

INTRODUCTION

Mule deer were introduced to Catalina Island in the early 1930s (before the Conservancy existed) as a game species for hunting by the state. They are not native to the Island. As an invasive animal, the mule deer destroy native and endemic vegetation only found on Catalina Island, which evolved without defense mechanisms against mule deer and outside threats. The deer prefer these plants for a food source as opposed to invasive plant species.

The deer have no natural predators, so their population goes through extreme boom and bust cycles, ranging from 500 animals to 1,800+ depending on the amount of rainfall. The mule deer are considered wildlife and are managed by the state. There are very strict wildlife laws in place for this species and feeding them is illegal as it further promotes more extreme boom and bust population cycles and increases the likelihood of animal-human disease transfer.

CURRENT DEER SITUATION

Non-native species have long overgrazed the land on Catalina Island, destroying natural habitats along with the vegetation that's needed to support native wildlife and help prevent soil erosion, and capture water on the landscape.

Deer are suffering on the Island from thirst and starvation. Deer encounters with people in Catalina's inhabited communities (Avalon and Two Harbors) are common, and fawns are often found dead in the streets because of their desperation for food. Catalina's deer population is also devastating the Island's fragile ecosystem as they struggle to survive.

Ongoing challenges such as drought, overpopulation, and being outside their native range have impacted the long-term health of the introduced mule deer on Catalina Island.

Feeding deer exacerbates the problem by increasing the population more and it promotes disease transmission by attracting them to a single area. Feeding deer will not stop browsing.

As the deer attempt to survive, the herd is devastating the Island's sustainability and biodiversity. The unique plants of Catalina evolved without deer defenses, making them the most at risk.

The situation has become untenable for the deer and for the Island's ecology, leaving the Island at a watershed moment. After consulting with CDFW, it has been determined that a deer removal program needs to be undertaken as part of an overall plan to revive the Island's ecosystem, ensuring that we pass on a healthy and sustainable Island for future generations to enjoy.

Following is an outline of the various methods that have been explored for the removal of the deer and the final determinations on suitability of methods, based on the Island's specific challenges and case studies of other island eradications around the world.

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It is crucial to remove invasive deer from an island to protect native ecosystems, as highlighted by Bernie Tershy and team in a Conservation Biology article on island conservation. "Invasive ungulates have been shown to have significant negative impacts on island vegetation, leading to reduced biodiversity and ecosystem degradation."

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According to a paper published by the International Union for Conservation of Nature, "Turning the tide of biological invasion by eradicating invasive species can yield substantial benefits for biodiversity conservation by raising opportunities for ecological restoration and the re-introduction of threatened species."

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01 

Fencing can be used to exclude deer from certain areas on the Island, such as sensitive ecological sites or human populations.

Fencing in deer on Catalina Island is a difficult option. The Island's rugged and varied landscape makes it challenging and costly to erect fencing that would effectively enclose the entire deer population. The fencing would need to be constantly monitored and repaired as it was damaged.

Fencing would disrupt the natural movement patterns of deer and impede their access to essential resources, potentially leading to negative impacts on their welfare.

Fencing could result in the over-concentration of deer within enclosed areas, leading to increased competition for limited resources and potential ecosystem imbalances.


02 

Sharpshooting from helicopters can be an effective and efficient method for removing large numbers of deer over a relatively short period of time.

Sharpshooting from helicopters can be an effective and efficient method for removing large numbers of deer over a relatively short period of time, minimizing suffering and reducing the risk of escape.

It can be carried out in a controlled and organized manner which can reduce the stress experienced by deer. It can also be a cost-effective approach, especially on our topography where other methods may be difficult or impractical due to scale, terrain, or logistical challenges.


The noise from the helicopters and gunfire can be disturbing, however, causing stress to other wildlife and nearby communities.

03 

This method involves the use of recreational hunters to hunt and kill the deer population.

Hunting can be effective when combined with other methods, but not on Catalina given the size of the Island and the terrain. It can be dangerous for the hunters and time-consuming when we consider that our deer population could be as high as 2000+ animals.

Keeping the population down to ecologically sustainable levels via hunting is cost-prohibitive and it has been demonstrated for two decades, through our Private Lands Management hunting program, that it is not effective and cannot manage the deer on the Island.


04 

This method involves introducing natural predators to control the deer population.

Invasive deer populations have no natural predators on the Island, which leads to an unchecked increase in their numbers. Introducing predators such as mountain lions or coyotes to the area could help control deer populations.

However, bringing another invasive, predatory species on Island would introduce new problems that an island with a delicate ecosystem, such as Catalina, would not be able to withstand.

These new predators could also potentially harm or attack humans, especially if they are not used to living near people. The introduction of new predators would create a need for increased management and monitoring, which would be costly and time-consuming.


05 

Relocation involves capturing the deer and transporting the animals off-island to another location that could potentially sustain them.

Another approach is to capture deer and relocate them to other areas where they may not cause as much harm to the ecosystem. The process of capturing and relocating deer can be very stressful for the animals. It can lead to 'capture myopathy' in which the deer become so stressed that they die from the stress of capture due to kidney and heart failure.

Deer that have lived on an island for a long time may not be well adapted to life in a new environment. They may struggle to find food and may be more vulnerable to predation and disease in an unfamiliar ecosystem.

Animals have not been permitted to be relocated from islands in the past due to unique diseases carried by island animals.

06 

This method involves using chemicals such as contraceptives or surgical sterilization to reduce or eliminate the deer population.

This method involves using chemicals such as contraceptives or surgical sterilization to reduce or eliminate the deer population. It can be especially difficult to manage a deer population via contraception or sterilization in large (70 square miles), remote environments such as Catalina.

Contraceptive methods are not 100% effective, which means some deer may still be able to reproduce and maintain or increase their population. Moreover, it may take several years of treatment for the contraceptive to become fully effective, during which time the deer population could continue to grow.

VALUES	DEER REMOVAL METHODS					
	Fencing	Helicopters	Hunting	Predators	Relocation	Sterilization
Technical feasibility	Poor	Excellent	Poor	Poor	Poor	Poor
Chance of success	Poor	Very Good	Poor	Poor	Poor	Poor
Minimize deer's suffering	Fair	Very Good	Fair	Poor	Poor	Fair
Minimize impact on ecology	Fair	Good	Good	Poor	Good	Good
Impact on residents & visitors	Good	Good	Very Good	Poor	Good	Good
Safest for the team	Fair	Excellent	Good	Poor	Fair	Fair
How quickly can it be accomplished	Poor	Excellent	Poor	Poor	Poor	Poor