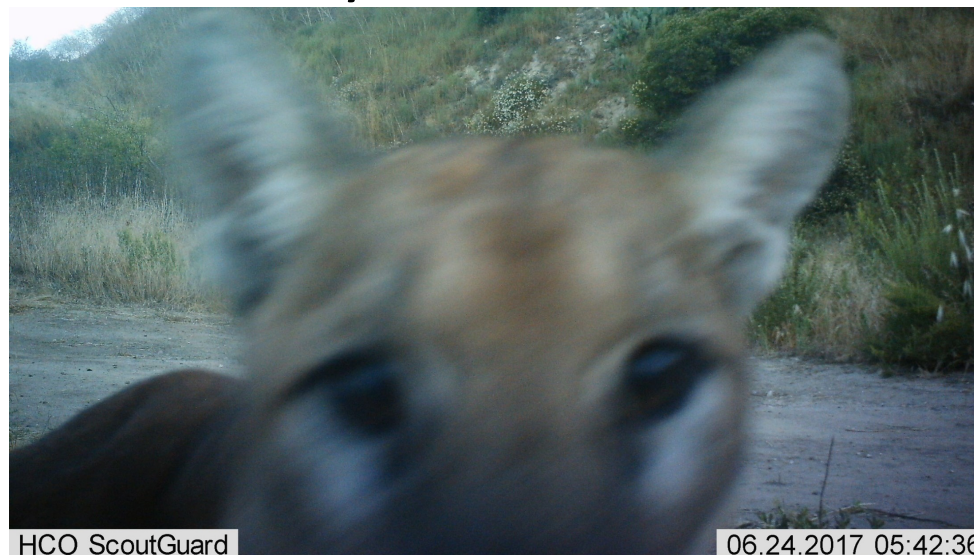
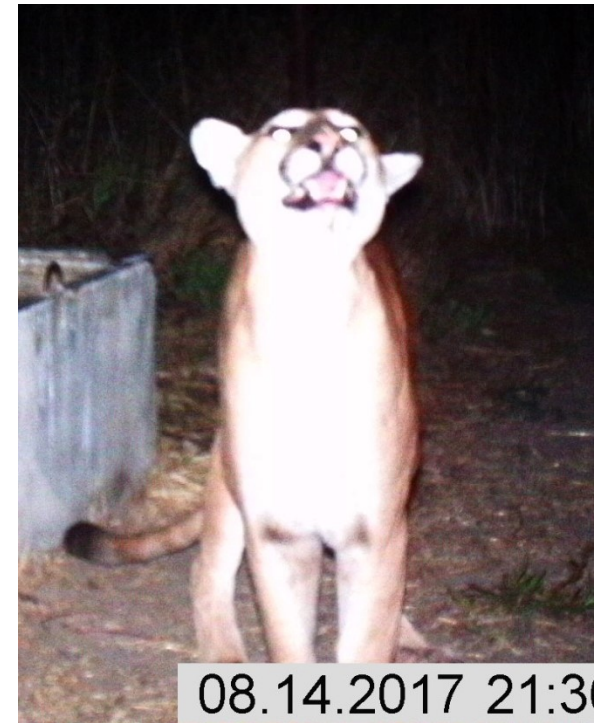


Mission: Non-profit, non-advocacy organization working to ensure the protection, restoration, and enhancement of the Irvine Ranch Natural Landmarks and to provide diverse opportunities for public participation by conducting and supporting scientific, recreational, and educational initiatives and programs.



The Challenge

- Manage habitat for wildlife
 - Promote connectivity
 - Reduce disturbance/stress
- Provide public access
 - Satisfy demand
 - Build constituency for conservation



