Staff Summary for April 17-18, 2024

25. California Grizzly Bear

Today's Item **Information ☐** **Action ☒**

Recognize the 100-year anniversary of the extinction of California's state animal, grizzly bear (*Ursus arctos californicus*).

Summary of Previous/Future Actions (N/A)

Background

Despite having been extirpated (made extinct) from the state 100 years ago this month, the California grizzly bear, also commonly called the brown bear, remains one of California's most iconic species. The distinctive brown-golden colored bear is featured on the state's great seal and flag and is the California state animal. The California grizzly bear served as an important ecological keystone species, originally present throughout the state. However, it was hunted and trapped to extirpation, with an individual believed to be the last in California spotted in Sequoia National Park in April 1924. California is the only state in the union that carries the image of an extinct animal on its state flag and seal.

Notably, the grizzly bear remains a socially, culturally, and spiritually important animal to many California Native American tribes and tribal communities. Recently, the California State Senate declared 2024 to be the Year of the California Grizzly Bear through a resolution that, in part, acknowledges for thousands of years grizzly bears coexisted with the ancestors of contemporary California Native American tribes.

Today, the Commission will receive a presentation on the ecology, history, and significance of grizzly bear in California (Exhibit 1), hear from tribal voices on the importance of grizzly bear to Native Americans, and potentially adopt a resolution (Exhibit 2) recognizing the 100-year anniversary of the extirpation of grizzly bear in California.

Significant Public Comments (N/A)

Recommendation

Commission staff: Adopt the draft resolution in Exhibit 2 recognizing the 100-year anniversary of the extirpation of grizzly bear in California.

Exhibits

1. Presentation from Dr. Peter Alagona, Associate Professor, Environmental Studies Program, University of California, Santa Barbara
2. Draft resolution

Motion

Moved by _____ and seconded by _____ that the Commission adopts the draft resolution recognizing the 100-year anniversary of the extirpation of grizzly bear in California.

The California Grizzly: Then and Now

Brown bear basics

Global population and range of brown bears

Population estimates:

Alaska = 40,000
Canada = 25,000
Lower 48 states = 2,000
Europe = 25,000
Asia and the Middle East = 115,000

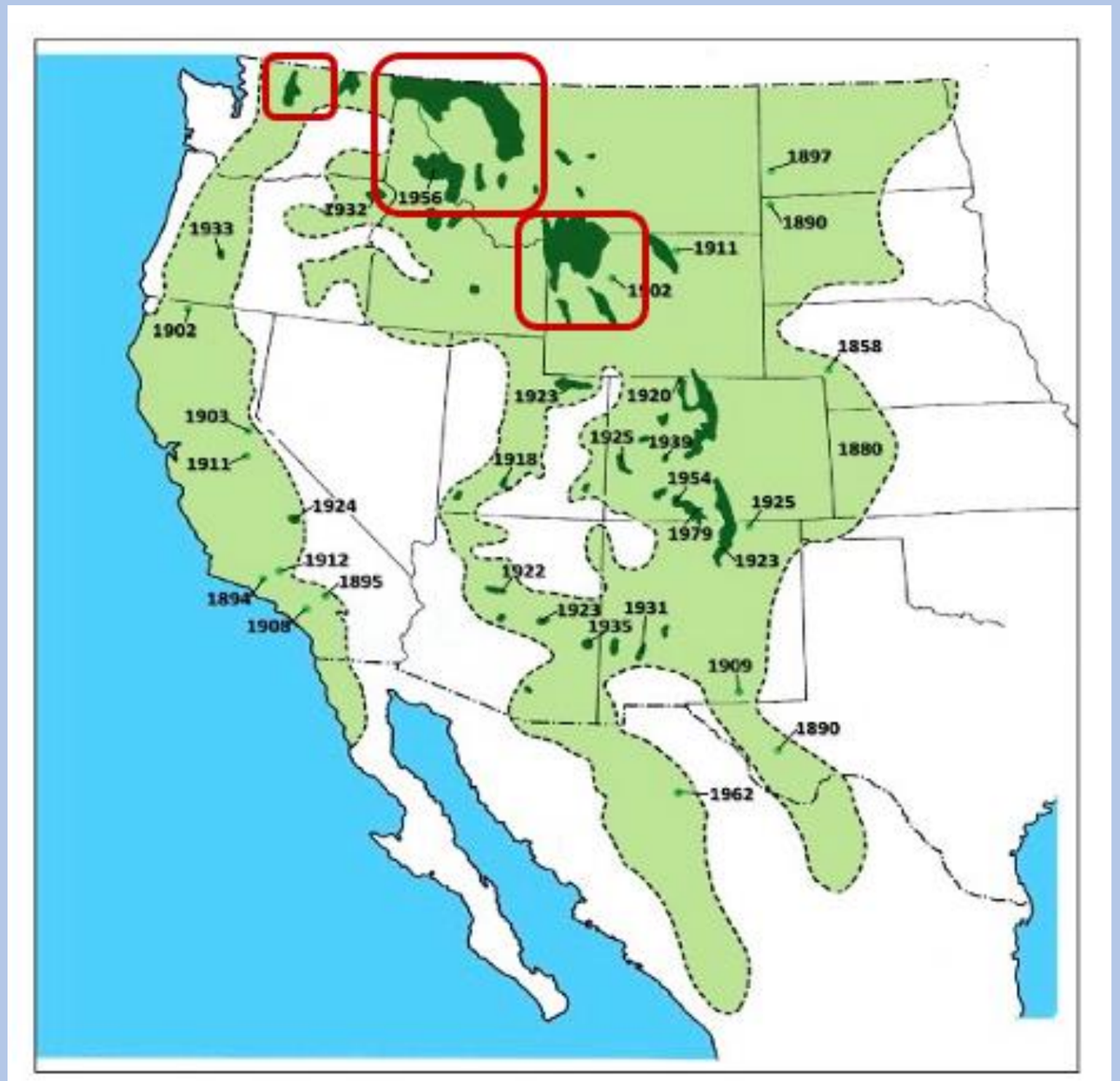
Total = ~207,000
An IUCN "species of least concern"

Grizzly basics

In 1800, there were an estimated 50,000 grizzly bears in the lower 48 US states, around 10,000 of which lived in CA.

Since then, their population has been slashed by about 96% to 2,000 (up from 1,000 in 1975).

Under its current plan, the FWS could declare grizzlies fully "recovered" with a population of just 3,000—a total historical decline of 94%.



