



# **VIRGINIA RANGE FERTILITY CONTROL PROGRAM**

---

YEAR FOUR SUMMARY REPORT

Submitted by the American Wild Horse Campaign



Photo credit: WilsonAxpe PhotoAdvocacy

**The American Wild Horse Campaign (AWHC) proudly presents the Year 4 summary report for the Virginia Range Horse Fertility Control Program, conducted in partnership with the Nevada Department of Agriculture. This program is implemented at no cost to taxpayers.**

This program has grown to become the world's largest wild horse fertility control initiative, utilizing an immunocontraceptive vaccine delivered remotely by darting. In just four years, the goal of vaccinating 80% of the mares in the Virginia Range, a critical threshold for population stabilization and reduction, has been met. As a result, we've seen a notable 66% reduction in the foaling rate within this historic wild mustang herd. The combination of fertility control and natural predation (mountain lions) is resulting in population reduction in areas where darting is permitted.

The program offers a humane alternative to removals for population reduction, necessitated by rapid habitat loss from commercial and residential development in the greater Reno area where the horses live. This approach enjoys widespread community support, a stark contrast to past controversies surrounding wild horse removals and sales at slaughter auctions.

The program has also served as a persuasive model, influencing Congress to reallocate \$11 million away from funding for Bureau of Land Management (BLM) helicopter roundups. Instead, these funds have been reallocated toward the implementation of fertility control measures in federally managed herds in each of the last two fiscal years.

Its scientific credibility has been established through a partnership with the University of Pretoria and a presentation of the program's data at the International Symposium on Equine Reproduction in Brazil in July. A peer-reviewed scientific publication is anticipated later this year.

The roots of this initiative trace back over half a century to the Virginia Range wild mustangs, which inspired the successful campaign of Wild Horse Annie (Velma Johnston) for wild horse protections in the American West. Despite being excluded from the 1971 Wild Free-Roaming Horses and Burros Act due to their primarily non-federal habitat, these resilient mustangs have endured. Now, they're pioneering a modern, science-based approach to wild horse protection.

This Year 4 report of the Virginia Range Program showcases its achievements and pivotal role in reshaping the future of wild horse conservation. Through science, collaboration, and community engagement, this initiative demonstrates that there is a better way to manage wild horses and preserve their beauty and freedom for future generations.

