Loyola Marymount University
Center for Urban Resilience

Culver City Coyote Management Report
March 2023

Loyola Marymount University
Center for Urban Resilience

Culver City Coyote Management Report
Submitted September 2022

Lead Research Team:
Melinda Weaver, Michele Romolini & Eric Strauss, LMU Center for Urban Resilience

Key Collaborators:
Justin Brown, National Park Service (Radiotelemetry)
Jennifer Adams and Lisette Waits, University of Idaho (DNA analysis)
John Huang, Utah State and Rachel Blakely & Kaija Gahm, UCLA (Spatial Data)
Deandra Bragg, Sgt. Solve Loken, Lt. Leon Lopez, Lt. Luis Martinez, Catherine Palmer, and Shelly Wolfberg, Culver City (logistical support)
David Kay, So Cal Edison (land access)
Annenberg PetSpace Foundation, LMU (Additional support)

LMU Students (20+):
Katherine Arakkal, Avery Arroyo, Anna Marie Brodsky, Julia Burke, Marceline Burnett, Belen Carrasco-Cazares, Rebecca Davenport, Gwyneth Garramone, Ashley Glazier, Matthew Hoye, Lily Maddox, Colby Mallett,
Abby Marich, Madina Inagambaeva, Anna Monterastelli,
Sarah O'Riordan, Julia Pradel, Advait Prasad,
Lauren Quesada, Jaime Luis Villa, Sarah Villalobos,
and Ian Wright.

Loyola Marymount University
Center for Urban Resilience

Culver City Coyote Management Report
Submitted September 2022

The goals of the project were to:

1) Gather appropriate ecological, technical and human social data to understand local coyote ecology and human-wildlife conflict

2) Analyze these findings in comparison with other studies conducted across North America

3) Develop durable management interventions linked with formal and informal education to reduce the negative impacts of the expanding coyote population in Culver City and beyond.

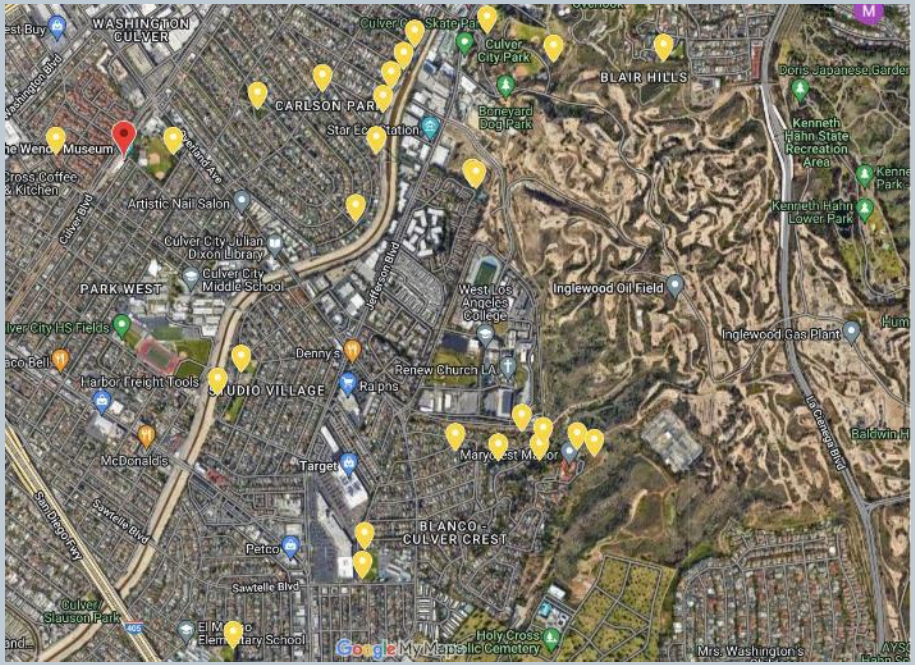
4) Provide technical and educational support to Culver City officials and stakeholders in their effort to implement these goals and reduce coyote conflicts in Culver City.

Loyola Marymount University
Center for Urban Resilience

Culver City Coyote Management Report Submitted September 2022

The study employed various data collection methods:

1) Remote camera traps,
2) Radio-telemetric collars,
3) Dietary analysis,
4) Direct observation,
5) Molecular analytics
6) Survey of residents
7) Informal conversations and data from local stakeholders



During the three-year study:

We collected nearly 2 million photos, radio-collared two male coyotes, collected nearly 200 scat samples, surveyed 377 residents, and developed educational resources and a backyard study that help residents determine coyote risk in their yard. The key part is the report and management recommendations

Loyola Marymount University
Center for Urban Resilience

Culver City Coyote Management Report
Key Findings & Recommendations

1. Coyote densities relatively stable – prey species, particularly rabbits, fluctuated - linked to decreased rainfall during the study, similar data from the Sonoran desert.

2. Studies in Chicago and North Carolina (low cat predation), found that cats avoid areas where coyotes are common. Our study observed that cats overlapped significantly with coyote locations and time of day, increasing their risk of predation.

