



CATALINA ISLAND
CONSERVANCY™

CATALINA
ISLAND
RESTORATION
PROJECT

A graphic illustration of a landscape. It features a large yellow sun partially obscured by two green mountains. The mountains are stylized with white outlines. Below the mountains, there is a blue flower with five petals and a yellow center.



HOW DOES AN ISLAND ECOSYSTEM WORK?

- An Island ecosystem is like a small world of its own. It includes plants, animals, and the environmental factors of the Island. Everything is connected.
- When these parts work together, they create a healthy and resilient island ecosystem where life can thrive.
- When in a healthy state, Catalina Island is covered by a layer of plants – these plants work together to create a protective blanket over the Island.
- Because of this blanket, the Island is able to capture more water that would otherwise run off into the ocean and also prevents soil erosion.
- It also creates habitats for other animals that contribute to the Island's unique ecosystem.





WHAT HAPPENS WHEN IT'S DISRUPTED?

- It's this layer of vegetation that provides the Island's natural defense system and helps reduce the risk of wildfires especially as we continue to face the effects of climate change.
- Without this vegetation, Catalina is at risk of having a situation like the wildfire in 2007 or, worse, what occurred on Maui this year.
- When an island ecosystem is threatened due to overconsumption of plants by animals, it can lead to the depletion of essential plant species, disrupting the entire food web.
- This potentially causes cascading effects on ecosystem health and stability, ultimately jeopardizing the overall ecological integrity of the island.





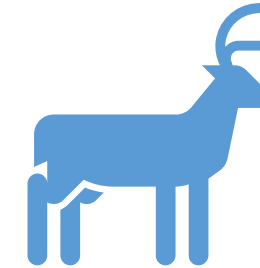
The Catalina Island Restoration Project is the culmination of the work that the Conservancy has been doing over the last 50 years to help ensure that Catalina Island is healthy and resilient for future generations to enjoy.



Habitat Restoration and Enhancement Plan



Plant Restoration and Seed Farm Development



Species Management

The Catalina Island Restoration Project, undertaken by the Catalina Conservancy, is a comprehensive initiative aimed at reviving and safeguarding Catalina Island. With a focus on **three key pillars**—habitat restoration, plant restoration, and species management—the project seeks to protect the island’s biodiversity, mitigate erosion, reduce catastrophic wildfires, and create a sustainable environment for both wildlife and humans to thrive.



LUSH VEGETATION

When protective vegetation is allowed to grow out, as it does when no deer are eating it, it burns much more slowly and less frequently.





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WHY? PRESERVE AN ENTIRE ECOSYSTEM



Examples of areas in the Interior that are protected vs. where deer are allowed to freely roam



ISLANDS OFFER HOPE

Restoring islands by eradicating invasive mammals has repeatedly proven to be a high impact conservation action



Pinzón Giant Tortoise hatchlings survive for the first time in 150 years after rat eradication



Biologists document a 5,000% increase in native tree recruitment on Palmyra Atoll after rat eradication



Scripps's Murrelets on Anacapa Island rebounded with a threefold increase in hatching success following the eradication of invasive rodents



THE PLANNING PROCESS

- We started seriously looking at creating a restoration plan in 2022 – recognizing that it requires a lot of planning and input from the state, from island stakeholders, and from experts in the field.
- We’ve been working closely with the California Department of Fish and Wildlife – discussing the need for a plan, what that plan looks like and what the permitting process looks like.
- We also formed an advisory committee to ask for the input of island stakeholders and get their guidance on who we should be talking with on this matter.
- As a result of that guidance along with those who reached out, we had over 70 one-on-one conversations with locals about the Restoration Project and its primary components.
- We have also spoken with many experts who have experience in projects like this to get their perspective and counsel on how to build out an effective plan for a more resilient Island – just as they’ve done to help other Islands such as Santa Rosa, Anacapa, and Santa Cruz.



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FROM OUR LEADERSHIP

“This will undoubtedly be the most important initiative that the Catalina Island Conservancy (CIC) has taken in decades and will result in a more resilient and biodiverse Catalina Island. At the November 3, 2022 meeting of the CIC Board of Directors, we voted unanimously in support of this initiative, with full recognition of the magnitude of the challenge.”