**Suzanne Roy, Executive Director**

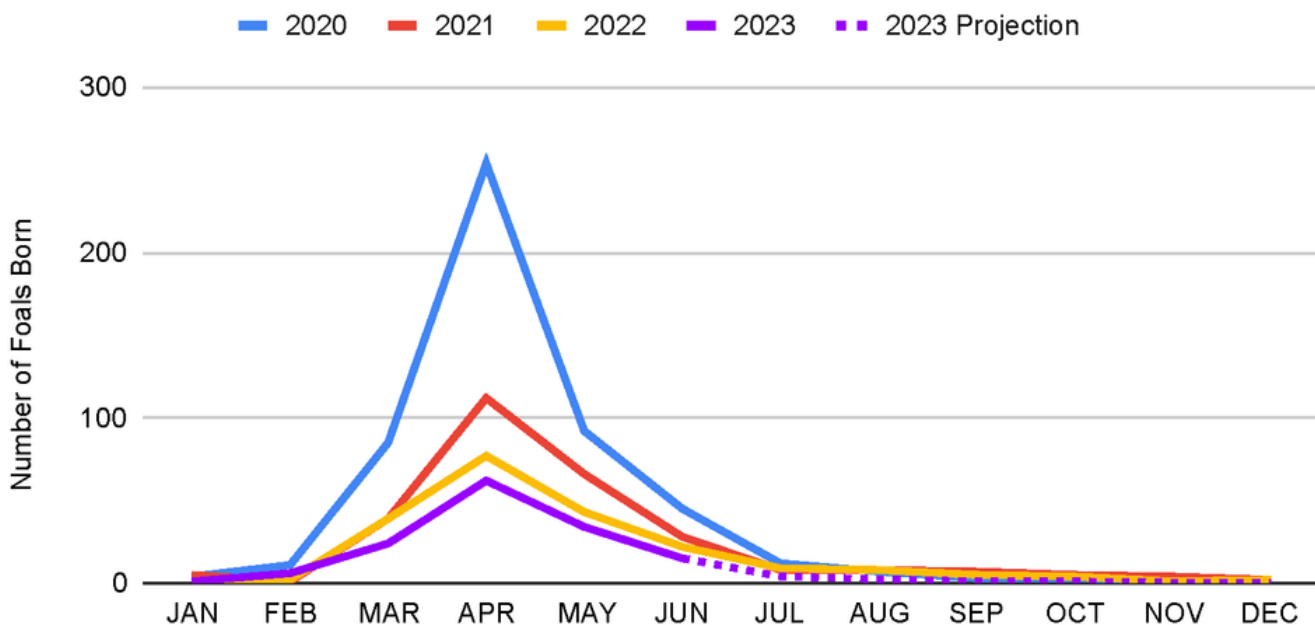
# VIRGINIA RANGE PROGRAM IS DEMONSTRATING CONTINUED PROGRESS AND SUCCESS

- During the fourth year of the Fertility Control Program (May 1, 2022 – April 30, 2023), 1,225 mares were treated.
  - 1,691 PZP vaccines delivered remotely.
    - 325 Primers and 1,366 Boosters.
- A 66.3% average reduction in the number of foals born in 2023 (January-June) vs the same time period in 2020.
  - Foals born during this period total 142, with 2 removed and 41 deceased or missing and assumed dead.
  - In 2020 during the same time period (January-June), 491 foals were recorded.
- Foal mortality remains high primarily due to natural predation, averaging 61.8% for the last full calendar year 2022 (38.2% foal survival rate, January-December).

**66.3%**

**Decline in foal births, comparing Jan-June 2020 to the same time period in 2023.**

## Virginia Range, Nevada. 2020-2023 Foal Births by Month



July-Dec 2023 represent the foaling rate within a 95% confidence level based on trend.



Photo credit, Deborah Sutherland

- The current database includes 3,507 individually identified horses.
  - This number includes 381 horses listed as missing.
  - The population number reflects a higher number of horses than the previous year. This is due to additional property permission/access which has allowed team members to record previously undocumented horses into the system.
- Since tracking began in 2015, 143 horses have been removed and 2,144 have been recorded as deceased.
  - Deceased horse numbers include horses who died since 2015, foal mortality, and some whose historical records were retained for lineage purposes.

**As a result of the dedication of our team and volunteers, population reduction has occurred in many of the program's herd treatment areas. With birth rates dramatically declining through the use of PZP, natural factors aid in the healthy regulation of the population.**

For the calendar year 2022, we had many herd treatment areas experience a population decline, including:

- **City of Reno Interface:** The population within the 4 combined herd treatment areas that comprise this area (from Hidden Valley to Geiger Grade), has been reduced by 52 horses. Only 3 foals were born, with 0 surviving. Additionally, 8 adults were confirmed deceased during that time period within this treatment area. An additional 44 horses of varying ages were marked deceased having not been seen for 3+ years, consistent with our SOP.
- **Dayton Valley:** The recorded population within the Dayton Valley herd treatment area decreased has been reduced by 29 horses. Only 7 foals were born, with just 2 surviving. Additionally, 4 adults were confirmed deceased during this time period, and another 27 horses of varying ages were marked deceased after meeting the time protocol consistent with the SOP.
- These and other herd treatment area results demonstrate the marked success of the Virginia Range Fertility Control Program in not only stabilizing population growth, but actually decreasing population numbers when successive years of treatments occur. It also shows that future population declines are anticipated.
- In conjunction with natural systems like predation, the horse population on the Virginia Range can exist in a thriving ecological balance with its environment.

# HOW WE IMPLEMENT THE PROGRAM

## Immunization:

The program utilizes the Porcine Zona Pellucida (PZP) immunocontraceptive vaccine administered via remote darting of breeding-age female horses with CO2-powered rifles.

