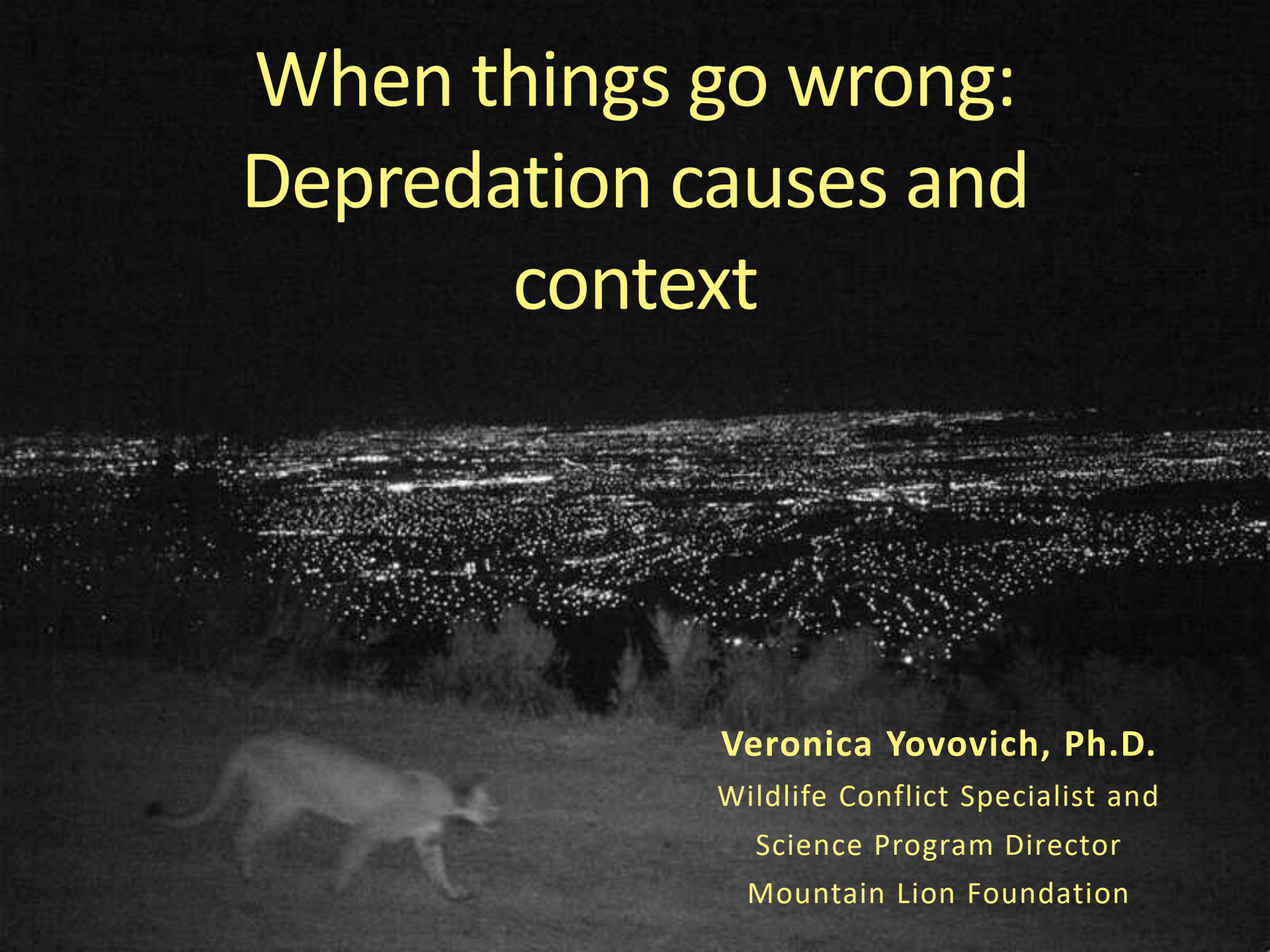


When things go wrong: Depredation causes and context



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Talk Outline



This is the second workshop we've had addressing livestock and carnivores.

