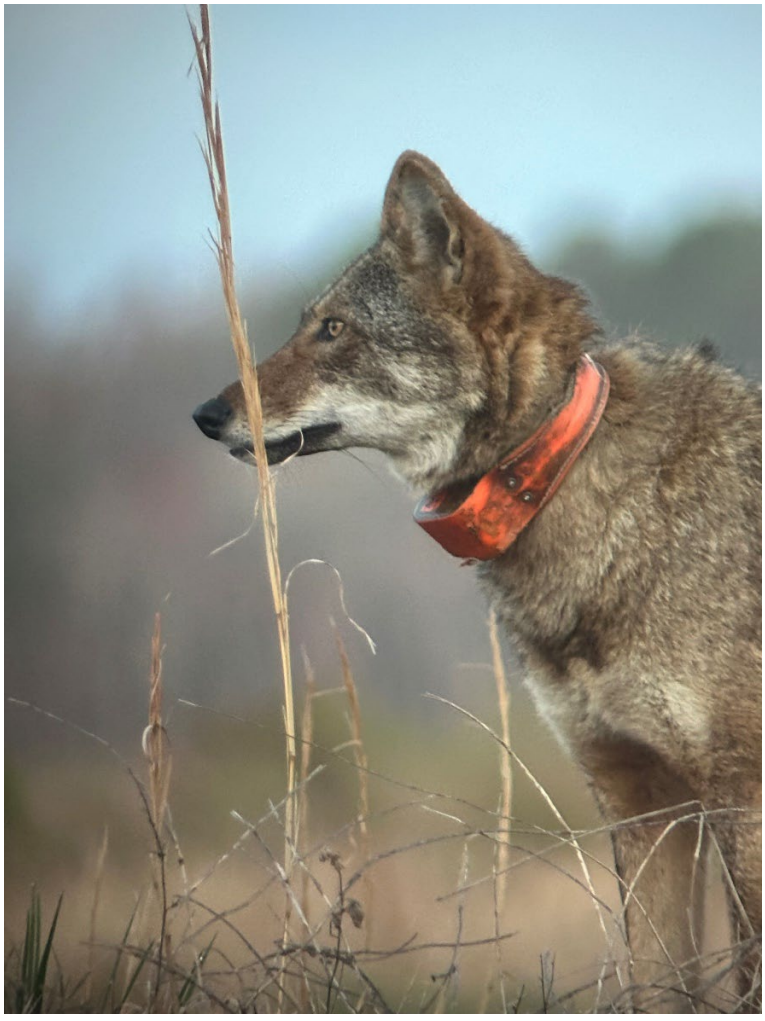
Eastern North Carolina Red Wolf Population: Release Plan



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Executive Summary

The Eastern North Carolina Red Wolf Population (ENC RWP) Release Strategy (2025-2026 release strategy) is being issued by the U.S. Fish and Wildlife Service's (Service) Red Wolf Recovery Program to disclose efforts being undertaken from October 2025 through June 2026 in support of Red Wolf recovery in eastern North Carolina specific to the pairing and release strategies during that time frame.

Since 2020, the Service has reinitiated the release and translocation of Red Wolves into the ENC RWP to supplement the population and increase genetic diversity using various management techniques. These techniques include pup fostering (2021 and 2023), cross fostering (2025), the release of Red Wolves from the Saving Animals From Extinction (SAFE[1]) American Red Wolf population (2021, 2022, 2023, 2024, 2025) and the translocation of wild Red Wolves from St. Vincent National Wildlife Refuge (SVNWR), an island propagation site off the Gulf Coast of Florida, into the ENC RWP (2020, 2021 and 2023).

In the 2025-2026 release strategy, the priority will remain focused on taking advantage of all pup fostering opportunities, when the appropriate conditions exist, and attempting to increase the number of Red Wolf breeding pairs in the wild. Pairs will be created either by pairing two currently unpaired wild Red Wolves or pairing wild Red Wolves that are currently unpaired with Red Wolves from the SAFE population. If capture success of unpaired wild Red Wolves of breeding age is limited, the Service may consider releasing a pair or family group from the SAFE population, if an appropriate family group is available in the SAFE population and there is an appropriate place to release them.

