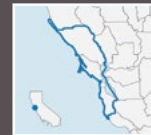


Mountain Lion



Species Description

Mountain lions (*Puma concolor*) are a keystone species that play a crucial role in maintaining ecosystem balance in the Golden Gate Biosphere (GGB) region. They are terrestrial apex predators in the area, and are known for their adaptability to diverse habitats, including riparian zones, coastal chaparral, and other rugged areas with dense brush. They primarily prey on black-tailed deer, but may also eat livestock, wild boar, domestic cats, and raccoons. They have large home ranges and often shift their distribution in response to breeding requirements and food availability.

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Species Vulnerability - Moderate

Sensitivity & Exposure - Moderate

Projected Changes	Trend
Heat Waves	▲ Increase
Precipitation	▲▼ Varies
Drought	▲ Increase
Wildfire	▲ Increase
Diseases	▲ Increase

Potential Impacts:

- Altered hunting patterns and territory shifts toward cooler coastal areas due to rising temperatures
- Changes in vegetation productivity and forage availability for herbivore prey as seasonal precipitation patterns shift
- Heightened risk of disease transmission and conflicts with humans as the availability of water resources becomes limited
- Reduced habitat availability and suitability and reduced prey populations following high-intensity fires
- Rise in disease-related mortality and illness, especially in stressed populations

Non-climate stressors may interact with climate stressors and disturbance regimes:

- *Residential and commercial development* results in habitat loss and fragmentation and can lead to increased human-wildlife conflicts
- *Agricultural practices* can lead to habitat loss and fragmentation, reduced prey availability, pesticide exposure, and disruption of movement corridors
- *Roads and highways* create barriers that restrict movement and gene flow
- *Fire exclusion and suppression* alters species composition and habitat structure, reducing forage and increasing the likelihood of large, high-severity fires that cause mortality and habitat loss



Mountain lions are sensitive to climate stressors that directly or indirectly impact prey populations and water availability, which then affects survival and reproductive success. Non-climate stressors can increase competition for resources, habitat fragmentation, and disruptions to migration corridors.

Species Vulnerability - Moderate

Adaptive Capacity - Moderate

Intrinsic factors (i.e., inherent characteristics) that enhance or undermine adaptive capacity:

Enhance:

- High mobility, which allows navigation through a variety of landscapes
- Flexible prey utilization and ability to shift geographically in response to resource availability

Undermine:

- Reduced population connectivity and gene flow due to habitat loss and fragmentation
- Low genetic diversity and inbreeding

Extrinsic factors (i.e., management potential) that enhance or undermine adaptive capacity:

Enhance:

- Ongoing advocacy for protection of the species, especially in the legislative realm
- Positive public perception due to charismatic nature and crucial role in maintaining ecosystem health

Undermine:

- Human-wildlife conflicts (e.g., attacks on humans, pets, or livestock) increase risk of lethal removal of mountain lions
- High costs for measures designed to increase habitat connectivity



Mountain lions are mobile and adaptable, but human land uses have increased habitat loss and fragmentation, which threatens gene flow and access to prey and water resources.



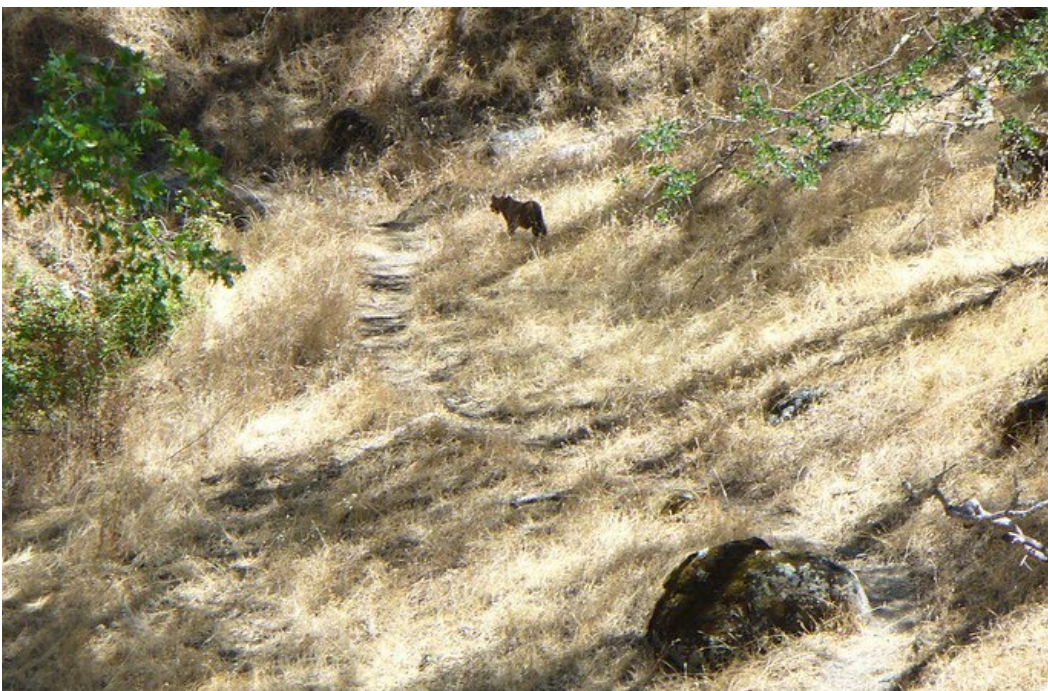
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Adaptation Strategies & Actions

Adaptation strategies can reduce climate change vulnerability of a given ecosystem or species by addressing any or all of the three components of vulnerability (i.e., by reducing sensitivity, reducing exposure, and/or increasing adaptive capacity). The table below presents examples of adaptation strategies and actions, which fall within five categories, or approaches: Resistance/Resilience **(R)**, Acceptance **(A)**, Direct/Response **(D)**, Knowledge **(K)**, and Collaboration **(C)**. *Please note that the strategies and actions provided here should not be considered a checklist or plan, but rather as a set of examples for land managers to consider for further study when developing site- or species-specific actions.*

Adaptation Strategies	Adaptation Actions
<p>Maintain and/or create migration corridors</p>	<ul style="list-style-type: none"> • Map and characterize potential mountain lion connectivity between natural areas (K) • Protect land in priority connectivity/corridor areas via acquisition, realty actions, or land trades (R) • Identify movement barriers and mortality sources (e.g., roads) for mountain lions (R/K) • Design and build wildlife crossing structures (R)
<p>Increase public outreach focused on reducing lethal removal of mountain lions by landowners</p>	<ul style="list-style-type: none"> • Create (or support existing) education programs focused on reducing the potential for mountain lion attacks and what to do if attacked (R/C) • Conduct outreach to rural and residential landowners (R/C)

Adaptation strategies and actions suggested by individual stakeholders (not discussed during the December 2023 adaptation workshop).



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