

# Amended Plan to Release Red Wolves into the North Carolina Non-essential Experimental Population



Photo courtesy of John Eppler

United States Fish and Wildlife Service

April 20, 2021

## **Executive Summary**

In accordance with the January 21, 2021, order in *Red Wolf Coalition v. U.S. Fish and Wildlife Service* (No. 2:20-CV-75-BO), (ECF 25), the U.S. Fish and Wildlife Service (Service) submits this Plan to Release Red Wolves into the North Carolina Non-essential Experimental Population (NC NEP)<sup>1</sup>. The Service developed this Plan in consultation with their scientists and experts in the field. The Service recently translocated two adult males from St. Vincent Island National Wildlife Refuge, held them in individual acclimation pens with unpaired females from the NC NEP, and released those potential pairs into the NC NEP on February 9 and 10, 2021. Under this plan, the Service will attempt to add captive-bred pups to any wild-born litters during the spring pupping season (pup-fostering). The Service will also translocate two pairs of red wolves from the Species Survival Plan population (SSP) to the NC NEP this spring for release during the summer after an appropriate acclimation period. One pair of red wolves will be released into Alligator River National Wildlife Refuge, and one pair of red wolves will be released into Pocosin Lakes National Wildlife Refuge. Further details, including additional Phase II actions that may be dependent upon the outcome of these initial actions, are discussed below.

## **Introduction and Context**

In preparing this Plan, the Service remains committed to reintroducing the red wolf into portions of its historical range and recovering the species in the wild. The NC NEP has demonstrated the effects that lack of landowner support and coyote prevalence have on the Service's ability to establish a self-sustaining population of red wolves. Given the observations made during the course of managing the NC NEP, the Service continues to evaluate the role that the NC NEP will play in red wolf recovery, especially the ability to establish a self-sustaining population without significant permanent intervention.

The Service continues to emphasize the importance of the captive breeding population associated with the SSP for red wolf recovery, as a robust captive population is important to preserve the genetic integrity of the species and to support future reintroductions. As wolves are removed from the captive population, it may extend the timeline for achieving the recovery goal identified for the captive population. The Service has developed this Plan with this objective for the captive population in mind, as the captive population is the safehold for recovering the species in the wild.

## **Plan Development**

The success of any wolf release is highly dependent on a large number of factors (e.g., time of year, prey abundance, breeding status, availability of territories, unpaired potential mates, and coyote demographics, among others) that are often highly dynamic in space and time. These

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<sup>1</sup> The Service recognizes that "Red Wolf Recovery Area" has been used historically to refer to the NC NEP; however, the Service no longer applies this term to the NC NEP, as it mistakenly implies a more narrow scale of recovery from the historical range of the red wolf to the NC NEP. The NC NEP is just one component of the efforts to recover the red wolf in the wild. Accordingly, this release plan refers to the NC NEP.

often translate into operational constraints at the time of release. Given these factors and constraints, the Service applied a scenario planning framework to develop the strategy included in this Plan. This approach provides flexibility that ensures translocation techniques are implemented in ways most aligned to the conditions on the ground and maximizes their likelihood of success while also offering a definitive course of action.

This Plan is intended to be in effect from March 2021 through May 2022 (the end of the 2022 breeding season), and the Service drew on the collective wisdom of red wolf field biologists both past and present to assess the likelihood of success of various techniques given current circumstances and those that may arise by the next breeding season. The priority and timing of the techniques represented in this Plan reflect the knowledge and experience of these biologists, but the successful application of these techniques and the particulars of those releases are dependent on robust monitoring to ensure there is a constant awareness of conditions on the ground as circumstances change. We will continue to monitor closely the population of red wolves in the NC NEP over the course of this Plan. However, monitoring of wolves on private lands may be limited by access; these wolves will be monitored solely via telemetry from public roads or from the air or by the deployment of GPS collars.