Will Hagenah, Board Chair, Catalina Island
Conservancy





“I am a professor at the University of California, Davis, and I have been doing research on introduced herbivores in island ecosystems for over 40 years. In my opinion, the removal of introduced mule deer from Santa Catalina Island is essential for sound management of island resources. The reason is the damage that introduced herbivores do, and especially in the context of the vulnerability of island species.

Plants on islands like Santa Catalina evolved in the absence of herbivores, hence these plants tend to lose their defenses against herbivores. When exotic herbivores are introduced, the consequences are usually devastating, with wholesale destruction of plant communities. But the damage is not limited to plants; animals that depend on plants for habitat are also impacted. Some managers consider density reduction as a solution, instead of eradication.

However, reducing deer density will not solve the problem because the plant community is already damaged, and reduced deer numbers will only maintain that damage; also, island plants lack defenses against even low densities of herbivores. **Hence, complete removal of introduced mule deer is the only way to conserve island plants and the island vertebrates that depend on these plants for habitat.”**

Dirk Van Vuren, Professor in Ecology
Department of Wildlife, Fish, and Conservation Biology at UC Davis





CLIMATE CHANGE

Climate change is accelerating due to the increasing levels of greenhouse gases in the atmosphere, leading to more frequent and severe weather events, rising global temperatures, and widespread environmental impacts. The results all pose significant dangers to an Island's delicate ecosystem, including:

Increased Drought:

- More frequent and severe droughts on islands.
- Water scarcity for both plant and animal species.

Proliferation of Invasive Grasses:

- Changing climate conditions can favor the growth of invasive grass species on islands.
- Invasive grasses, often more adaptable to altered environmental conditions, can outcompete native vegetation.

Increased Wildfire Risk:

- Drought conditions and the presence of invasive grasses create a higher risk of wildfires on islands.
- These wildfires can destroy habitats, harm native species, and exacerbate the spread of invasive species.



MULE DEER

- The success of the restoration plan and our ability to build back a resilient, healthier Island for generations rests within managing the deer.
- The challenge the Island faces with the mule deer is that they're eating Catalina's natural defenses. The Island and the deer are fighting for survival and neither are winning. If the Island loses, we all lose.
- Unlike their counterparts on the mainland, Catalina's mule deer have no natural predators to keep the population in check. As a way to address this, the Conservancy introduced a hunting program and encouraged hunters to come to the Island.
- The herd continued to outgrow the ability to control it by hunting – so the Conservancy lengthened the hunting season to the longest in California. Even that didn't help.



THE HISTORY OF MULE DEER PROBLEMS ON CATALINA ISLAND

Mule deer were introduced to Santa Catalina Island in 1929 and in the 1930s in cooperation with the California Department of Fish and Game with a goal of increasing wildlife and as a hunting resource

1929: “Catalina Island will be populated with wild deer. The first of the herd, a buck and a doe, recently were taken in Placer county and will be shipped to Wilmington and across to Avalon in a few weeks. Others will follow.” ~Los Angeles Times

1947: “Free from predation by coyotes, lions, and other hereditary enemies, excepting occasional forays by bald eagles seeking helpless fawns, the deer herd grew by leaps and bounds.” ~Long Beach Press

1948: “...now have 2500 descendants who are so hungry they’re eating poison oak leaves. They’ve even climbed two flights of steps to eat potted plants on the porch of the William Wrigley home.” ~JCNT

1959: “The commission issued permits for 1250 deer to be taken. Hunters were only able to bag 477...” ~OC

2016: “Avalon and Santa Catalina Island have many deer who are victims of our drought conditions, do not have sufficient food or water in the interior, and come into town seeking water and shade... They were brought to the Island and need our help.” ~eCatalina.com

2018: “...the island’s deer population has recently seen a boom that could put the deer, and other natural animals and elements on the island, in danger... While some deer may eat sprouts, most come into town to feast on garbage and other waste.” ~The Log



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GLOBAL SUPPORT - TESTIMONIAL

“On Catalina, the non-native deer, introduced to the island a century ago solely for the purpose of hunting, are destroying the ecosystem and pushing several endemic plants to the very edge of extinction. The single most impactful thing we can do protect the unique and irreplaceable plants of Catalina Island is to remove the introduced, non-native deer from the island.”