Light Green: Grizzly range in 1800 (lower 48 states & Mexico)

Dark Green: Grizzly range by 1900

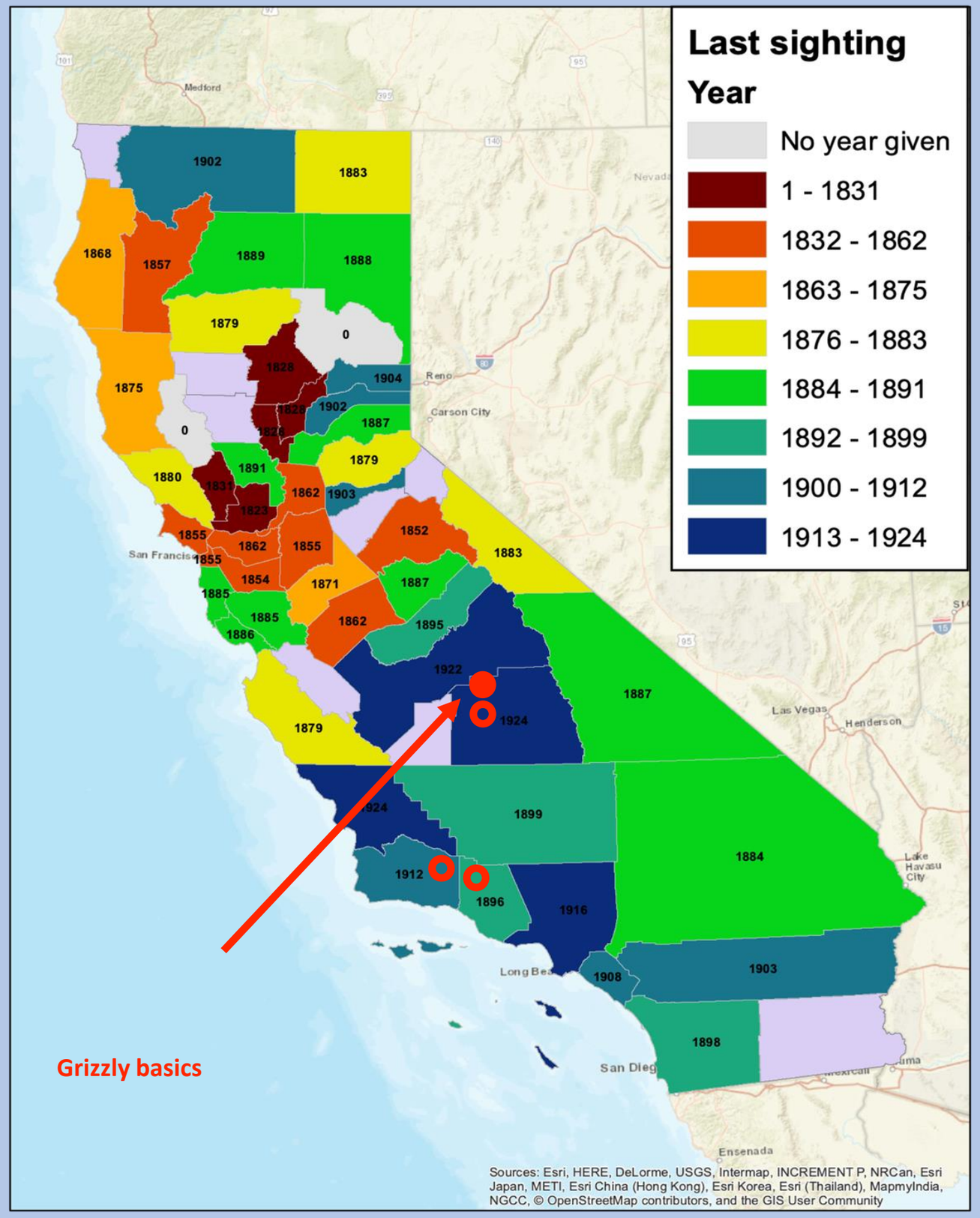
Numbers: Year of last sightings or presumed extinctions

Grizzly basics

For millennia, grizzlies shared their habitats with diverse and prosperous Indigenous societies.

The bears continued to thrive during the Mission and Rancho eras, from 1769 to 1848.

Beginning around 1850, grizzlies declined rapidly. They disappeared first from the most developed areas of Northern CA, and then later from more remote areas in Central and Southern CA.



Grizzly basics

The California Grizzly Research Network

In 2016, an interdisciplinary research group convened at UC Santa Barbara to conduct the first major study of CA grizzlies in more than six decades.

What we’ve learned

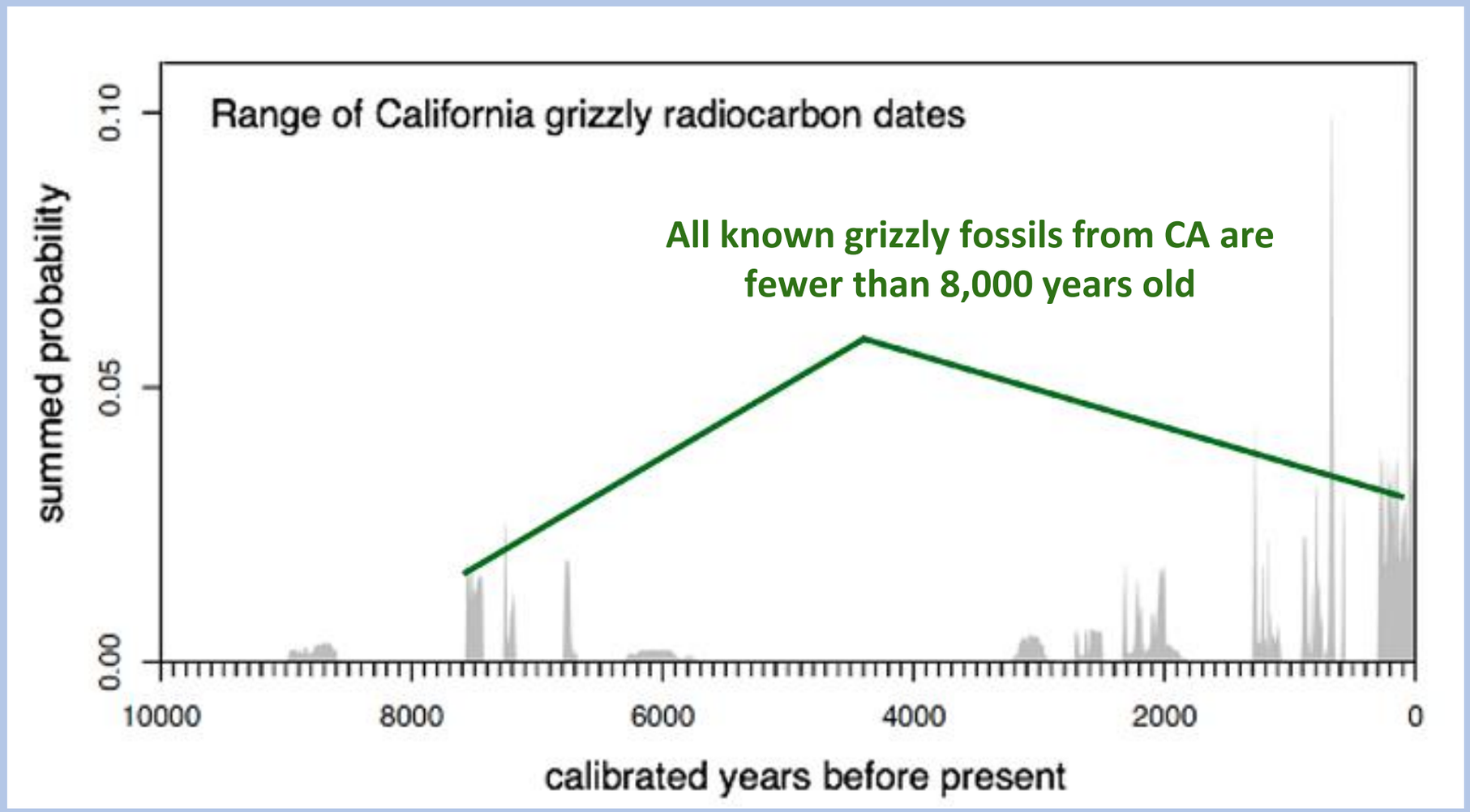
When we began, we thought we would be mainly updating and filling gaps in a well-known story. Gradually, however, we realized that we were rewriting this story—and adding new chapters.