The Service intends to attempt the release of multiple Red Wolves from the SAFE population, however, the number of Red Wolves from the SAFE population that are ultimately released is dependent on a variety of on-the-ground-factors. The Service anticipates attempting to create up to 5 pairs of Red Wolves with up to 4 additional adults/subadults released from the SAFE population, which does not include potential pup fostering. However, the actual number of breeding pairs created, and number of Red Wolves released from the SAFE population, could be fewer or more than stated based on factors such as capture success and availability of territories, and the identification of an appropriate pair or family group from the SAFE population and the size of the family group. Flexibility will be maintained in order to maximize the likelihood of success of the individual Red Wolves and the release strategy as a whole. Red Wolves placed in acclimation pens in these attempts to create new breeding pairs would be expected to be released from November 2025 through June 2026.

[1] The Red Wolves under human care are managed by the Association of Zoos and Aquariums (AZA) Saving Animals From Extinction (SAFE) American Red Wolf program. The SAFE America Red Wolf is a program committed to the conservation efforts for the Red Wolf. These efforts include maintaining a healthy and viable population of Red Wolves in zoos and wildlife conservation centers, growing education and awareness efforts, and aiding research vital to supporting the recovery and management of this species.

Introduction

There are currently 17 known adult/subadult Red Wolves (12 female, 5 male) and 11-14 Red Wolf pups within the ENC RWP and a total estimated population, including those animals, of approximately 29-32 Red Wolves. There are currently three known Red Wolf family groups, two reside on Alligator River National Wildlife Refuge (ARNWR) and the other resides on private land south of ARNWR. Additionally, there is a small group of Red Wolves on and adjacent to Pocosin Lakes National Wildlife Refuge (PLNWR), but there have not been any litters born in that area since 2023. One of the family groups on ARNWR is comprised of a wild female Red Wolf and a male Red Wolf released from the SAFE population in January 2024. The pair had a litter of 8 pups in April 2025. As of November 2025, it appears that 6 of the pups have survived, including 3 that have abdominal transmitters, so they are able to be tracked and confirmed alive. The other family group consists of a sibling pair who had 6 pups in April 2025. Because of the sibling relationship of this pair, and considering that the breeding male's genes are greatly underrepresented in the SAFE population (i.e., he is the most genetically valuable Red Wolf), the first ever cross foster for the Red Wolf Recovery Program was conducted in April 2025. This decision was made in consultation with the AZA Population Management Center[2] and the SAFE management team and was based on other on-the-ground factors and a determination that pups from this pair would not be detrimental to the wild population and would be beneficial to the SAFE population. Therefore, to increase genetic diversity of both the SAFE and wild populations, 4 of the wild pups were transferred to the SAFE population and one pup was transferred to the wild den, creating a litter of 3. As of October 2025, all 3 of those pups remain on the landscape. The family group south of ARNWR consists of a female released from the SAFE population as a juvenile (as part of the 2022-2023 release strategy) who was placed in an acclimation pen with a SAFE male and released after having pups as part of the 2024-2025 release strategy. The group on and adjacent to PLNWR is comprised of a female fostered into a wild den in 2021 as a pup, a wild male born on ARNWR that dispersed to the area and a now 2.5-year-old female born from a pair created as part of the 2022-2023 release strategy. There has not been a litter born in that area since 2023. It is too soon to know if two of the Red Wolves in that group will form a new breeding pair but based on monitoring to date, it appears possible. There was an additional family group on PLNWR consisting of a female Red Wolf fostered into a wild litter in 2021 and a SAFE male released as part of the 2024-2025 release strategy and together they had a litter of 3 pups. However, the adult male was a mortality in February 2025 and despite monitoring there has been no evidence that the pups have survived to date.

As has been the case over the last 5 years of releases, a key component of this year's release strategy will continue to focus efforts on increasing the number of breeding pairs in the wild. While pup fostering is the preferred method for reintroductions, more established breeding pairs continue to be needed to increase the number of pup fostering opportunities on the landscape. If efforts to establish breeding pairs are successful, it will greatly increase the likelihood that wild born and fostered Red Wolf pups will be able to find suitable, unrelated Red Wolf mates to form breeding pairs as they age. These pups potentially forming new Red Wolf pairs are the building blocks toward a viable population of Red Wolves in the ENC RWP in the future. Additionally, a

[2] The AZA Population Management Center is responsible for conducting genetic and demographic analyses needed to develop and distribute population management recommendations for the SAFE American Red Wolf program and genetically assess the suitability of SAFE Red Wolves as potential release candidates.

healthy, larger ENC RWP is more sustainable, while also potentially having the ability to provide wild Red Wolves for translocation to future additional reintroduction sites.

