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PHOENIX ZOO AND PARTNERS RELEASE 25 THREATENED NEONATE NARROW-HEADED GARTERSNAKES TO THE WILD

PHOENIX (November 12, 2024) - The Arizona Center for Nature Conservation (ACNC)/Phoenix Zoo welcomed three litters of narrow-headed gartersnakes at its Arthur L. and Elaine V. Johnson Conservation Center in mid-to-late August. In collaboration with conservation partners, Arizona Game and Fish Department, U.S. Geological Survey's Arizona Cooperative Fish and Wildlife Research Unit, University of Arizona, US Forest Service – Tonto National Forest, and US Fish and Wildlife Service, the 25 resulting neonate narrow-headed gartersnakes were released to the wild in the Tonto National Forest on September 13, 2024.

The births are part of the Zoo's long-term efforts to breed narrow-headed gartersnakes for release to the wild, as part of broader efforts to recover this imperiled species. With this September's release, 98 narrow-headed gartersnakes born and/or raised at the Phoenix Zoo have been released to the wild, boosting wild populations. Most of these releases have occurred in the past ten years. "We're especially excited that this year's release and our 2022 release of 25 narrow-headed gartersnakes constitute the largest-ever releases to the wild for this Threatened species," says Dr. Tara Harris, Phoenix Zoo's Director of Conservation and Science.

Born approximately the weight of a sheet of paper, the neonate narrow-headed gartersnakes are capable of capturing their preferred prey – live fish – within a day or two of birth. "People are usually surprised to learn that we have fish-eating snakes here in Arizona. That's one of the unique characteristics that makes this species really interesting," says Harris. "However, their reliance on fish and aquatic habitats also makes them vulnerable."

Listed as Threatened under the US Endangered Species Act, narrow-headed gartersnakes are found in and around cool, rocky higher-elevation streams in parts of Arizona and New Mexico. Their population numbers have declined substantially across their range. Habitat loss and degradation, non-native introduced species, and climate change are all threats to narrow-headed gartersnakes.

Scientists have recently begun to learn more about how releases from the Phoenix Zoo are helping populations in the wild. To help identify individuals at the Zoo and after they are released to the wild, the tiny snakes are marked with visual implant elastomer tags that fluoresce under black light. Biologists conducting surveys at the release site monitor the survival of Zoo-released individuals by searching for these tags and other identifiers when capturing narrow-headed gartersnakes. New technology is even allowing larger gartersnakes marked with

passive integrated transponders, or “PIT tags,” to be monitored when they pass near tag-detecting cables, called passive PIT tag arrays, set up in the snakes’ habitat.

“Many of our recaptures of captive-born and wild narrow-headed gartersnakes were made using passive PIT tag arrays,” notes Dr. Javan Bauder of the University of Arizona’s and US Geological Survey’s Arizona Cooperative Fish and Wildlife Research Unit. “This is one of a very few number of applications of passive PIT tag arrays for monitoring snakes and this technology appears to show promise as a tool for monitoring imperiled gartersnakes.”

As the breeding program and monitoring of released narrow-headed gartersnakes continues, the Zoo and its conservation partners are optimistic. “How to go about species recovery is not always clear, and we often need to experiment with new approaches,” says Dr. Thomas Jones, Amphibians and Reptiles Program Manager for Arizona Game and Fish Department. “When we embarked on this partnership with the Phoenix Zoo, we had no idea whether breeding narrow-headed gartersnakes in human care and releasing their offspring to the wild would work. Now we know that it does work, and we can foresee this approach becoming an integral part of future recovery efforts.”

MEDIA MATERIAL: Photos and video are available via this Dropbox link:

https://www.dropbox.com/scl/fo/xbk2u618fjnpvqlqtoeok/ADA_f-GoC4DHhf_KHurq_E?rlkey=yw6wauke62r11y4jpppx3lft8&st=gitud7y7&dl=0

Credit: Phoenix Zoo

About the Arizona Center for Nature Conservation

The Arizona Center for Nature Conservation operates the Phoenix Zoo. The ACNC advances the stewardship and conservation of animals and their habitats while providing experiences that inspire people and motivate them to care for the natural world.

The Phoenix Zoo is the only zoo in the Valley accredited by the Association of Zoos and Aquariums and is a non-profit zoological park, serving 1.4 million guests annually. The Zoo is home to more than 3,000 animals, many of which are endangered and threatened species. For information on upcoming events, exhibits and activities at the Phoenix Zoo, visit

www.phoenixzoo.org.