

Red Wolf Recovery Program



Photo credit: Barron Crawford/USFWS

1st Quarter Report

October - December 2010

Coordinator: David R. Rabon Jr., PhD
Wildlife Biologists: Art Beyer, Chris Lucash, Ford Mauney, Michael L. Morse
Biological Technician: Ryan Nordsven
Outreach Coordinator: Vacant
Administrative Assistant: Vacant
Intern (Caretaker): Janet Hohn

www.fws.gov/redwolf

trackthepack.blogspot.com



The Red Wolf Recovery Program

The red wolf (*Canis rufus*) is one of the most endangered canids in the world. Once occurring throughout the eastern and south-central United States, red wolves were decimated by predator-control programs and the loss and alteration of habitats. By the 1970s, these activities had reduced the red wolf population to a small area along the Gulf coast of Texas and Louisiana. To protect the species from extinction, the U.S. Fish and Wildlife Service initiated efforts to locate and capture as many red wolves as possible for the purposes of establishing a program to breed the species in captivity and one day reintroduce the species into a portion of its former range. More than 400 canids were captured in coastal areas of Texas and Louisiana, but only 17 were identified as pure red wolves. Fourteen of these wolves would become the founding members of the captive-breeding program and the ancestors of all red wolves existing today.

The first litter of red wolves born in captivity occurred in 1977. Within a few years red wolves were successfully reproducing in captivity, allowing the U.S. Fish and Wildlife Service to consider reintroducing the species in the wild. In 1987, four male-female pairs of red wolves were released in Alligator River National Wildlife Refuge (ARNWR) in northeastern North Carolina and designated as an experimental population. Since then, the experimental population has grown and the recovery area expanded to include four national wildlife refuges, a Department of Defense bombing range, state-owned lands, and private lands, encompassing about 1.7 million acres. However, interbreeding with the coyote (a species not native to North Carolina) has been recognized as a threat affecting the restoration of red wolves. Currently, adaptive management efforts are making progress in reducing the threat of coyotes to the red wolf population in northeastern North Carolina. Other threats, such as habitat fragmentation, disease, and anthropogenic mortality, are of concern in the restoration of red wolves. Efforts to reduce the threats are presently being explored.

Program Objectives

The current recovery plan (U.S. Fish and Wildlife Service, 1990) specifies the following objectives:

- 1) Establish and maintain at least three red wolf populations via restoration projects within the historic range of the red wolf. Each population should be numerically large enough to have the potential for allowing natural evolutionary processes to work within the species. This must be paralleled by the cooperation and assistance of at least 30 captive-breeding facilities in the United States.
- 2) Preserve 80% to 90% of red wolf genetic diversity for 150 years.
- 3) Remove threats of extinction by achieving a wild population of approximately 220 wolves and a captive population of approximately 330 wolves.
- 4) Maintain the red wolf into perpetuity through embryo banking and cryogenic preservation of sperm.

The Red Wolf Population

We estimate between 110 and 130 red wolves in the Red Wolf Recovery Area, but for the purposes of this report all population figures are comprised only of known wolves (i.e., wolves that are regularly monitored through either a functioning radio-collar or surgically implanted abdominal radio transmitter). Additional wolves are likely present, but have not been captured/radio-collared or their continued presence otherwise confirmed.

Population and Territory Status

A total of 70 known red wolves occupied the Red Wolf Recovery Area (i.e., 1.7 million acres in five counties in northeastern North Carolina) at the end of the first quarter of our fiscal year 2011 (FY 11). The population includes 26 packs (totaling 61 wolves) with 11 breeding pairs. An additional 9 wolves are not known to be associated with a pack. [A pack is defined as a known wolf maintaining an established territory who is either currently associating with or is known to have associated with another wild canid inhabiting the same territory.]

Wolf Pairings

Four breeding pairs were lost and three breeding pairs formed during the quarter. All four breeding pair losses were due to the death or disappearance of the breeding female of the pair. These females were proven breeders, having successfully whelped and raised litters in the past.

Wolf Captures and Radio Telemetry Marking

During this quarter, Red Wolf Recovery Program staff logged approximately 5,412 trap-nights. For that effort, 18 wolves were captured, eight of which were first time captures. All wolves were fitted or re-fitted with radio-collars (VHF or GPS) or surgically implanted with abdominal radio transmitters, and released. Captured wolves consisted of 11 males and 7 females; six adults (> 2 years of age), five yearlings (1-2 years of age), and seven pups (< 1 year of age).

Dispersals

Two known yearling wolves (1 male, 1 female) dispersed from their natal territories during the quarter. An additional yearling male was captured for the first time after dispersing from his natal territory, but the time of his dispersal is not known.