1) What the public knows…

The grizzly's image is everywhere in CA, but most of this state's residents little about the bear. According to a 2019 survey, only about 25% know that grizzlies don't currently exist in the state.

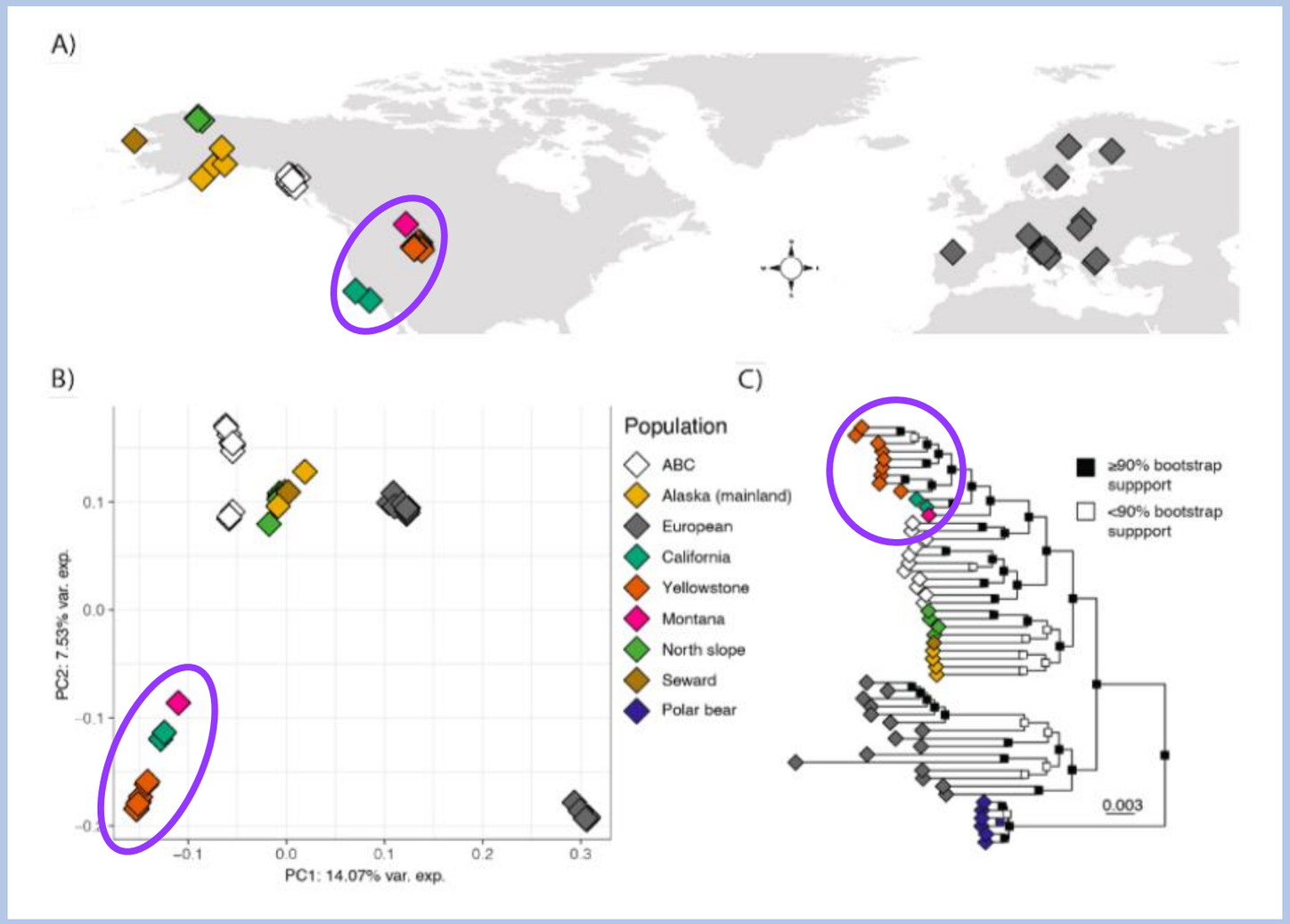
2) When the bears arrived in CA…

Black bears arrived in CA up to one million years ago. Carbon dating shows that grizzlies are stunningly new to CA, in evolutionary history, likely having arrived here fewer than 10,000 years ago.



3) Who the bears were related to…

The CA grizzly has long been considered a distinct subspecies, *Ursus arctos californianus*. Forthcoming genomic research shows that the CA grizzly was indistinguishable from grizzly bears living in the Northern Rockies today.



4) How big they were…

CA grizzlies were reputed to be among the world's biggest brown bears. Yet, anatomical measurements of museum specimens show that most probably weighed 400 to 750 pounds—the same size as a typical Yellowstone grizzly.


GREAT
CALIFORNIA BEAR!!