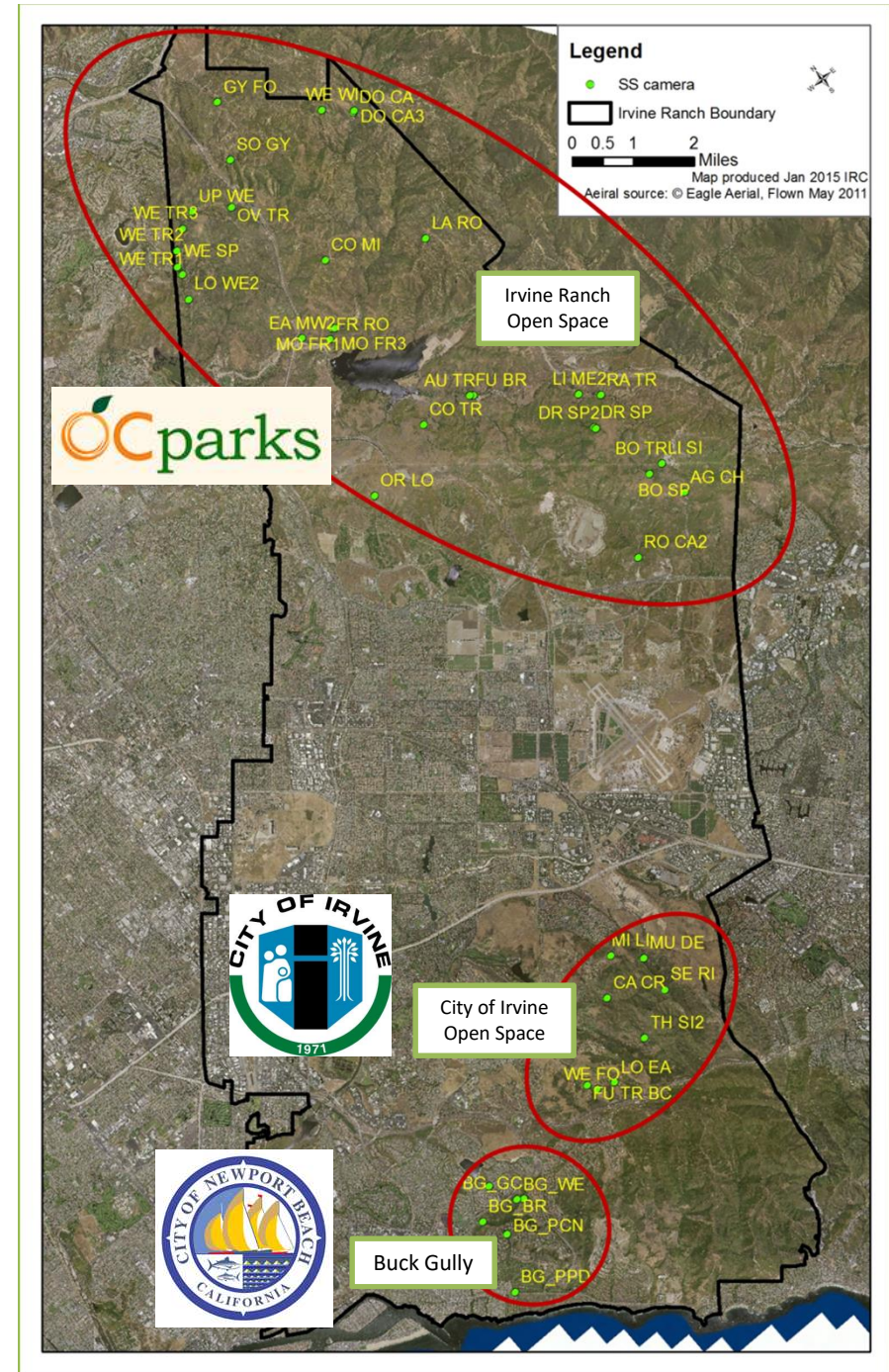
Program Goal

- Track the health, persistence, and activity of wildlife as well as its relationship to human activity over time



Methods

- Began with 33 cameras in 2007
- Currently, 49 HCO Scoutguard white flash cameras placed in urban and urban-adjacent wildland reserves
 - 34 in Orange County Parks
 - 9 in City of Irvine
 - 6 in Newport Beach (Buck Gully)
- Placed along limited-access trails, open-access trails, off trail, and near water sources