Brendan Cummings, Conservation Director, Center for Biological Diversity





- The deer population ebbs and flows with precipitation. During years when we have record rainfall, the deer population goes up.
- When the weather returns to normal, the plants they feed on don't grow back so quickly and they start to starve.
- In drier years, that starvation is brought on by the fact that they've eaten the protective layer of plants that the Island needs to remain more resilient from wildfires when the threat is at its highest.
- What makes it worse is that the plants that root themselves and take the place of the plants we need are the ones the **deer rarely eat**.
- These are the invasive grasses that were a major contributing factor to the Maui fire.



Catalina landscape that burns hot and frequently!



Devastation in Maui



More than **1,200 invasive mammal eradications** have been attempted on islands worldwide, with an average success rate of **85%**



Choros Island, Chile (2013-2015)



“For decades, the Catalina Island Conservancy has analyzed the impact of the deer and worked to find ways of mitigating their impacts. Today, the evidence of the severity of the threat the deer pose is overwhelming. And the Conservancy has exhausted all other alternatives.

Catalina Island can have either a functional, biodiverse and resilient ecosystem – or deer. It cannot have both.

The CIC has engaged global leaders in large animal eradications, and is developing a plan that will incorporate state-of-the-science best practices. These include great attention to making sure the project meets standards of humaneness in the dispatch of animals, and to the safety of the hunters and the public.

Conservationists across and beyond California commend the Catalina Island Conservancy for its leadership in addressing this difficult and long-standing problem, and for the care they are putting into the planning so as to minimize impacts on the community.

The dramatic and inspiring recovery of native vegetation seen across all the other Channel Islands following removal of invasive herbivores affirms this is the right – and necessary – thing to do.”

Scott Morrison, Ph.D.

Director of Conservation Programs and Science

The Nature Conservancy, California



WE LOOKED AT A VARIETY OF METHODOLOGIES

- Working with a wide variety of experts, we looked at the various methodologies that were available to us for removing the deer.
- We weighed each one by looking at what other islands had done successfully, which methods would be most effective in our situation and which would be the most humane.
- Following, we'll explore the methodologies in more depth and explain how we arrived at our decisions.



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



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



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



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



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



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



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

- Difficult to achieve due to Island's rugged and varied landscape
- Disrupts the natural movement patterns of deer and impedes their access to essential resources
- Could result in over-concentration of deer within enclosed areas leading to increased competition for limited resources



Deer caught in fences



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

- Danger to the community
- Introducing a non-native predator will have serious consequences on other wildlife and the Island's ecosystem



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

- Models predict it would take 15 years to remove all deer using chemical methods which would not help the Island's situation as climate change speeds up
- Chemical methods, such as PZP, would require capture since deer would need to be marked and tagged.
- Deer are adapted to escape from predators, but they are not adapted to struggle for long periods of time in human-constructed restraints.
- When captured for the purposes of administering birth control, physiological imbalances develop and can result in severe muscle damage, a.k.a. "capture myopathy"
- Birth control is not proven to work on a large scale
- Surgical sterilization would require capture of ALL deer – not feasible with our terrain



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

- Moving invasive deer from an island to the mainland is not always a straightforward solution and can have various ecological and logistical challenges.
- Deer populations on islands are isolated and free from certain diseases that are present on the mainland. Moving them to the mainland could introduce diseases to the mainland deer population.
- The well-being of the deer must be considered. The stress of capture, transportation, and adaptation to a new environment is harmful to the animals.
- There are legal and regulatory obstacles to relocating deer. Wildlife management agencies have restrictions or guidelines in place to protect native ecosystems.



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

- We have been trying this method for 25 years.
- The number of registered hunters is decreasing.
- We have 500 tags each season, but only sell about 200.
- Catalina already has the longest hunting season in the state – it can't be extended further.
- If hunting efforts are not continuous and substantial, deer populations can rebound quickly.
- Even if hunting successfully reduces the deer population, it does not address the ecological imbalances caused by the invasive species.
- Over the past 10 years 2,000+ deer have been shot on Catalina; around the number we still have on Island.