The first was in April of 2015

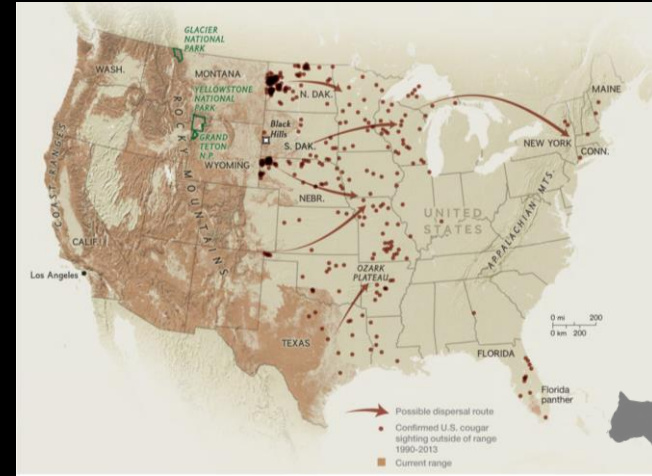
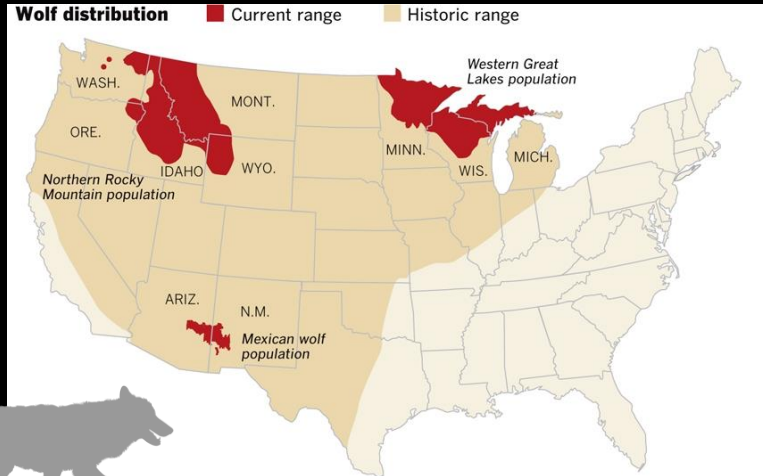
See:

http://www.elkhornsloughctp.org/training/show_train_detail.php?TRAIN_ID=CeGXD9D

In this talk, I will address:

- The current state of carnivores in the US
- What's going on in CA
- What happens when things go wrong
- The limitations of lethal control as a tool

Current Context

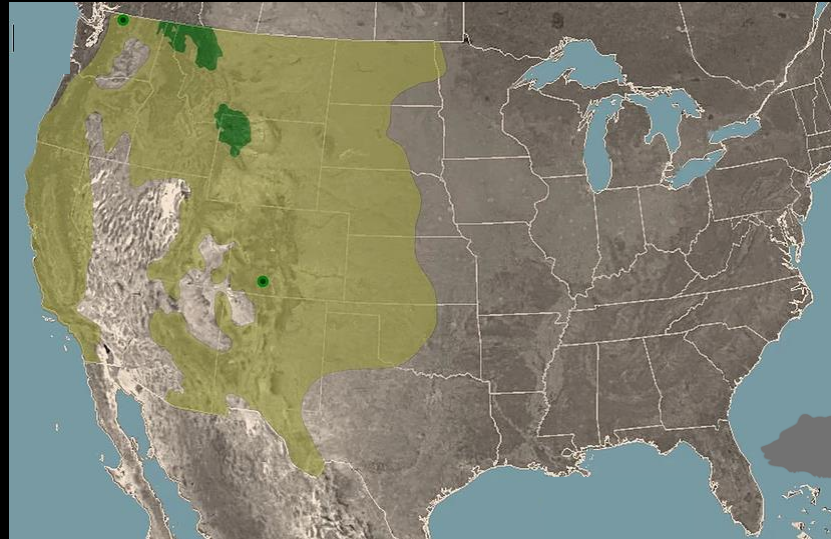


It is an encouraging time for carnivores from a species recovery standpoint – many of the populations that we nearly wiped out, or did wipe out, are returning to some of their previous habitat. This is also a time for which there is unprecedented tolerance for carnivores.

Wolves were hunted to extinction in the continental US by the 1920s, and have now returned to the upper Midwest, and parts of the Southern and Northern US Rockies, as well as parts of the Pacific Northwest

Bounties and targeted eradication wiped mountain lions out in the eastern portion of the US by the early 1900s. But in recent years, they and have made a natural recovery in some of the plains states and in parts of the west where they had become rare.

Current Context



Unregulated hunting and habitat loss reduced and drove black bear populations throughout the last 2 centuries, but restrictions on take have allowed those populations to recover over the last few decades.

Grizzly bears once roamed across the Western US, but by the 1970s, they were eliminated in all but two tiny populations in the Northern US Rockies. With the protection of the ESA, they've been able to rebound in the Greater Yellowstone Ecosystem and there's hope for reconnecting that population to the Canadian Rockies.

From a species recovery standpoint, these are all encouraging stories.

What's going on in California



Now let's think about what's going on in California specifically. Looking at mountain lions first, one thing many of you have noticed is that people in the Central Coast may have been seeing them more frequently than they used to. Part of the reason this may be true is because of how mountain lions were managed in the state.