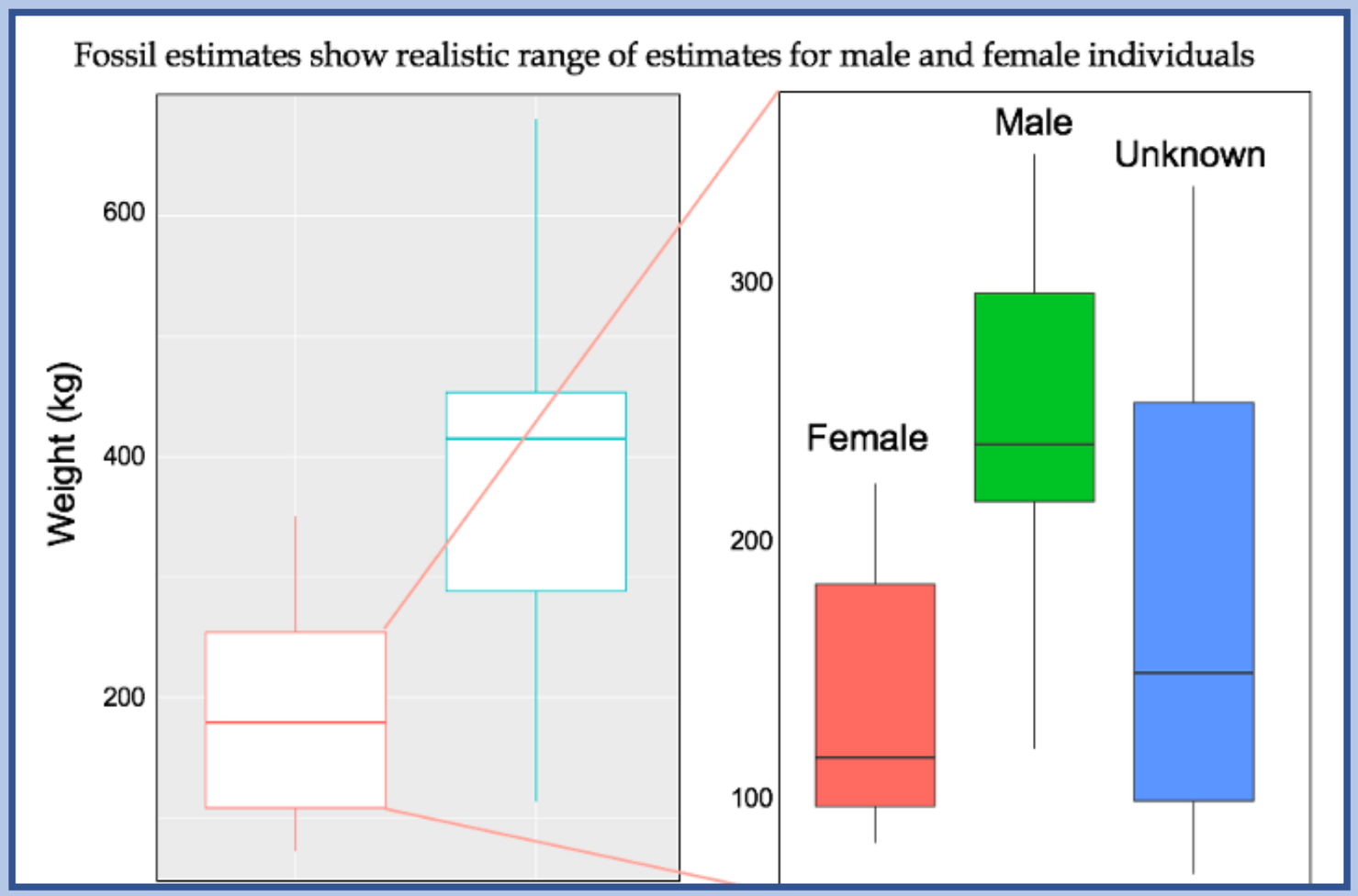
Weighing 1988 Pounds!

Standing 4 feet 6 inches in height; girts 4 feet around the neck, 7 feet around the body, and 14 inches between the ears.