HCO ScoutGuard

07.15.2015 08:03:41

Methods

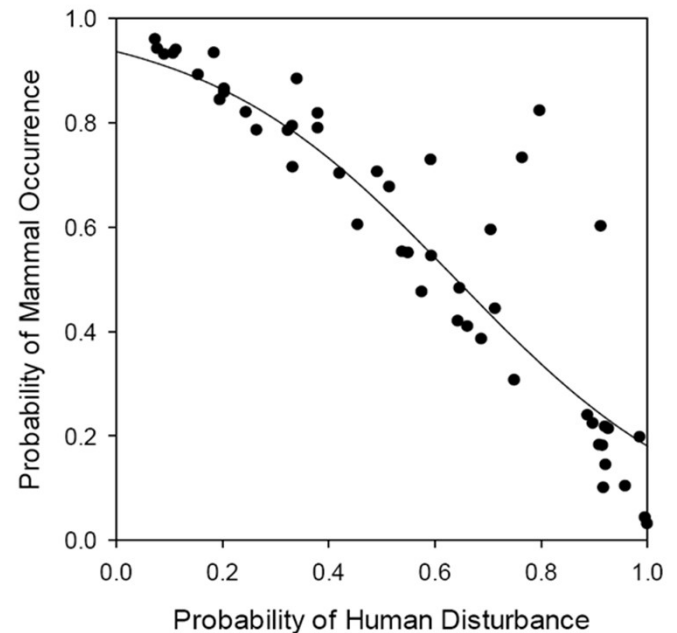
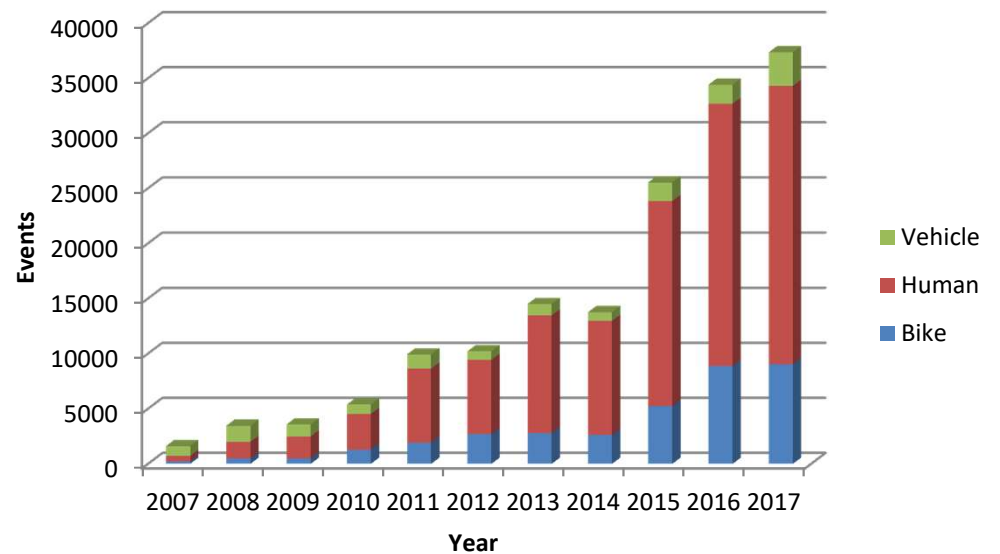
- Target species: bobcats, coyote, mountain lions, mule deer, gray fox, and humans
- Cameras set to maximum of 1-minute delay and usually on low-sensitivity
- All photos archived, but only photos from March, June, September, and December entered into database



Data

- Access was limited on all 3 reserves in 2007, but most of COI and all of Buck Gully are now open access (from dawn until dusk)
- Human activity has increased over time on all reserves
- More human disturbance = less wildlife activity

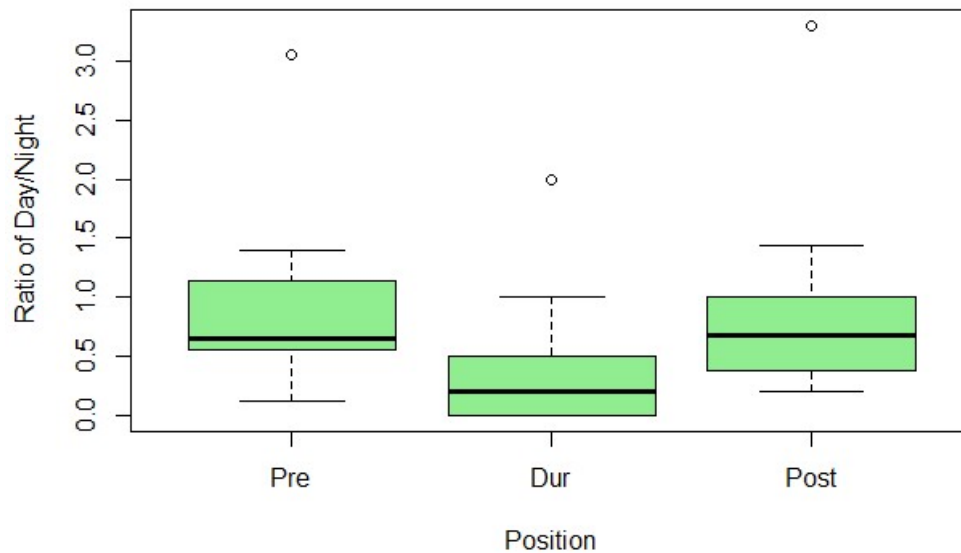
Human Access on all the Irvine Ranch



Short-Term Impacts

- Wildlife returns to pre-disturbance levels after pulses of human activity
- Implementation of rest periods