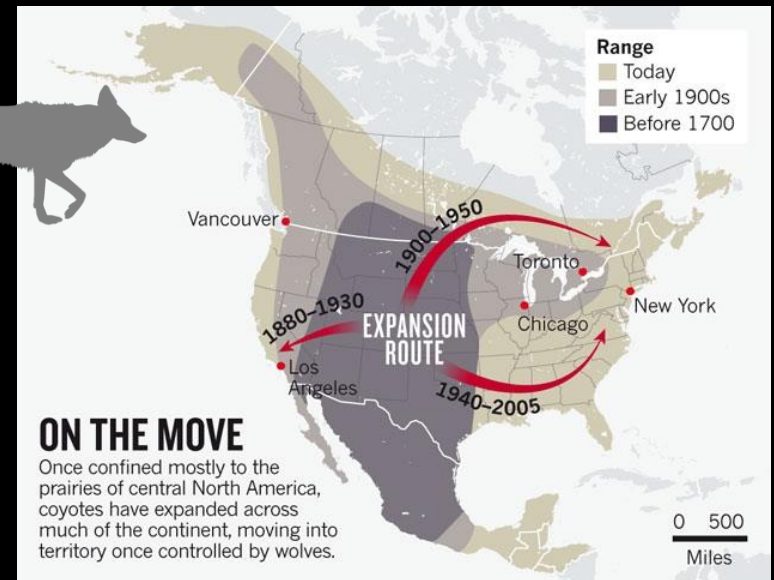
From 1907-1963, there was a bounty on mountain lions. This dramatically reduced their **statewide population from somewhere around a few thousand animals in the 1800s (pre bounty) to only a few hundred in the mid 1960s (post bounty)**. With fewer mountain lions in the state, it was much more rare to encounter one. Since the 60s, we've seen that previously depressed population rise back in line with what the environment can support.

More mountain lions means more potential for conflict with pets or livestock. This population recovery is likely the largest reason that we've started to see conflict with livestock that previous generations of ranchers didn't have to deal with.

What's going on in California

For coyotes, the story is a bit different.

Coyotes were once uncommon in Central California, but as wolf populations declined, coyotes expanded. Now we see them everywhere, and sometimes have issues with coyotes taking sheep and pets, getting into our garbage, and occasionally having negative altercations with people directly.



Along with coyotes and mountain lions, people in Northern California are starting to think about possible wolf recolonization as well. In 2011 A grey wolf set foot in California for the first time in 88 years. CDFW has been proactive about designing policies to handle wolf recolonization, but that's likely a long way off from being something we have to think about here in the Central Coast.

With these various population expansions comes a growing need to understand why depredations occur.

When Things Go Wrong



Domestic animals are inherently more vulnerable than wild prey, as we have bred them to be tame, reducing their natural ability to defend themselves against predators.

We've also changed the landscape and presented the carnivores a very different context in which they evolved. We've swapped out their native prey with livestock, and in some cases, we've fenced the livestock in.

Let's take pumas as an example. Pumas are an ambush predator that eat herd species. When they pounce on one member of the herd, everyone else runs. We've replaced deer with livestock, and surrounded them with fences that keep the livestock in, but doesn't necessarily keep the pumas out. Now when they pounce on a goat in a pen, goats can't run away like they would in a natural setting.

This can lead to excess killing, where you can have several goats or sheep killed in one night. The puma isn't killing for sport, it's an evolutionary mismatch between the context in which it evolved and the novel landscape in which it lives.

Indirect Predation Impacts

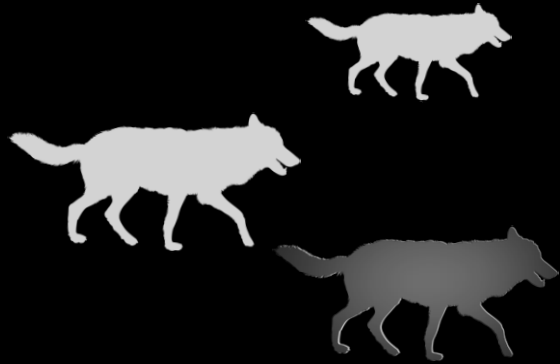


In addition to killing livestock, carnivores can have indirect effects on prey or livestock. Research has explored how harassment by wolves can cause them to lose weight.