3. There are seasonal patterns to when coyotes spend more time within the City rather than the oilfields. There also appears to be a seasonal pattern to when cat appears in coyote diet. Increase summer/fall, decrease winter.

Loyola Marymount University
Center for Urban Resilience

Culver City Coyote Management Report
Key Findings & Recommendations

4. DNA analysis from scat samples show that there are likely two packs of coyotes entering Culver City. The first is a pack that ranges from 6-8 near Marycrest Manor and the oilfields. The second does not appear to live within the Culver City limits but enters the City from Ballona Creek, where they appear to travel but not den.

5. Dry scat analysis shows that the Marycrest Manor pack does not prefer cat as their top prey and typically has less than 5% cat in their diet. However, as rabbit density decreased, we saw a change in the coyote diet. In the second year of the study, more than 25% of coyote scat contained cat samples

Loyola Marymount University
Center for Urban Resilience

Culver City Coyote Management Report
Key Findings & Recommendations

6. The survey of residents showed 64% of respondents agreeing that they understand coyote behavior and activities, and 53% agreeing that they know where coyotes frequent. This perceived knowledge goes against previous research and our own experience, suggesting a need for further outreach and education. More than one-fourth of respondents indicated that they are unaware of the City's coyote management efforts, thus we suggest that the City use a multi-faceted outreach approach.

Recommendations

Loyola Marymount University
Center for Urban Resilience

Culver City Coyote Management Report
Detailed Recommendations

Recommendation 1. *Increasing specialized education for stakeholders to reduce coyote risk.*

Risk is driven by both human social factors and highly variable behavior among coyotes based on age, social status, prey availability and drought conditions.

- Remove all sources of food and water.
- Clean up downed or low-hanging fruit on fruit trees.
- Keep pet indoors at night - inspect before letting them out.
- Maintain fences and trim vegetation. Use coyote rollers
- Install motion sensor lights.
- Don’t approach or feed coyotes - teach children not to do so.
- Walk dogs on a short leash, carry a stick, pepper spray
- Don’t turn your back on or run from a coyote.
- Don’t let pets interact with coyotes.
- Close pet doors at night.

Loyola Marymount University
Center for Urban Resilience

Culver City Coyote Management Report
Category of Recommendations

Recommendation 2.

Implementing a suite of interventions at the individual parcel level that can decrease the potential threat from coyotes.

Cat consumption is higher in Southern California than in other sites across North America cities. Mild climate and drought are altering both cat and coyote behavior that put them in closer contact than in other urban settings

1. Reduce resources in your yard that coyotes find attractive – pet food, water, shelter, fruits, etc.
2. This applies to neighbors as well. Effective interventions must be neighborhood wide.
3. Wildlife feeding stations for feral cats and other mammals should be eliminated.
4. Take the backyard risk assessment survey and respond.

Loyola Marymount University
Center for Urban Resilience

Culver City Coyote Management Report
Category of Recommendations

Recommendation 3.
Following a tiered response to coyote management with respect to documented incidences.

We offer a detailed chart of scaled management responses to coyotes in the report. Total removal of coyotes is nearly impossible. Lethal removal is a management necessary tool, but should only be used with an understanding of its limitations and pitfalls. Most coyotes can be managed through yard management, hazing and resource control.

Scaling Example based on nature of interaction:

detailed reporting – targeted education – aversive conditioning –targeted lethal removal

Loyola Marymount University
Center for Urban Resilience

Culver City Coyote Management Report
Category of Recommendations

Recommendation 4.

Introducing a palette of strategies that can be applied to residential pet owners as they try to find a balance between pet safety and outdoor activities.

1. Enhanced specialized education for pet owners
2. School-based curriculum on coyote-human conflict and ecology – leading to solutions
3. Specialized training for cats (similar to snake training)
4. Implement a more sophisticated and consistent program for hazing of coyotes before they become more aggressive

Loyola Marymount University
Center for Urban Resilience

Culver City Coyote Management Report
Category of Recommendations

Recommendation 4 - Hazing.

- Hazing should only be used when appropriate; approaching humans and their pets, or occupying human areas.
- Hazing should be aggressive - designed to startle a coyote.
- The more often a coyote is hazed by a variety of people in a variety of ways, the more effective hazing will be.
- The coyote must understand that hazing is coming from the human, so the hazer must be visible to the coyote.
- Hazing can take the form of aggressive stances, yelling and arm waving, or utilize tools, such as noise makers, projectiles, hoses, or water guns with vinegar.
- Hazing must continue until the animal leaves.
- Hazing must be consistent, each time the animal is present.
- Hazing must not injure the animal, and no one should ever haze an injured animal, as they can be aggressive and

Loyola Marymount University
Center for Urban Resilience

Culver City Coyote Management Report
Frequently Asked Questions

Are all coyotes presenting similar risks?

Why can't we just eliminate coyotes form Culver City – wouldn't that be more efficient?

Why are coyotes so unpredictable?

Why did the study take so long to complete?

What key aspects of coyote ecology did we learn from this study that couldn't have been understood from reading other studies?

How will our team continue to help Culver City manage their coyote issues?