Day/Night Wildlife Activity: Before, During, and After Large Events



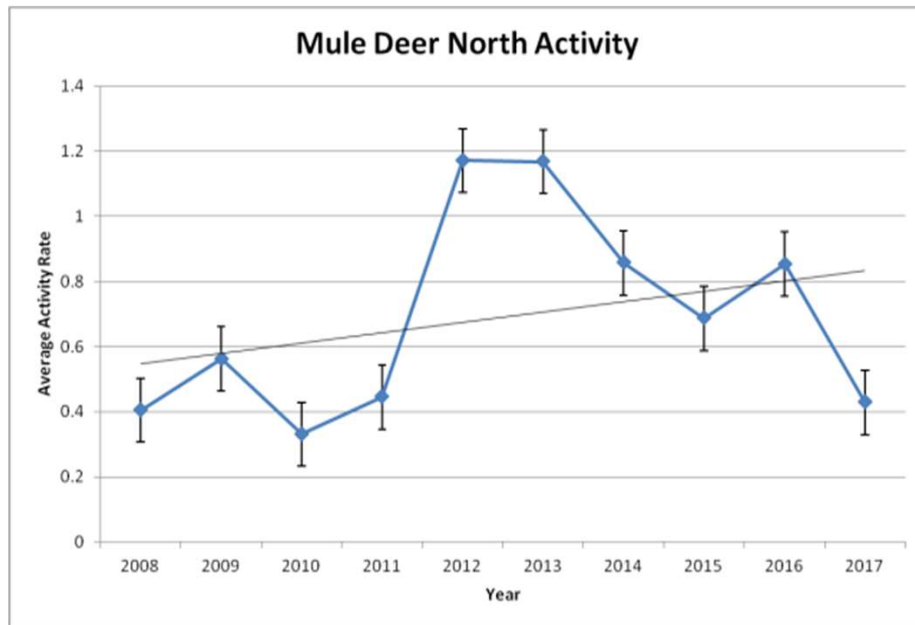


Long-Term Impacts

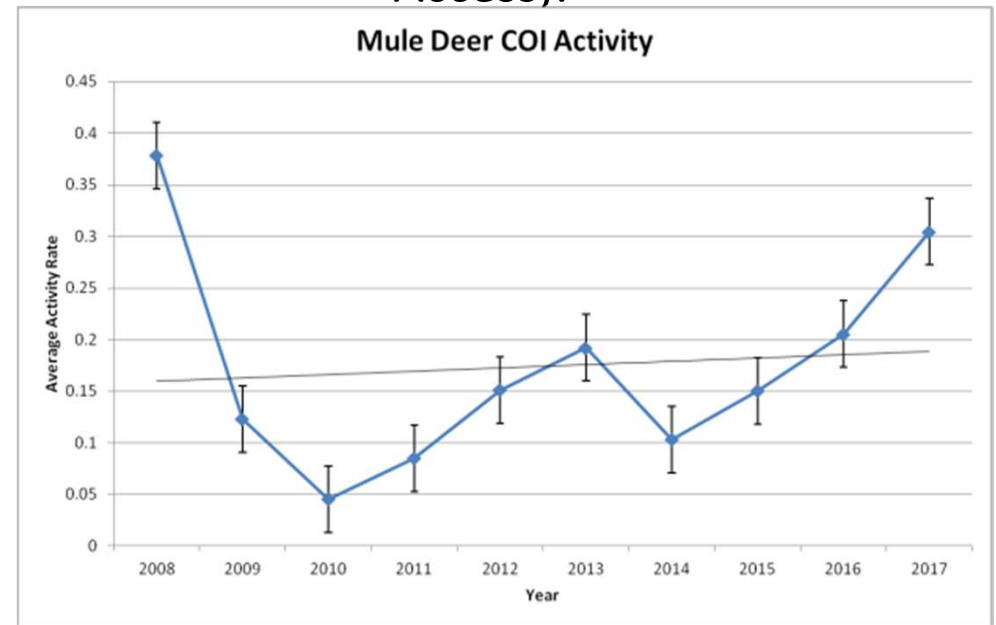
HCO ScoutGuard

08.30.2017 18:46:04

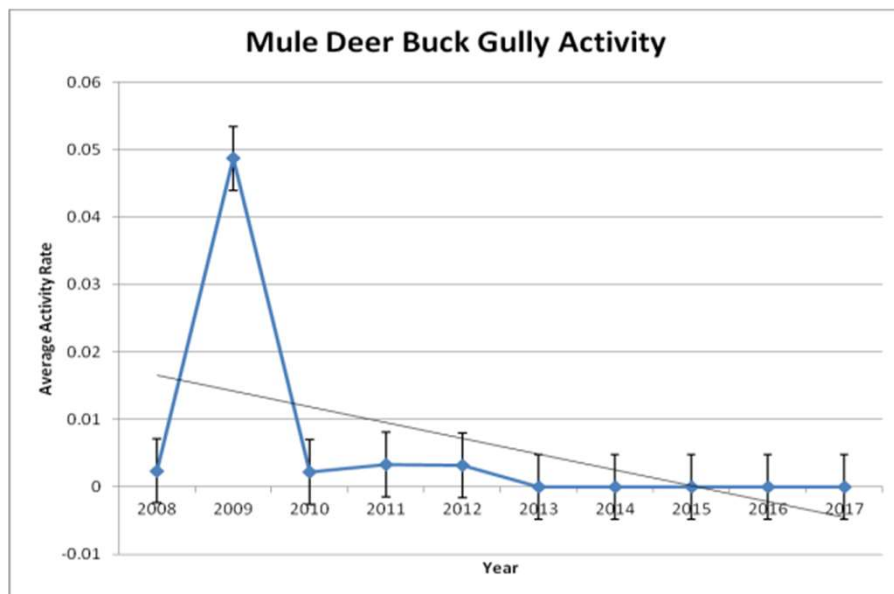
Interior Connected (Limited Access):



Costal Urban Connected (Limited & Open Access):



Costal Urban Isolated (Open Access):



- Higher activity in the North
- Declined to no activity in isolated reserve
- Generally more stable activity inland where connectivity is high
- Deer have a stable seasonal activity cycle, peaking in the Fall