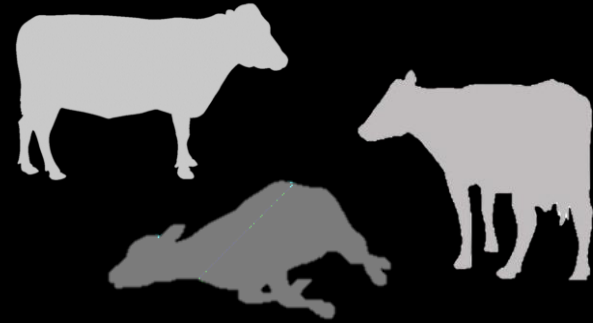
Wolves are cursorial predators, which means they chase down their prey to identify weak members of the herd to pick off. If they harass your cattle, even if they don't kill them, it can stress your animals and cut in to your profits.

It may seem like a small victory, but this isn't something we likely need to worry about with mountain lions and cattle. Since pumas are ambush predators, they slowly and stealthily stalk their prey. They rely on this surprise to be successful. This hunting strategy means that it is unlikely that they would chase livestock around, cause prolonged stress, or cause them to lose weight like a wolf or domestic dog might.

Lethal control



+4-6%
increase in
conflict



We have a history of using lethal removal to deal with conflict between livestock and carnivores. That is a tool in the arsenal, however, it can be problematic and, in some situations, counterproductive. We've been using this tool for thousands of years since we first started keeping livestock and we're still having problems with carnivores. It does keep that individual from ever killing your livestock again, but doesn't solve the underlying issue.

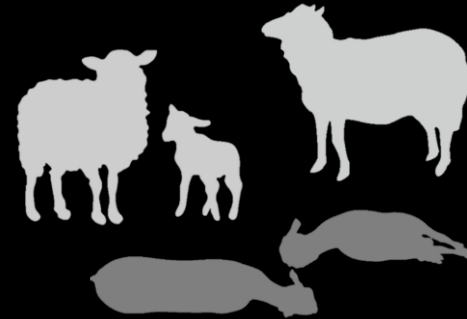
What we hadn't realized until recent research was conducted was that lethal removal can actually make the problem worse. Researchers at WSU used 25 years of data from Idaho, Montana, and Wyoming and found that **for each wolf you kill, livestock depredations actually increase 4 to 6 percent the next year** (the odds of livestock depredations increased 4% for sheep and 5–6% for cattle).

Instead of helping relieve predation pressure on livestock, wolf hunting actually made things worse. What's more, they found that you have to kill over 25% of the local wolf population in order to see a decrease in depredations.

Lethal control



+36-240%
increase in
conflict



For mountain lions the story is much more dramatic. Research conducted across 39 counties and 136 Game Management Units in Washington looked at whether sport hunting could help decrease livestock conflict. The idea was that reducing the mountain lion population would reduce conflict. What they found was the opposite - **as more mountain lions were hunted, depredations and complaints increased 36 to 240%.**

These results were very surprising – it's a bit counterintuitive – that lethal control can actually make depredations increase.

The reasons have to do with how these carnivores interact with one another. One reason we might see this pattern with pumas is because killing pumas disrupts their social system. Males defend a territory against other males. New, younger males immigrating to the opened territory and social disruption of the local population caused by increased hunting may have resulted in the increased number of incidents. Hunting does not appear to be an effective preventative method for reducing predator complaints and livestock depredations.

Preventative measures

Increased human presence



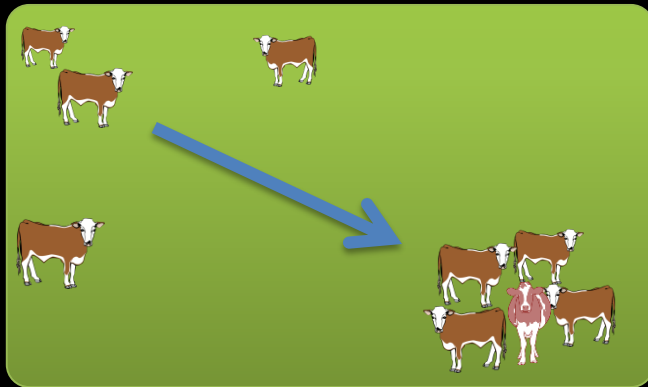
Livestock guard dog



Fladry & turbo fladry



Aggregate herding



Protected calving grounds



Identify hotspots



The best way to protect livestock is to use preventative tools. There are lots of tools out there – Dan Macon’s talk will address these strategies in more detail.

Our goal today is to help make running livestock along carnivores easier so that ranching can remain a viable part of the Central Coast in perpetuity. Ultimately, what’s good for the livestock will be good for the wildlife, and vice versa.

Questions?



Contact: vyovovich@gmail.com

IF YOU ENCOUNTER A MOUNTAIN LION:



FACE LION. BACK AWAY SLOWLY.



BE LARGE. SHOUT.



KEEP CHILDREN CLOSE.

PICK UP CHILDREN WITHOUT BENDING.

**IF ATTACKED,
FIGHT BACK.**