WILL BE EXHIBITED

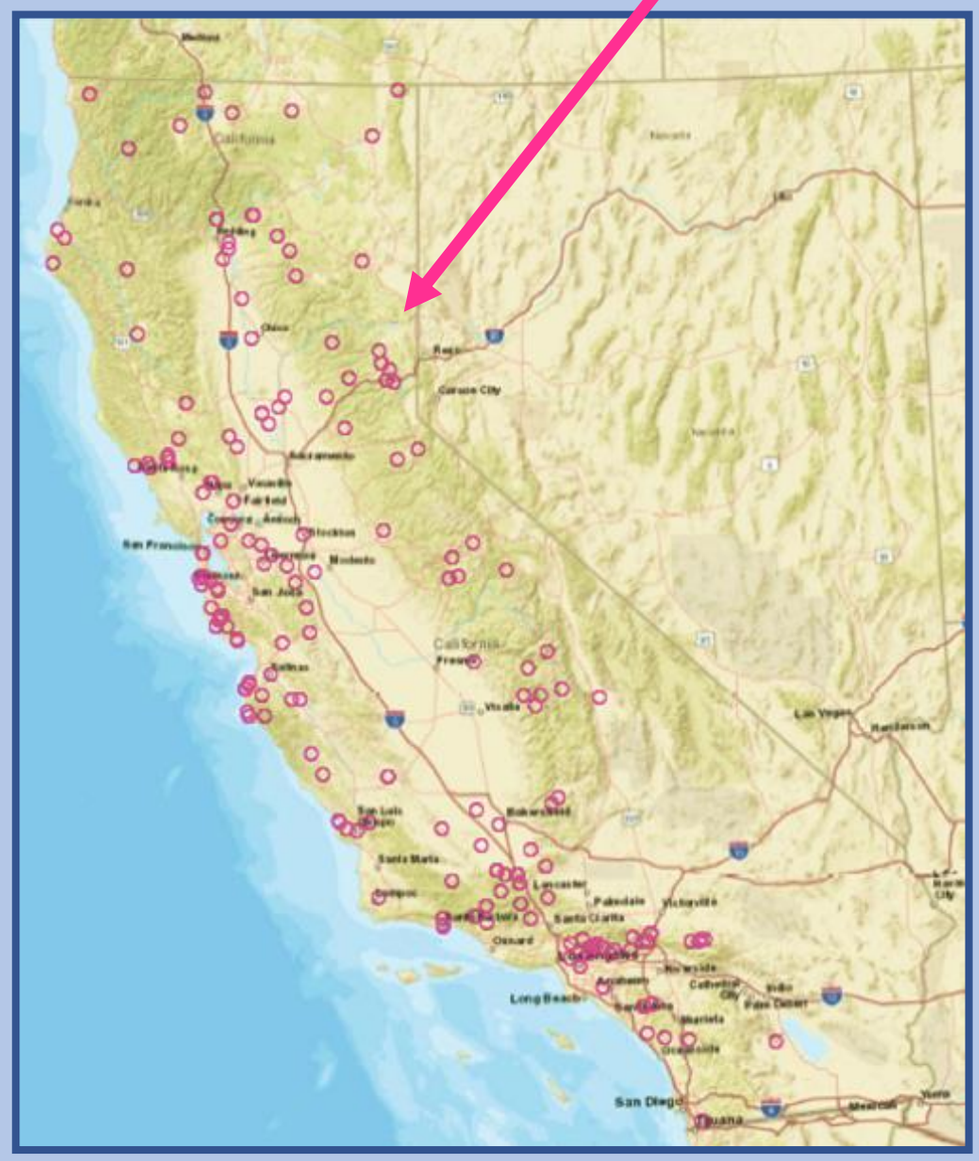
At

THE BIGGEST BEAR IN AMERICA!



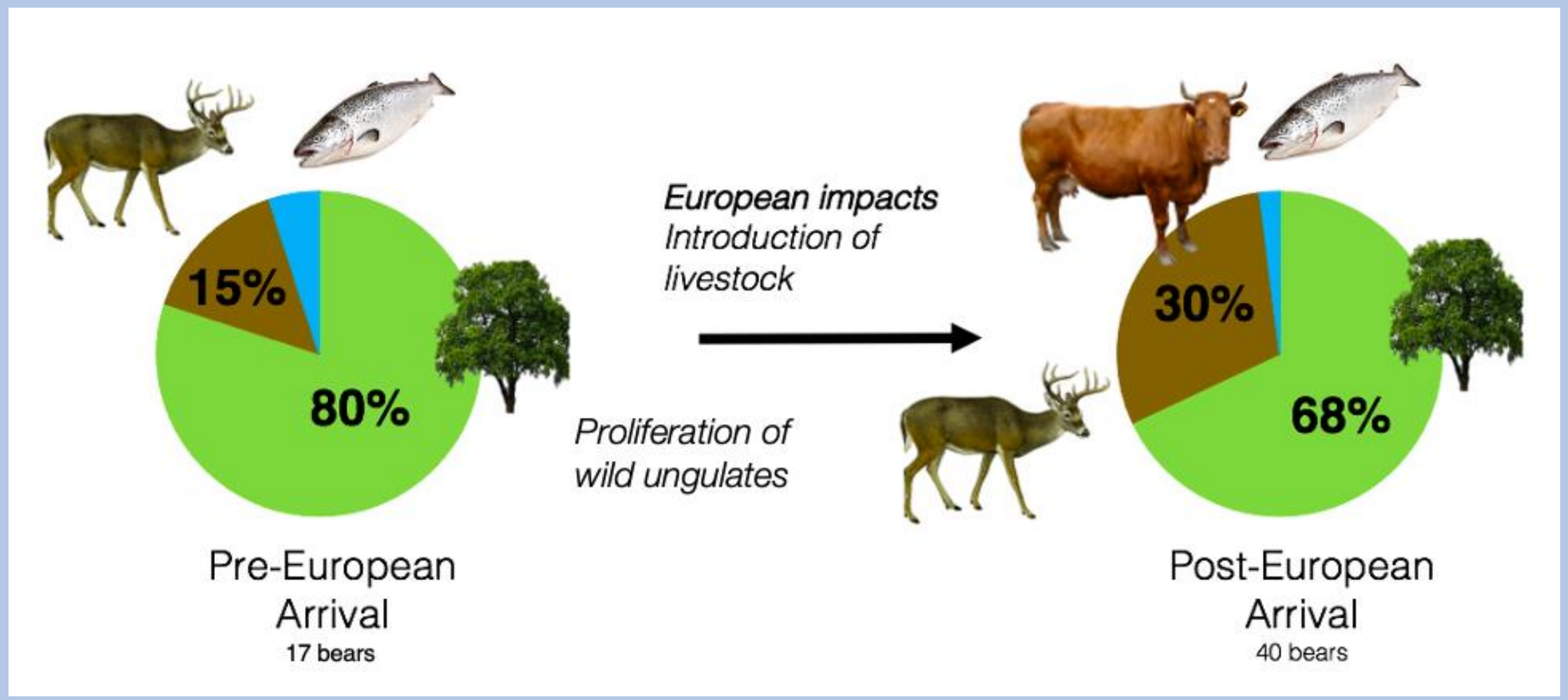
5) Where they lived…

CA grizzlies were thought to live mainly in coastal, chaparral, and oak ecosystems. Archival research to identify historical sightings (n=330+) shows that they lived everywhere except the low deserts.



6) What they ate…

CA grizzlies were thought to be among the world's most carnivorous brown bears. Prior to the Mission Era, however, CA grizzlies were mostly herbivorous. Later, they became modestly more carnivorous, as did several other native species.



Findings based on stable isotope analysis of 57 museum specimens

PROCEEDINGS B

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Research

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THE ROYAL SOCIETY PUBLISHING

Coupled social and ecological change drove the historical extinction of the California grizzly bear (*Ursus arctos californicus*)

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Large carnivores (order Carnivora) are among the world's most threatened mammals due to a confluence of ecological and social forces that have unfolded over centuries. Combining specimens from natural history collections with documents from archival records, we reconstructed the factors surrounding the extinction of the California grizzly bear (*Ursus arctos californicus*), a once-abundant brown bear subspecies last seen in 1924. Historical documents portrayed California grizzlies as massive hypercarnivores that endangered public safety. Yet, morphological measurements on skulls and teeth generate smaller body size estimates in alignment with extant North American grizzly populations (approx. 200 kg). Stable isotope analysis ($\delta^{13}C$, $\delta^{15}N$) of pelts and bones ($n = 57$) revealed that grizzlies derived less than 10% of their nutrition from terrestrial animal sources and were therefore largely herbivorous for millennia prior to the first European arrival in this region in 1542. Later colonial land uses, beginning in 1769 with the Mission era, led grizzlies to moderately increase animal protein consumption (up to 26% of diet), but grizzlies still consumed far less livestock than otherwise claimed by contemporary accounts. We show how human activities can provoke short-term behavioural shifts, such as heightened levels of carnivory, that in turn can lead to exaggerated predation narratives and incentivize persecution, triggering rapid loss of an otherwise widespread and ecologically flexible animal.