HCO ScoutGuard

11.16.2017 07:47:12

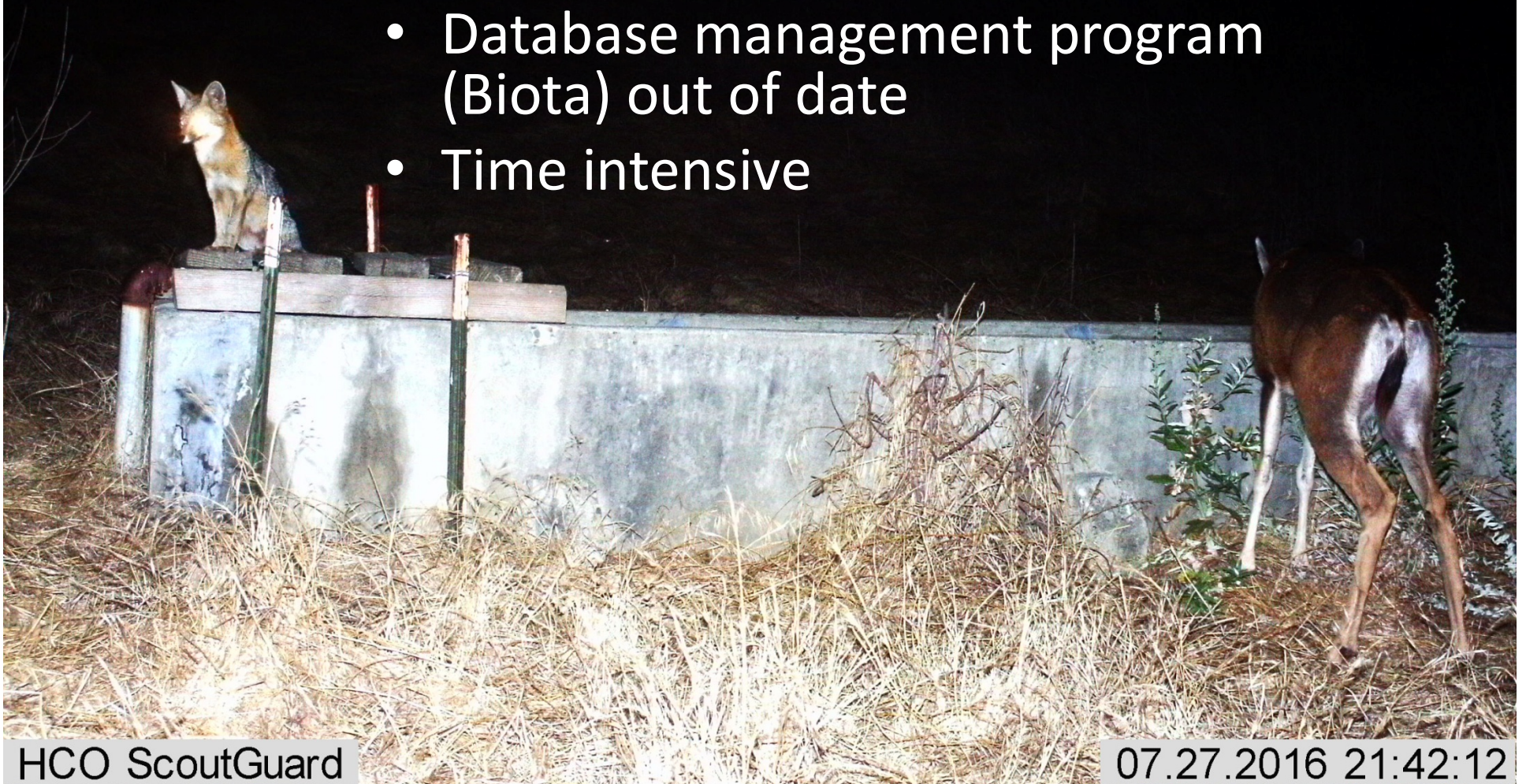
Summary

- Long-term wildlife activity and human use dataset
 - Reserve connectivity and size
 - Impacts of large public events and adaptive management
 - Limited post-disturbance monitoring
- Engagement with the public and volunteers



Issues

- Bias toward medium-sized or larger wildlife
- Most cameras are on or near accessible trails or water sources (data gaps)
- Database management program (Biota) out of date
- Time intensive