There are currently 11 known (9 females, 2 males), adult and subadult wild Red Wolves within the ENC RWP that are not part of a Red Wolf breeding pair. All of them are 2 years old or older and, therefore, more likely to become part of a breeding pair. Two of these females are currently paired with sterilized coyotes. If feasible, attempts will be made to pair them with a male Red Wolf instead. Whenever possible, wild Red Wolves that have naturally dispersed from the territory where they were born or wild Red Wolves that have established their own territory but remain unpaired, will be used in attempts to create new breeding pairs since that tends to indicate an individual more likely to pair. However, based on the conditions on the ground and the success of capturing specific Red Wolves, which is difficult to do, Red Wolves that have not naturally begun to disperse may need to be incorporated into the attempted pairings. Natural dispersal typically begins when Red Wolves are about a year and a half old, though it can occur as early as 8 months or not at all.

Strategy Development

The 2025-2026 release strategy is intended to be in effect from October 2025 through June 2026, the end of the 2026 breeding season, which includes the whelping (e.g., birthing) and initial pup rearing period. The success of any Red Wolf release is highly dependent on a number of exceedingly dynamic factors including the time of year, capture success, prey abundance, human-caused and natural mortality risk, breeding status, availability of territories, unpaired potential mates, individual Red Wolf behavior, and coyote demographics. The Service's 2025-2026 release strategy and the options discussed were developed in consultation with our scientists and experts in the field to assess the likelihood of success of various techniques, and potential paths forward. This approach is based heavily on (1) lessons learned on the ground over the course of the 38 years of the program in North Carolina; (2) a thorough review of relevant literature (van Manen et al 1998, Henry and Lucash 2000); (3) professional experience of Red Wolf Recovery Program staff, (4) lessons learned, research and information regarding other canid species, (5) the results of previous releases over the last 5 years and (6) consultation with our partners and other subject matter experts.

The 2025-2026 release strategy has been developed given the existing condition of the wild population within the ENC RWP and the SAFE population. This strategy will also adapt to any circumstances, including any changes in either the wild or SAFE population. The success of the options identified in this release strategy will depend on the ability to maintain maximum adaptability and flexibility. This allows for modifications to the release strategies through the planning and implementation phases based on changing conditions on the ground including mortalities, Red Wolf movements, and capture success, as well as new information. The Service will continue to closely monitor the population of Red Wolves in the ENC RWP and continue to coordinate with the SAFE management team. Any changes in conditions within the wild or SAFE populations will be taken into account with respect to impacts to the release strategy, including any pup fostering opportunities.

It is also important to recognize that the ability to execute many of the releases is highly dependent on numerous on-the-ground factors. These factors include, but are not limited to, the ability to successfully capture specific wild Red Wolves, the correct timing of birth and size of wild and captive litters to allow for pup fostering, and the survival of individual wild Red Wolves included in the scenarios.

Given the myriad of factors that influence the different scenarios, the Service's actions described in this strategy require real-time flexibility and the ability to adapt to changing factors on the ground and situations; thus, they require management discretion in the field to maximize the chances of success.

Strategy to Pair and Release Red Wolves in the ENC RWP

The 2025-2026 release strategy largely focuses on implementing pup fostering when possible and attempting to create new Red Wolf breeding pairs within the ENC RWP. The number of pairs created and the number of Red Wolves to be released from the SAFE population is highly dependent on a variety of on-the-ground-factors and, therefore, cannot be stated definitively. However, it is the Service's intention to attempt to create as many breeding pairs as is possible given the current conditions of the wild population, as described above. Pairs may be created either by:

- Pairing unpaired wild Red Wolves with other unpaired wild Red Wolves, or
- Pairing unpaired wild Red Wolves with Red Wolves from the SAFE population

If on-the-ground factors, such as limited capture success of unpaired wild Red Wolves of breeding age, limits the number of pairs created with wild Red Wolves, the Service may consider release of a pair or family group from the SAFE population, if an appropriate pair or family group can be identified.

The Service anticipates attempting to create up to 5 pairs of Red Wolves. Based on the pairing scenarios, the number of Red Wolves released from the SAFE population could be up to 4 adults/subadults, which does not include potential pup fostering. The actual number of breeding pairs created and number of Red Wolves released from the SAFE population could be fewer or more than stated depending on the on-the-ground factors (i.e., capture success, availability of territories, the potential identification and release of an appropriate pair or family group from the SAFE population and the size of the family group).