Mortalities

Eight wolves (2 males, 6 females) from the Red Wolf Recovery Area are known to have died during the quarter. Mortalities consisted of seven adult wolves (> 2 years of age) and one yearling (1-2 years of age). Three of the deaths appeared to be due to natural causes. The remaining five deaths currently are under investigation by the U.S. Fish and Wildlife Service's Office of Law Enforcement.

Disappearances

The Red Wolf Recovery Program lost radio contact with one wolf (a breeding female) during the quarter.

Pack Summaries

The Pack Summaries section has been indefinitely discontinued due to recent events and current circumstances involving the apparent illegal take of red wolves within the Red Wolf Recovery Area.

Collaborations

Research

The Red Wolf Recovery Program provided financial and in-kind support for collaborative research with scientists at other institutions, including universities, interagency divisions, and non-government research organizations. These investigations required project staff to assist outside researchers and graduate students in their efforts to better understand red wolf ecology, ecosystem function, and conservation efforts.

Project Title: Wild canid genetic sampling in Eastern North Carolina.

Graduate Student: Justin Bohling (PhD student)

Committee Chair/Principal Investigator: Lisette Waits, PhD, University of Idaho

Project Title: The effects of parenthood on red wolves (*Canis rufus*) in northeastern North Carolina.

Graduate Student: Justin Dellinger (MS student)

Committee Chair/Principal Investigator: Troy Best, PhD, Auburn University

Project Title: Identifying management procedures to reduce red wolf-coyote interactions in eastern North Carolina.

Graduate Student: Joseph Hinton (PhD student)

Committee Chair/Principal Investigator: Michael Chamberlain, PhD, Louisiana State University

Project Title: Seasonal Cycles in Red Wolf Home Range Characteristics: A GPS Collar and Multispectral Satellite Image Study.

Graduate Student: Melissa Karlin (PhD student)

Committee Chair/Principal Investigator: John Chadwick, PhD, University of North Carolina at Charlotte

Project Title: Assessment of spatial and temporal activities of red wolves using GPS and VHF telemetry data.

Graduate Student: Melissa Karlin (PhD student)

Committee Chair/Principal Investigator: John Chadwick, PhD, University of North Carolina at Charlotte

Project Title: Dietary overlap between red wolves (*Canis rufus*) and coyotes (*Canis latrans*) in Eastern North Carolina.

Graduate Student: Justin McVey (MS student)

Committee Chair/Principal Investigator: Chris Moorman, PhD, North Carolina State University

Project Title: Evaluating potential effects of widening US Highway 64 on red wolves, Washington, Tyrrell, and Dare Counties, North Carolina.

Graduate Student: Christine Proctor (PhD student)

Committee Chair/Principal Investigator: Michael R. Vaughan, PhD, Virginia Polytechnic Institute and State University (Virginia Tech)

Project Title: Sperm morphology and motility of the red wolf (*Canis rufus*).

Graduate Student: n/a

Committee Chair/Principal Investigators: Albrecht Schulte-Hostedde, PhD, Laurentian University, and Gabriela Mastromonaco, PhD, Toronto Zoo

Publications

The following publications have gone to print in this quarter. A complete list of publications related to red wolves can be found at <http://www.fws.gov/redwolf/biblio.html>.

Sparkman, A. M., J. Adams, A. Beyer, T. D., Steury, L. Waits, and D. L. Murray. 2010. Helper effects on pup lifetime fitness in the cooperatively breeding red wolf (*Canis rufus*). *Proceedings of the Royal Society B: Biological Sciences* (doi:10.1098/rspb.2010.1921; available online at <http://rspb.royalsocietypublishing.org/content/early/2010/10/15/rspb.2010.1921.full.p>).

Sparkman, A. M., J. R. Adams, T. D., Steury, L. P. Waits, and D. L. Murray. 2010. Direct fitness benefits of delayed dispersal in the cooperatively breeding red wolf (*Canis rufus*). *Behavioral Ecology* (doi: 10.1093/beheco/arq194; abstract available online at <http://beheco.oxfordjournals.org/content/early/2010/12/08/beheco.arq194.abstract>).

Presentations

No presentations by collaborators were reported during this quarter.

Staff and Volunteers

The Red Wolf Recovery Program employs eight full-time staff, including the program coordinator, four wildlife biologists, a biological technician, an outreach coordinator, and an administrative assistant. The

outreach coordinator and administrative assistant positions are currently vacant. The Red Wolf Recovery Program also benefits from an unpaid intern (Caretaker).

Outreach

Staff from the Red Wolf Recovery Program conduct presentations and attend events to inform and educate the public on the conservation needs of the red wolf and the restoration efforts of the Red Wolf Recovery Program. As part of our effort to assist educators, red wolf “discovery boxes” that include materials about the red wolf are distributed to educational facilities upon request.