**IRVINE RANCH
CONSERVANCY**

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HCO ScoutGuard

06.07.2018 13:15:47



HCO ScoutGuard

10.19.2016 18:19:08



HCO ScoutGuard

08.15.2015 22:45:47



HCO ScoutGuard

05.17.2016 12:04:12



HCO ScoutGuard

07.12.2017 21:08:41

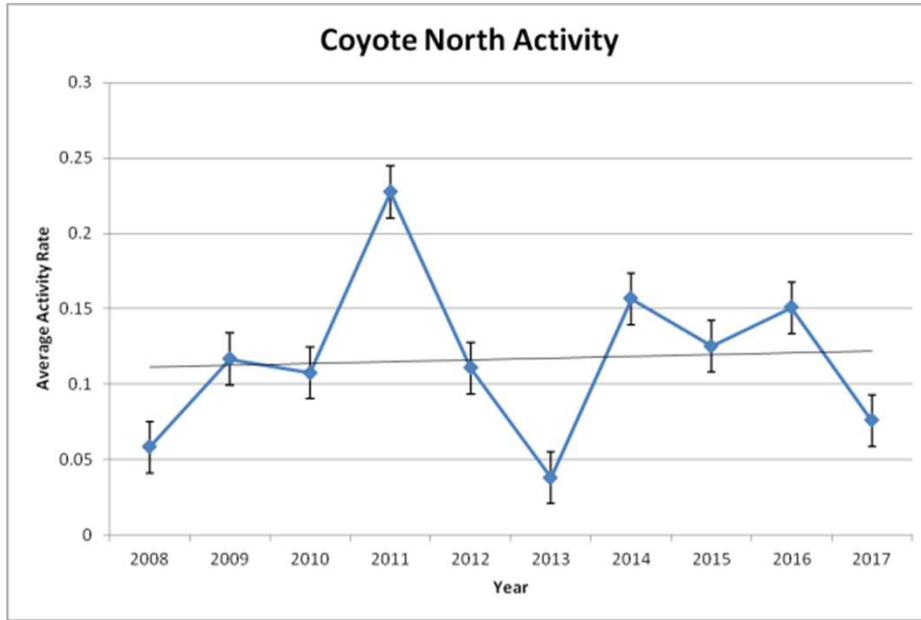