1. Introduction

Understanding the post ecological dynamics of extirpated and currently endangered species is essential for facilitating their recovery, and where possible, their reintroduction (e.g. IUCN Green List [1,2]). Large mammalian carnivores (order Carnivora) are now at the centre of numerous global conservation initiatives—ranging from intentional re-introductions to natural re-expansions across their former distributions—and historical data are increasingly sought for guidance [3–5]. Primary historical sources, such as diaries, gazetteers and newspapers, can offer crucial conservation-relevant insights into an organism's ecology and interactions with humans [6,7]. But such sources rarely provide straightforward biological data because they were produced by authors writing with varying viewpoints during particular historical moments; they should be regarded with caution, placed in their social context, and cross-checked with other evidence to determine their veracity and interpret their meaning prior to their implementation in conservation decision-making [8,9]. This is especially true for historical observations of mammalian carnivores,

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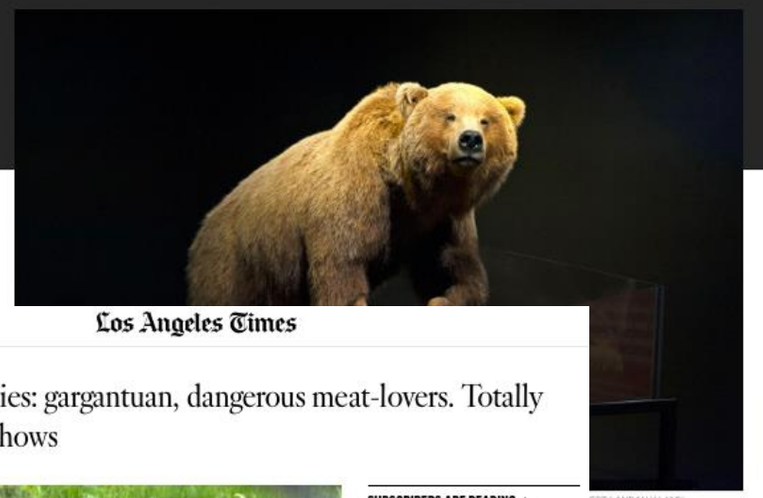
NEWS PLANTS & ANIMALS

California grizzlies weren't as giant and threatening as people once thought

New paleontological data indicate the iconic predator was smaller and ate more plants

9 JAN 2024 · 7:01 PM ET · BY RODRIGO PÉREZ ORTEGA



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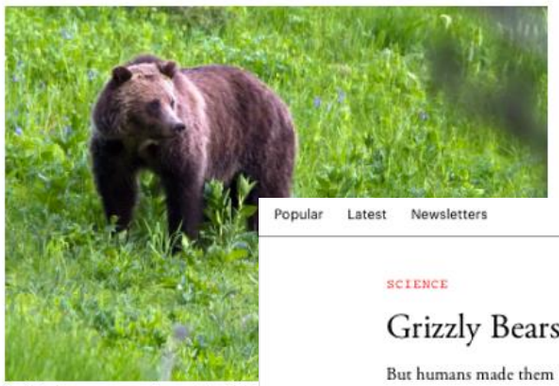
Los Angeles Times

CALIFORNIA

California's grizzlies: gargantuan, dangerous meat-lovers. Totally wrong, research shows



A grizzly bear roams near Beaver Lake in Yell
new study says California's extinct grizzly bea
Associated Press)

By Karen Garcia
Staff Writer
Jan. 11, 2024 8:16 PM PT

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SCIENCE

Grizzly Bears Are Mostly Vegan

But humans made them more carnivorous.

