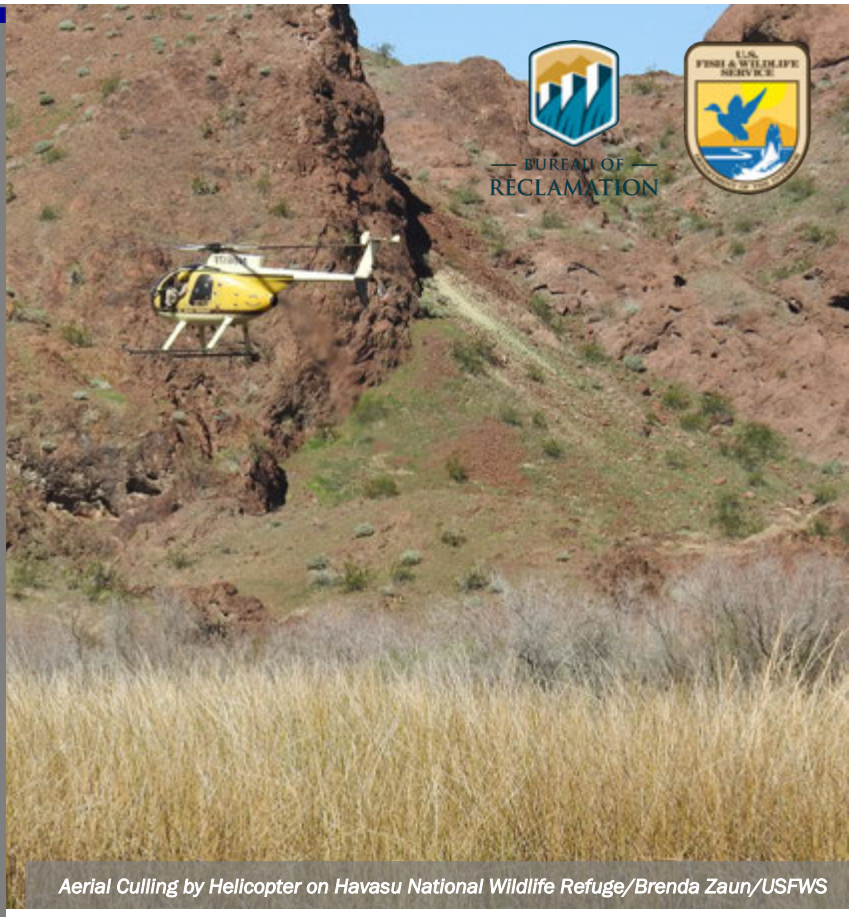
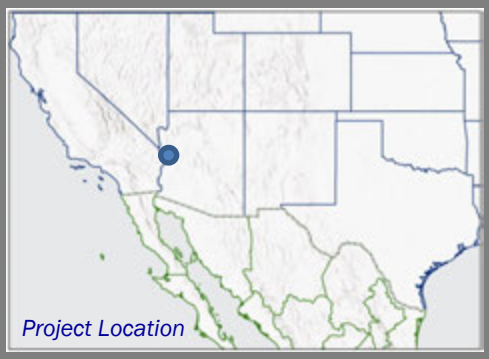
RESTORATION

Feral Swine Removal from Havasu National Wildlife Refuge



Aerial Culling by Helicopter on Havasu National Wildlife Refuge/Brenda Zaun/USFWS

Havasu National Wildlife Refuge (Havasu NWR or refuge) was established in 1941 as a refuge and breeding ground for migratory birds and other wildlife. It encompasses 37,515 acres along the Colorado River, with 47% designated as wilderness. Feral swine (*Sus scrofa*) escaped from nearby farms and were possibly released for hunting stock in the early 1900s and have since become invasive as their range expanded into Havasu NWR. The U.S. Fish and Wildlife Service (USFWS) partnered with the USDA's Animal and Plant Health Inspection Service-Wildlife Services (APHIS) to eradicate feral swine from the refuge to combat their negative impacts on critical wetland habitat, wildlife, and human safety.


Project Location

KEY ISSUES ADDRESSED

Feral swine are a threat to native species and their habitats as well as human health and safety. Feral swine destroy crucial habitat for migratory birds and other animals, especially endangered ground nesting species that are predated on or trampled by feral swine. Feral swine wallowing and rooting behaviors destroy native vegetation and lead to the spread of invasive plant species and soil erosion, which reduces water quality. They also compete with native species for resources such as food and space, leading to a loss of biodiversity. Feral swine can be aggressive toward humans and pets and can transmit various diseases to humans. Additionally, they damage infrastructure such as fences, roads, and agricultural fields.

PROJECT GOALS

- Improve habitat quality for native wildlife by reducing impacts of feral swine
- Improve public safety and protect human infrastructure by eradicating feral swine from Havasu NWR
- Increase public awareness of the negative effects of feral swine on Havasu NWR

NEAR ERADICATION

As of September 2020, 239 swine had been killed in eradication efforts, and zero swine were spotted during the aerial culling operation that month.

Camera Trap Footage of a Feral Swine on the Refuge/Brenda Zaun/USFWS

PROJECT HIGHLIGHTS

Eradication Methods: Eradication methods include aerial and ground culling, dogs, corral traps, and snares. Areas with the highest density of feral swine are targeted for aerial culling. Due to the risk of disease transmission, hunting swine for human consumption is not permitted.

Tracking: Motion-sensor trail cameras, night vision, and Forward Looking Infrared (FLIR) devices are used to aid in detecting feral swine, especially at night when they are most active. "Judas swine," female swine that are fixed with a radio collar and released back onto the refuge, are also used to lead hunters to other feral swine.

Understanding Source Populations: APHIS personnel collect blood and tissue samples for disease and genetic analysis. DNA is analyzed and added to the APHIS Feral Swine Genetic Archive to understand the ancestral origins of the refuge population and possible reintroduction sources.

Community Engagement: Education and outreach programs inform the public about the negative impacts of feral swine and request assistance by reporting sightings to Havasu NWR staff. Local law enforcement agencies have assisted with securing safety perimeters.

Collaborators

- APHIS
- USFWS Havasu National Wildlife Refuge
- USFWS AZ Invasive Species Strike Team

LESSONS LEARNED

The feral swine population on Havasu NWR occupies riparian habitat surrounded by desert upland with limited water resources beyond the Colorado River. These factors geographically isolate the feral swine population, increasing the feasibility of complete eradication from the refuge.

To eradicate feral swine, multiple culling efforts using various methods need to take place in a short period of time to respond to changes in their reproduction and behavior. Aerial culling using helicopters was the most effective method because many areas of Havasu NWR are inaccessible. Vegetation clearing by prescribed fire and mechanical equipment allowed for better visibility for aerial culling efforts. To minimize inconvenience to the public and avoid marsh bird nesting season, aerial culling efforts were scheduled during early February and late September outside the waterfowl hunting and nesting seasons.

On the ground, snares were the most effective way to catch feral swine, while corral traps and "Judas swine" were not effective. The refuge's partnership with APHIS was crucial to this endeavor as they had the funding and expertise to accomplish such a large-scale eradication project.

NEXT STEPS

- Continue monitoring Havasu NWR for feral swine
- Continue to conduct culling efforts, including aerial and ground hunts and snares, to eliminate remaining swine
- Apply methods to other areas with invasive feral swine through the National Feral Swine Damage Management program

For more information on this project, contact Brenda Zaun: brenda_zaun@fws.gov

Boat Patrolling for Feral Swine on the Lower Colorado River/Brenda Zaun/USFWS

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