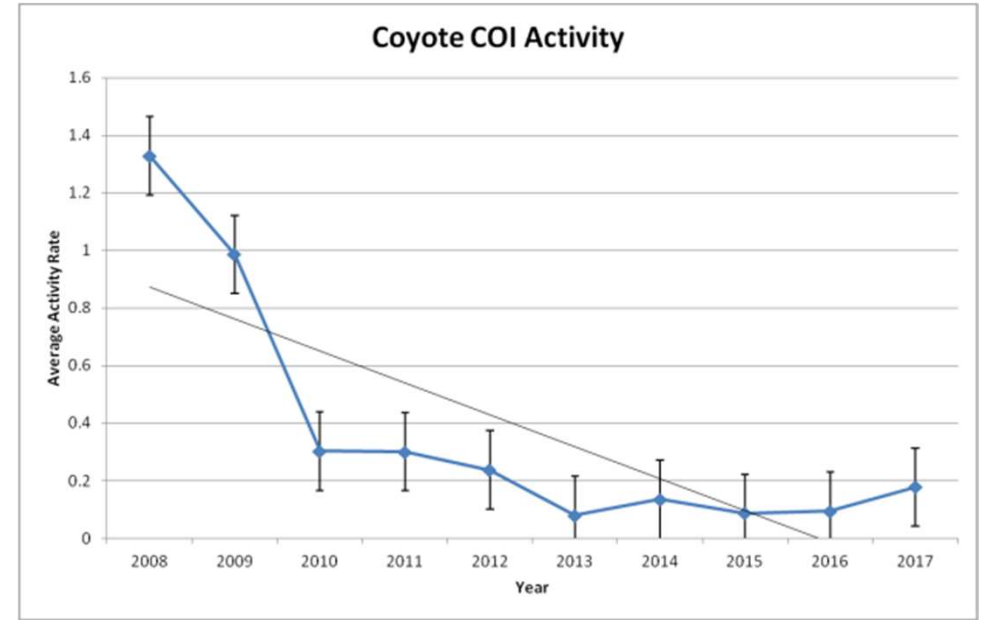
HCO ScoutGuard

07.01.2017 14:00:52

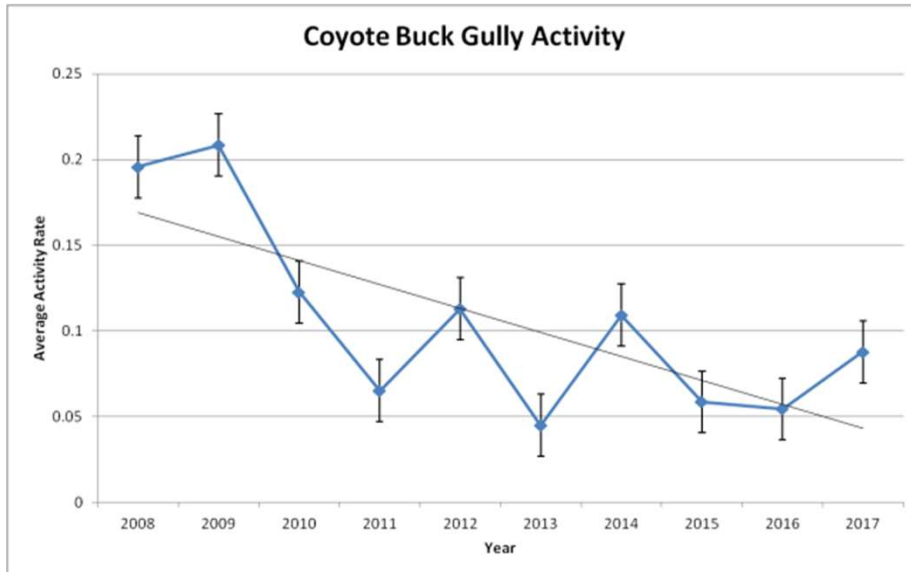
Interior Connected (Limited Access):



Costal Urban Connected (Limited & Open Access):

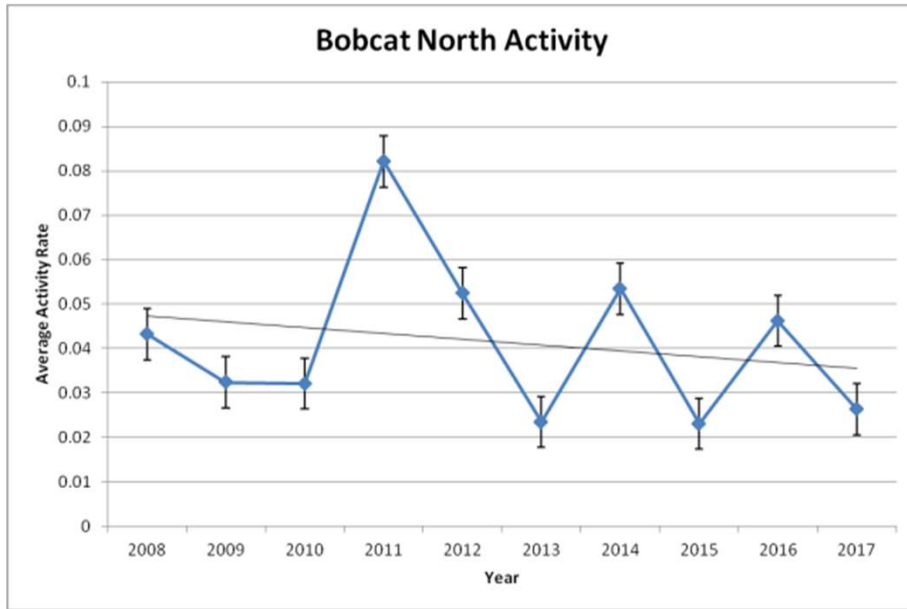


Costal Urban Isolated (Open Access):