By Katherine J. Wu

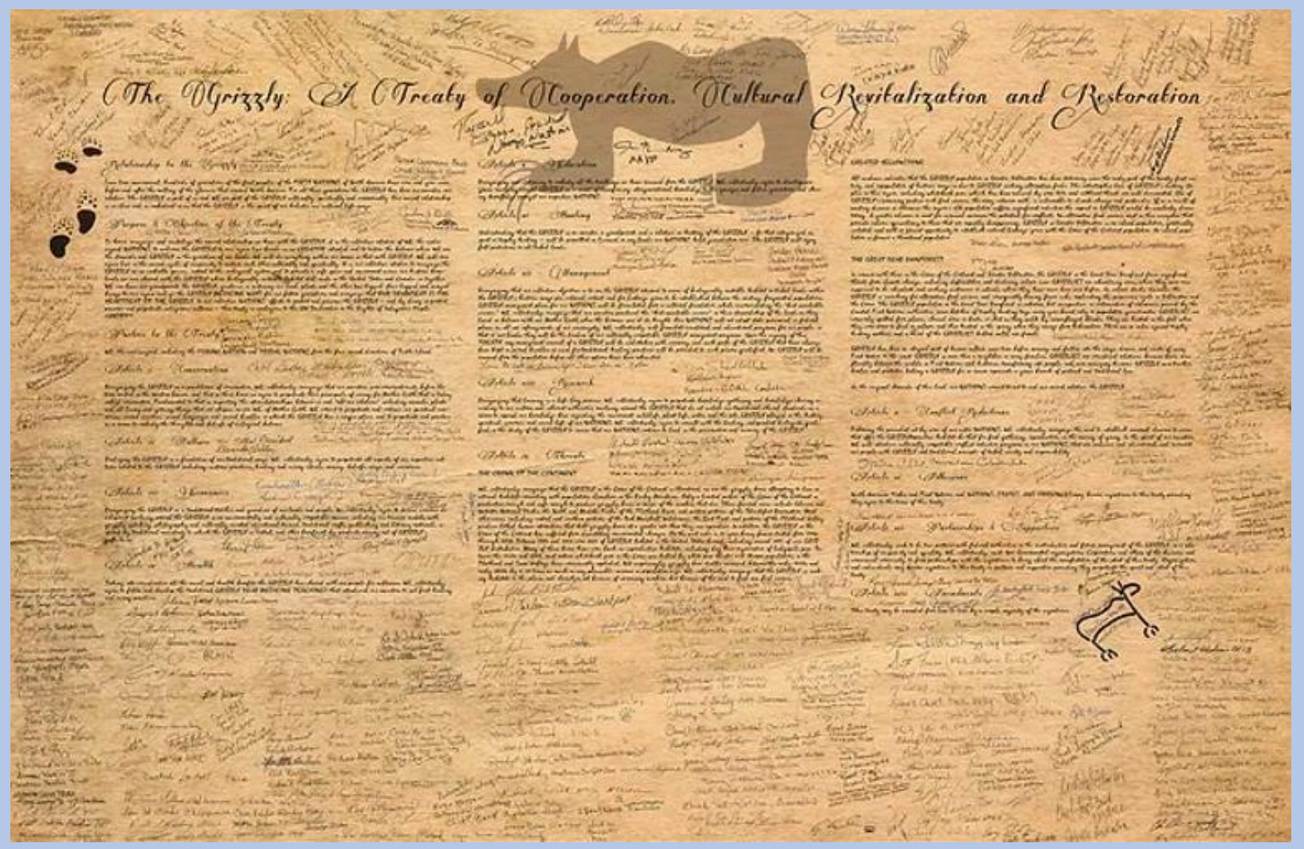
Getty

7) How they shaped their habitats…

Some argue that pumas, black bears, and even feral hogs fill niches left behind by California's grizzlies. Yet, research from other regions, such as BC, shows that grizzlies shape their habitats in unique ways. California's ecosystems are likely still adjusting to the loss of this keystone species.

8) How they interacted with Indigenous people…

Settlers claimed that Indigenous people thanked them for eradicating CA's terrifying bears. Yet interdisciplinary anthropological work now suggests that humans and bears were partners in an intricate socio-ecological system—centered on a kind of *multi-species horticulture*—that enriched and enlivened native cultures and landscapes.



9) Why they disappeared…

California's grizzlies did not disappear due to some inexorable process of habitat loss. Archival research shows that they got swept up in a genocidal campaign of annihilation that sought to eradicate everything—and everyone—native to this region that could not be controlled or commodified.

MOSE IN CALIFORNIA.
Set-to with a BEAR.


Los Angeles Times
~~LATEST~~
Jan. 8, 1908.

WIPED OUT.

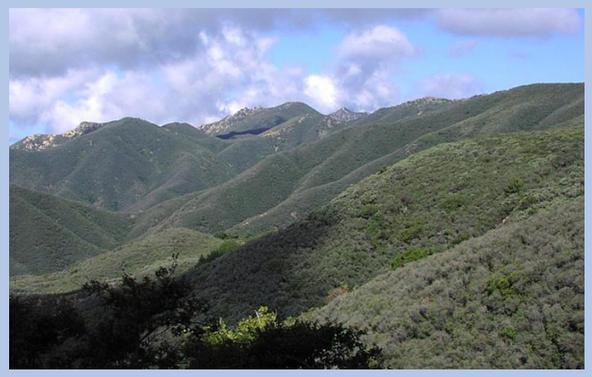
LAST GRIZZLY BEAR IS SHOT.

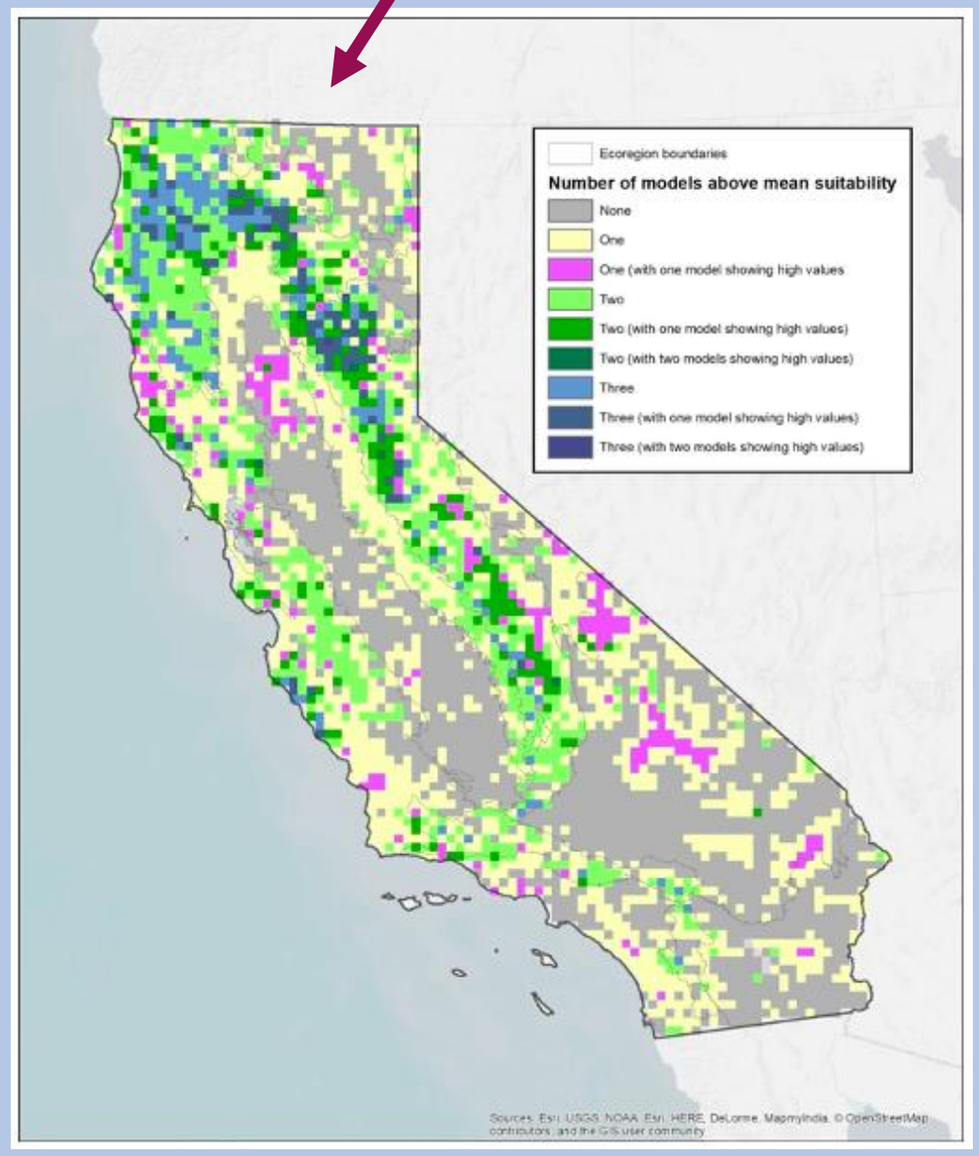
Steals Honey Near Santa Ana; Pays the Penalty.

Hunters and Dogs Fight Her in Final Struggle.