The Red Wolf Recovery Program also seeks to achieve a quality visitor and participant experience in the U.S. Fish and Wildlife Service’s priority recreational uses on National Wildlife Refuges. Our outreach efforts focus on four of the six program elements, including wildlife observation, wildlife photography, environmental education, and interpretation, and are conducted frequently in partnership with ARNWR and PLNWR educators and volunteers.

Presentations

Date	Location	Audience	Length	Attendance	Presenter
November 16	Raleigh, NC	NCSU course – Biodiversity in a Changing World	1.5 hr	~20	D. Rabon

Howlings

Date	Location	Event	Length	Attend	Presenter
October 16	ARNWR	Wolf Awareness Howling	2	90	K. Wheeler

Website / Social Media

The Red Wolf Recovery Program has a weblog that highlights the efforts of the Red Wolf Recovery Program staff in the conservation of the red wolf. The weblog combines text, images, videos, and links to other media related to its topic. The content includes educational, informational, and general journal entries written by program staff, and allows readers to leave comments in an interactive format. The weblog can be found at trackthepack.blogspot.com.

Media Inquires

The Red Wolf Recovery Program responded to numerous media inquiries during this quarter, including several staff being interviewed by science writer DeLene Beeland (www.delene.us), who is writing a book about red wolves.

Partnerships

Species Survival Plan (SSP)

Species Survival Plan (SSP) captive facility coordination is based at Point Defiance Zoo & Aquarium (PDZA) in Tacoma, Washington. The SSP currently coordinates 40 captive red wolf sites at zoos and nature centers housing about 178 wolves. The following information is based on activities completed or

conducted by the SSP Coordinator during the quarter reported. Additional information on the SSP can be found at www.fws.gov/redwolf or www.pdza.org.

The SSP Coordinator hosted a visit, October 18-21, 2010, by the Red Wolf Recovery Coordinator to tour the new off-site compound adjacent to Northwest Trek Wildlife Park (Eatonville, WA), the new red wolf exhibit at Point Defiance Zoo and Aquarium, and the Slater Museum at the University of Puget Sound, which is the repository for historical canid specimens associated with the initiation of the red wolf recovery program in the 1960s.

The SSP Coordinator also reported giving a brief tour of the new red wolf compound at Northwest Trek Wildlife Park to the Clear Lake Homeowners Association. This tour was the last in a series of community outreach efforts for the Association, and provided residents with an opportunity to view red wolves transferred to the site in summer 2010 and to keep them informed about the program. Approximately 30 people attended the event.

Island Propagation Sites

The U.S. Fish and Wildlife Service utilizes island sites to propagate red wolves and contribute to the restoration of a wild red wolf population, primarily by inserting island-born wolves into the wild population as a means to augment the wild red wolf gene pool with “under-represented” genes from the captive population. Currently, the Red Wolf Recovery Program cooperates with St. Vincent National Wildlife Refuge in maintaining a breeding pair of red wolves on an island site.

Red Wolf Coalition

The Red Wolf Coalition (RWC) is a non-profit organization based in northeastern North Carolina that advocates for the long term survival of red wolf populations through education and outreach. The RWC’s educational program teaches students about the history, biology, and status of the red wolf recovery program, and accompanies students to ARNWR and PLNWR to learn about the habitat of the red wolf. The RWC currently employs an Executive Director, and has a membership of approximately 400 individuals and organizations. Additional information on the RWC can be found at www.redwolves.com.

The Executive Director reported conducting two red wolf education programs during the quarter. The first program was held October 22, 2010, at PLNWR for 90 middle school children from the Rocky Mount (NC) school system. The second program was held November 20, 2010, at ARNWR for 12 guests from the North Carolina Museum of Natural Sciences (Raleigh, NC).

Announcements

The U.S. Fish and Wildlife Service continues the investigation of the suspected illegal take of two red wolves found dead in two different locations in Hyde County, North Carolina, and one red wolf found dead on Alligator River National Wildlife Refuge in Dare County, North Carolina. Contributions from various organizations and individuals have increased the amount of a reward of up to \$15,000 for information directly leading to an arrest, a criminal conviction, a civil penalty assessment, or forfeiture of property on the subject or subjects responsible for the suspected unlawful take of these red wolves. The red wolf is protected under the Endangered Species Act. The maximum criminal penalties for the unlawful taking of a red wolf are one year imprisonment and \$100,000 fine per individual. Anyone with information on the deaths of these red wolves or any others, past or future, is urged to contact Special Agent Sandra Allred at (919) 856-4786, Refuge Officer Chris Smith at (252) 926-4021, or North Carolina Wildlife Resources Commission Officer Robert Wayne at (252) 216-8225.