## Robust Database:

- The extensive database tracks:
  - horse ID number, assigned name, gender, band affiliation, age (if possible), physical color and unique markings, and general range/territory as observed, offspring, estimated or known foaling dates, PZP application, and other condition information.
  - Additionally it tracks all PZP application data:
    - date of darting, darter, darting location, distance from a horse when darted, CO2 pressure level, primer vs. booster vaccine, PZP lot number, dart performance and recovery status.
- For Year 4 of the cooperative, we have a 100% dart recovery rate, with 1,691 treatments and 1,691 darts recovered.



Virginia Range darter, Johnny Takacs

## WE'VE BUILT A LOCAL TEAM OF PROFESSIONAL RESOURCES

The Virginia Range Program Coordinator, plus one full-time and one part-time Field Representatives are focused on the Virginia Range Fertility Control Program.

Additionally, our local Nevada team has been strengthened with the Nevada State Director, the Nevada Conservation Operations Manager, and the Nevada Special Projects Coordinator who contribute to this program and other projects, such as habitat expansion and improvement, throughout the state.

The volunteer team continues to grow and strengthen. During the reporting period, four new darters were trained through the Science and Conservation Center (SCC) certification class. This brings the total number of available certified darters to 24. Three additional documenters were trained, bringing the documenter total to 20. These volunteers, paired with our expert staff demonstrate how expertise and trained volunteers contribute to a successful program.

## Fertility Control with PZP

- The vaccine produces an immune response that prevents fertilization without impacting the reproductive hormones that drive natural behaviors.
  - Reversible and safe for delivery to pregnant and nursing mares.
- The PZP vaccine requires a primer and booster dose in the first year and annual boosters thereafter.
- Safe, effective (>90%), over 30 years of use in 80 mammal species, and an important tool recommended by the National Academy of Sciences since 2013 for use in federally protected wild horse herds.
- PZP is cost effective with five year course of treatment on the Virginia Range at approximately \$1190 vs. up to \$48,000 to keep a BLM horse in off-range holding for life.



Photo credit: Kimerlee Curyl

# PRIORITIZING CONSERVATION

## The Land Conservancy Project

Conservation is vital to our mission to protect horses and burros in the wild and preserve them for future generations of Americans to enjoy. The American Wild Horse Campaign's Land Conservancy Project is an innovative new program that aims to preserve and enhance habitat for America's wild horses and burros to support self-sustaining wild populations in ecological balance with other wildlife. In this way, the project creates a path for future, similar projects, while enhancing other important land conservation initiatives in the West.

## Building Partnerships and Support

Tahoe Reno Industrial Center and AWHC held a Wild Mustang Conference at Tahoe Reno Industrial Center

- Promoting employee safety
- Educating on the program
- Building support

Blockchains, LLC remains one of our strongest partners in protecting the Virginia Range horses through humane management.

Landowners continue to grant permission to conduct program on private lands. We currently have property owner permission to dart on over 90 properties, including large tracts of land owned by Blockchains, Waste Management, Tahoe Reno Industrial Center, EP Minerals and Crosby Ranch, as well as City of Sparks, Nevada State Parks, and Bureau of Land Management properties.

## Expanding Scientific Research

AWHC is partnering with the University of Pretoria for program data analysis with a focus on the efficacy and feasibility of the PZP vaccine administration in the Virginia Range herd.

- Novel study since previous studies have used smaller populations and study areas and have not been treated year-round.
- A manuscript analyzing data through 2022 is currently in preparation with publication submission expected later in 2023.
- Analysis of 2019-2021 data was presented at The International Symposium on Equine Reproduction in Brazil by University of Pretoria Veterinarian and Professor Martin Schulman and AWHC Conservation Scientist Nicole Hayes.

AWHC was a platinum sponsor of the Botstiber International Wildlife Fertility Control Conference held in Colorado Springs in May 2022, where we were able to discuss the details of the Virginia Range program with many experts and researchers. Both the Nevada State Director and the Virginia Range Program Coordinator attended along with other employees.

## CONTACT

**Tracy Wilson, Nevada State Director**  
[twilson@americanwildhorse.org](mailto:twilson@americanwildhorse.org)

### This report should be cited as follows:

Wilson, T. and Hayes, N. K. 2023. Virginia Range Fertility Control Program Year 4 Executives Summary. American Wild Horse Campaign. Davis, CA. Pp. 6.