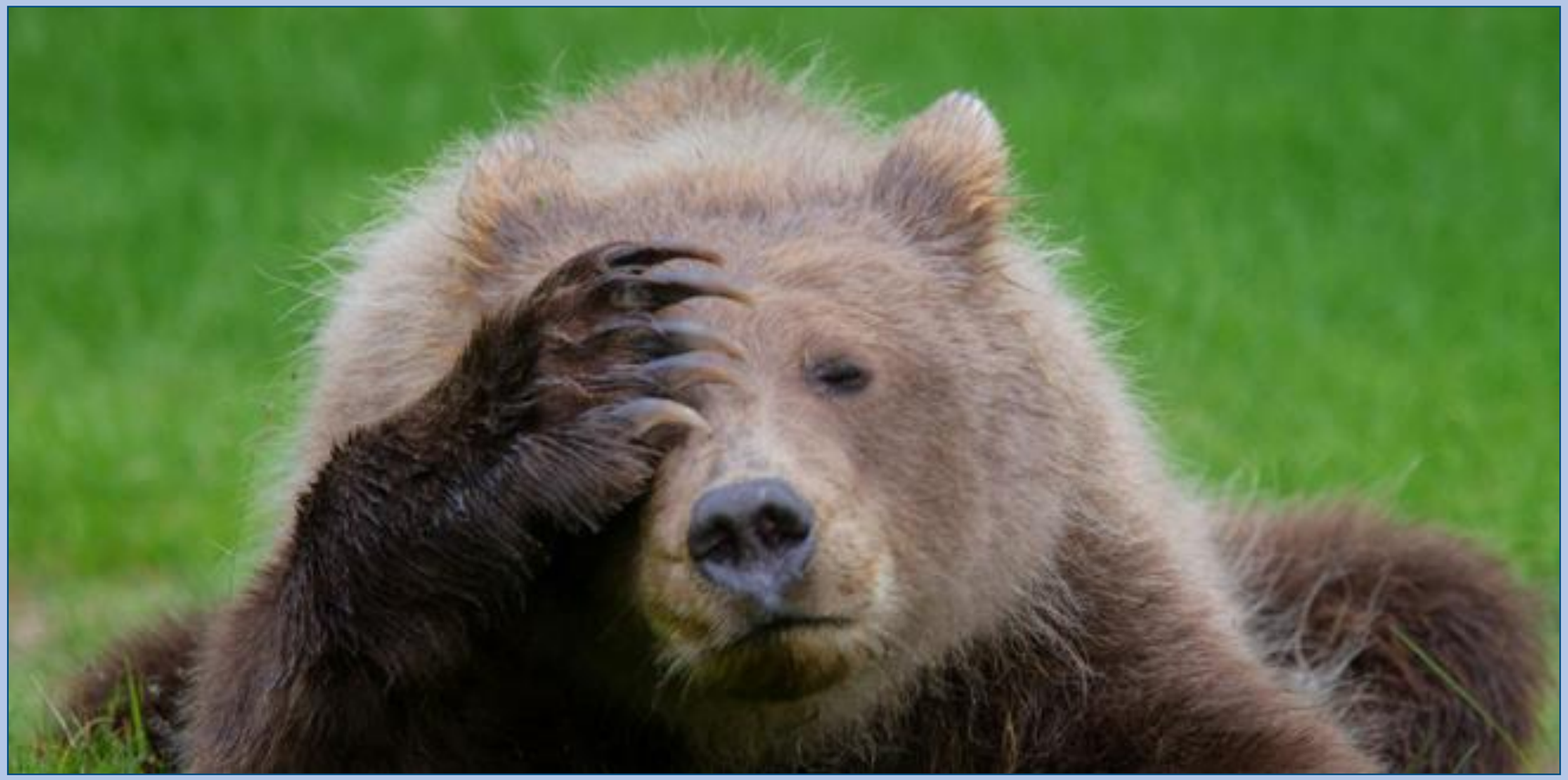
Battled Single-handed for Twenty-five Years.

We can test the habitat loss hypothesis not only through archival work, but also by applying habitat suitability models for brown bears, developed in Europe and Montana, to CA. If, based on these models, plenty of habitat remains today, then surely it existed 100 years ago.





10) Whether their loss was inevitable, and their return is impossible…



Take-Home Messages

- Most of what we once thought we knew about the CA grizzly has turned out to be wrong
- There is much left to learn!
- Grizzlies enriched and enlivened CA ecosystems
- Grizzlies played vital roles in CA's diverse Native cultures
- The grizzly's eradication was not inevitable—it was a choice
- Its future recovery is not impossible—it's also a choice

California Fish and Game Commission

[Draft] Resolution Recognizing the 100-year Anniversary of the Extirpation of Grizzly Bear in California

April 12, 2024 Draft

WHEREAS, grizzly bear, also commonly known as brown bear, was once a principal inhabitant of California; and

WHEREAS, in California grizzly bear was a keystone species with profound ecological and cultural value and significance that once roamed freely and thrived throughout the state, filling a vital role in shaping California's ecosystems; and

WHEREAS, for millennia, Native American tribes of the area that is now known as California coexisted with grizzly bears, developing a deep spiritual, cultural, social, and natural relationship with these magnificent animals, which in many ways persists today; and

WHEREAS, grizzly bear remains an iconic and beloved symbol of California, adorning its flag and great seal, designated as the state animal, and featured prominently as mascot of many California universities, reflecting its enduring legacy; and

WHEREAS, due to human actions, including a campaign of eradication and government-sanctioned bounties, California grizzly bear was tragically extirpated in California, with the last confirmed sighting in Sequoia National Park in April 1924; and

WHEREAS, the California Fish and Game Commission, committed to "abundant, healthy, and diverse fish and wildlife that thrive within dynamic ecosystems," is entrusted together with the California Department of Fish and Wildlife with protecting and conserving California's diverse fish, wildlife, plants, and the habitats upon which they depend; and

WHEREAS, recognizing 2024 as *Year of the California Grizzly Bear* as proclaimed by the California State Senate, the Commission acknowledges the importance of observing this year with public education and engagement in promoting responsible wildlife interactions and ensuring a healthy future for California's invaluable wildlife.

NOW, THEREFORE, BE IT RESOLVED, that the California Fish and Game Commission commemorates the 100th anniversary of the grizzly bear's extirpation in California; and

FURTHER, BE IT RESOLVED, that the Commission urges Californians to learn about, respect, and actively participate in efforts to restore a healthy and vibrant wildlife heritage for the state.

FINALLY, BE IT RESOLVED, that the California Fish and Game Commission encourages reflection on the lessons learned from the loss of the California grizzly bear; may they guide us in ensuring a thriving future for all of California's wildlife.

Proposed for adoption on April 18, 2024