The location of acclimation pens and the subsequent releases are chosen based on what location(s) are deemed most conducive to their success in the wild and would best serve the population as a whole with respect to Red Wolf distribution throughout the entire ENC RWP. Areas within the ENC RWP that provide adequate prey densities and habitat security that are currently not occupied by a breeding pair of Red Wolves or are within the territory of an unpaired Red Wolf are the preferred locations for acclimation pens. For the 2025-2026 release strategy acclimation pen sites are located on ARNWR and PLNWR. Red Wolves in acclimation pens would be expected to be released from November 2025 through June 2026 based on the specifics of each release and the individual Red Wolves involved, with a focus on the pairs remaining in acclimation pens through potential whelping and the initial pup rearing stage, if a litter is produced. Pairing of a wild Red

Wolf with one from the SAFE population will focus on pairing a wild female with a male from the SAFE population based on what has previously been more successful and the availability of unpaired wild females of breeding age. These approaches have been shown to increase their likelihood of remaining together as a pair and remaining within the general area of release.

Pup Fostering

The 2025-2026 release strategy includes the implementation of pup fostering as the highest priority whenever conditions make it possible based on the birth of litters in the ENC RWP and the appropriate timing of litters born in the SAFE population. We do not know at this time whether the opportunity for pup fostering will arise. As of November 2025, there are 3 Red Wolf pairs within the ENC RWP that could potentially be a candidate for pup fostering in Spring 2026, including 1 potential cross fostering. However, additional opportunities could potentially be possible if new pairs with wild females that have previously had litters give birth and if there are female Red Wolf/wild coyote pairs with litters born in Spring 2026. The Service will closely monitor all wild female Red Wolves and pursue all pup fostering whenever feasible if monitoring indicates there are opportunities to do so. Pup fostering could occur on federally managed lands or on privately owned lands with landowner permission.

Creating and Releasing Pairs Formed from by a Wild Red Wolf and Mate from the SAFE Population or Pairing Wild Red Wolves

Attempts will be made to create new breeding pairs by pairing wild Red Wolves with other currently unpaired wild Red Wolves or with Red Wolf mates from the SAFE population. We will attempt to capture some of these unpaired wild Red Wolves with efforts focused on individual females within an existing territory or that are showing dispersal behavior from the territory where they were raised. After capture, they will be placed in an acclimation pen with a currently unpaired wild Red Wolf or a mate from the SAFE population. The number of unpaired Red Wolves we will attempt to capture is dependent on factors such as the availability of territories where we have the ability to place acclimation pens that also have the appropriate conditions to support newly released pairs, such as adequate prey availability and habitat security. However, the intention is to maximize our efforts to take advantage of as many possible pairings as is feasible without being detrimental to the wild or SAFE populations.

Release of a Captive Born Pair or Family Group from the SAFE Population

If on-the-ground factors, such as limited capture success of unpaired wild Red Wolves of breeding age or unforeseen mortalities, limit the number of pairs created with wild Red Wolves, the Service would potentially release a pair or family group from the SAFE population. While releasing pairs from the SAFE population is not our preferred method of bolstering the wild Red Wolf population within the ENC RWP at this time, attempting to create additional breeding pairs in available and vacant habitat is an important piece of this strategy, and there has been some success with this method in the past.

Performance Measures

The Service will use the measures and metrics below to measure the performance of any releases within the ENC RWP or translocations to the ENC RWP:

1. Survival of individual translocated adult Red Wolves at the following time intervals[3]:
    a. 3 months
    b. 6 months
    c. 1 year

2. Known population size: The number of known (i.e., detectable and alive) Red Wolves in the ENC RWP at the end of the calendar year.

3. Reproductive status and output (Note that the ability to provide a complete report on this measure is contingent on the ability to locate and access dens):

    a. Number of breeding pairs in the ENC RWP (including number of pairs involving Red Wolves translocated from captivity);
        i. Success is defined as one breeding pair

    b. Number of litters produced and number of litters with fostered pups;
        i. Success is defined as one litter produced

    c. Number of pups per litter and number of fostered pups, and
        i. This is only a reporting measure, and no success metrics are applied to this measure

    d. Number of young surviving to one year.
        i. Success is defined as one pup surviving to one year per litter. This is estimated from captures in traps and on cameras.

[3] A component of this measure is detectability, as contact may be lost with some Red Wolves following release even if they are fitted with a transmitter (e.g., male Red Wolf translocated from St. Vincent and released in the ENC RWP in February 2020 for which contact was lost in June 2020).

Literature Cited

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