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

Year	Total Deer Harvest	Percent Tag Success	Pop Estimate	Hunt Mortality (% of Population)
2010	180	66%	NA	NA
2011	282	79%	NA	NA
2012	310	80%	2387	12.99%
2013	309	77%	2541	12.16%
2014	225	66%	1227	18.34%
2015	217	68%	1474	14.72%
2016	244	71%	2372	10.29%
2017	207	65%	NA	NA
2018	223	66%	2061	10.82%
2019	181	57%	1341	13.50%
2020	221	65%	NA	NA
2021	245	64%	1771	13.8%
AVERAGE	236	69%	1915	13.36%



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

- It's a proven methodology used globally on Island eradications.
- Aerial sharpshooting conducted by skilled marksmen who are trained to take accurate shots, minimizes the risk of wounding animals and causing unnecessary suffering.
- On rugged terrain helicopters are much safer and more efficient. We can complete most of the project in less than 8 weeks.
- Aerial sharpshooting causes less stress to deer compared to other methods, such as trapping and ground-based shooting, which can be more traumatic for the animals.
- No helicopter will be seen in or around Avalon, so as not to disturb the community of Avalon.



This chart measures each of the methods based upon a variety of factors (values) and rates each one.

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	Poor
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

(LEGEND: EXCELLENT · VERY GOOD · GOOD · FAIR · POOR)



WHAT WILL YOU DO WITH THE DEER CARCASSES?

- In all visible locations, they will be removed.
- All efforts will be made to remove the carcasses quickly to avoid hikers stumbling across them and prevent attracting wasps and flies that like carrion.
- In inaccessible locations, the carcasses will have to be left on site for safety reasons. They will be a good food resource for other wildlife.
- We are looking into legal options for recycling carcasses but must follow standards around game meat.





“I am writing in staunch support of the current efforts by the Catalina Island Conservancy (CIC) to remove deer from the island. The presence of the deer has been a long-standing concern, frustration and struggle in managing the restoration and conservation of the lands with which the CIC is charged, and that countless people hold dear.

Having worked on Catalina Island from 2006-2010 conducting Invasive Species control and eradication as well as trapping Island foxes for 5 seasons, I have seen first-hand the devastation the deer have caused, and the poor health in which they constantly struggle to maintain. I have also seen the countless vehicle strikes killing deer, visitors using them as stage props for their children to take photos, as well as deer coming into Avalon to eat peoples landscaping.

The use of helicopters and wildlife biologists as hunters/sharpshooters has been proven around the globe to be the most humane and most effective way to remove non-native ungulates from landscapes. The company being hired for the removal on Catalina, is the same company that did the eradication of deer and elk on Santa Rosa Island. I had the privilege of working alongside them, and no one can do it better. **They are trained wildlife biologists, they are not mercenaries as many are depicting them. Utilizing helicopters is the surest way to remove the animals in the most efficient and most humane way possible, which will ultimately cause the least disturbance for residents and visitors.”**

-Robyn Shea, Lead Research Station Specialist, Santa Rosa Island Research Station



WHAT'S NEXT?

We are reading all of your comments and hear you loud and clear. We understand your concerns and are taking active steps to address the issues that you have raised. We are also creating opportunities to hold conversations and offer the chance for you to learn more about the Restoration Project and its importance to the health, safety, and resilience of the Island.

1. We will be hosting tours of Whites Restoration Area with Conservation team where you can see for yourself the difference a deer-free landscape can make – if interested, sign up at cic.wildapricot.org/event-5452205 or scan the QR code to the right
2. We will be holding a community forum with opportunities to ask questions and be provided with answers (timing being determined)
3. Public comments can be sent to comments@catalinaconservancy.org





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IN CONCLUSION

In closing we want to say that we understand the reaction some of you have had to the deer portion of the plan – the visuals described in the media aren't appealing. But we want to reiterate that while it may be easier to ignore the situation, the island is fighting to survive and we need to address it.

We made a difficult choice to balance humaneness with the future health of the Island. Our choice is in line with global island ecology and our mission as a conservation organization.

Without taking action, we only place the Island – and all of us who call it home – at greater risk for years to come.



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THANK YOU