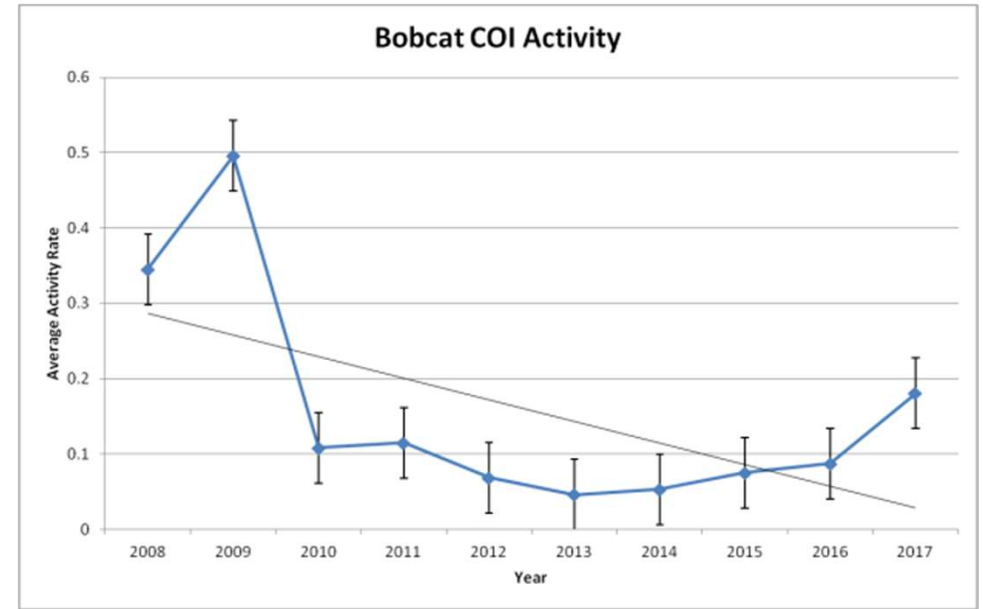


- Higher coyote activity in South where there is more urban prey but is declining
- Generally more stable activity inland where connectivity is high
- No apparent seasonal activity cycle and has large fluctuations

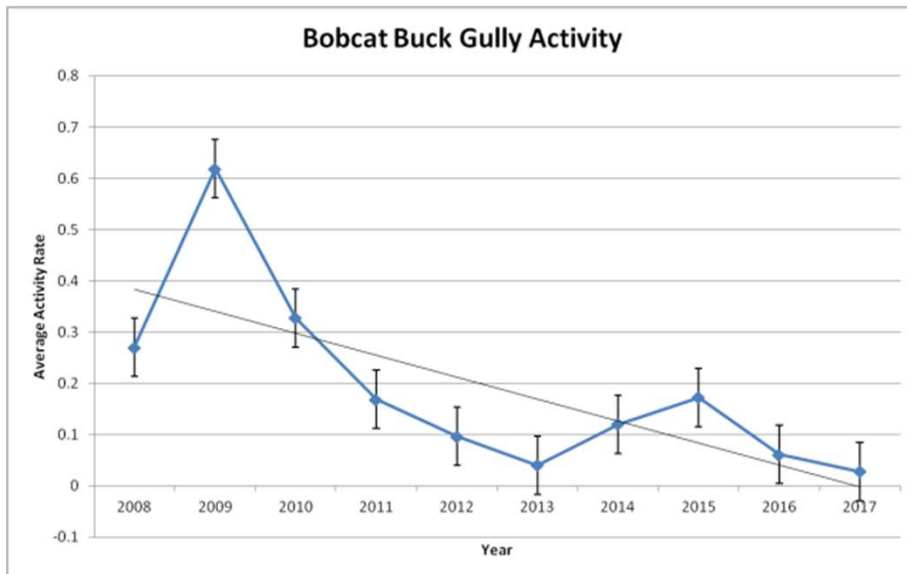
Interior Connected (Limited Access):



Costal Urban Connected (Limited & Open Access):



Costal Urban Isolated (Open Access):



- Higher bobcat activity in South where there is more urban prey but is declining
- Generally more stable activity inland where connectivity is high
- No apparent seasonal activity cycle and generally low activity

Interior Connected (Limited Access):

- Both low activity and no apparent seasonal cycles