**Plan to Release Red Wolves into the NC NEP**

The preferred management alternatives for releasing red wolves to the NC NEP vary depending on: (1) the season; (2) the status of individuals and packs within the NC NEP; (3) our ability to capture red wolves and/or coyotes within the NC NEP; (4) the availability of suitable locations for establishing new pairs within the NC NEP; and (5) the availability of animals for translocation from the SSP without compromising its objectives, among other considerations. The Plan identifies the actions for the remainder of the current breeding season, after which we will monitor and evaluate the results of those actions to best inform next steps. See Table 1 for proposed timeline of activities.

Table 1. Timeline of proposed activities outlined in Plan to Release Captive Red Wolves into the NC NEP. Many of these actions are dependent on suitable conditions existing within the NC NEP.

	2020-2021				2021-2022	
	Dec - Mar	Apr- May	Jun- Aug	Sept- Nov	Dec- Mar	Apr- May
Translocation from St. Vincent NWR <sup>a</sup>	X				X	
Translocations within NC NEP	X				X	
Pup Fostering		X				X
Translocations from SSP - Pairs		X	X		X	X
Monitoring	X	X	X	X	X	X
Joint Status Report				X		
Translocations from SSP - Individuals					X	
Translocation from SSP – Family Groups					X	X

<sup>a</sup> National Wildlife Refuge

Phase I (February 2021 through Summer 2021)

*Translocation of Adults from St. Vincent NWR to NC NEP and within NC NEP*

This Plan includes the ongoing efforts to establish breeding pairs within the NC NEP by translocating red wolves from the St. Vincent National Wildlife Refuge propagation site (St. Vincent) and within the NC NEP itself. The Service will continue to pursue these translocations as we broaden the suite of techniques available for captive releases from the SSP.

The Service recently translocated two adult males from St. Vincent, held them in individual acclimation pens with unpaired females from the NC NEP, and released those potential pairs into the NC NEP on February 9 and 10, 2021. Currently, one is maintaining a territory that overlaps the female it was released with, while the other was struck and killed by a vehicle on February 22, 2021. Continued monitoring of the remaining male and tracking the status of any breeding pairs formed will be critical to informing the management decisions related to translocations from the captive population later this year. The uncertainty of the outcomes and the results to date from these releases of St. Vincent wolves (Will they survive? Will they establish a territory? Will they develop a breeding pair? Where will this occur?) is reflective of the dynamic conditions that require management flexibility and adaptability in identifying the particulars of future releases (i.e., How many? What age? What sex? When? Where?).

*Pup Fostering*

Pup fostering, or the addition of captive-bred pups to wild-born litters, is the preferred method of adding red wolves from the SSP to the NC NEP, as it has the greatest likelihood of translocated animals becoming successfully established. However, it is only possible during the spring pupping season, which is generally April and May. Pup fostering is also dependent on a wild-born litter being located and accessible and requires a litter of available pups within the captive population that are close in age to the wild litter. Thus, the ability of the Service to conduct pup fostering is contingent upon these conditions being met.

When conducting pup fostering, the preferred method is to add one or more pups into the litter of an experienced breeding pair with proven parental skills. Any breeding pairs established this season through our current efforts with the release of St. Vincent wolves would be first-time breeders with males that are still relatively inexperienced with life in the NC NEP. As such, they are not good candidates for pup fostering at this time. However, the Service is not ruling out the possibility of fostering should these wolves manage to produce a litter. The sole known red wolf female with successful breeding experience that is currently accessible to the Service resides on Pocosin Lakes National Wildlife Refuge. Unfortunately, she is currently paired with a coyote and attempts to remove the coyote so that she would be more likely to pair with the red wolf translocated to that area last winter have been unsuccessful to date. Nonetheless, if this mixed pair produces a litter this spring and if suitable pups can be obtained from the SSP, we will attempt to foster one or more such pups into the litter, while removing some or all of the hybrid litter.

Thus, while pup fostering generally provides the greatest likelihood of successful reintroduction, the current circumstances on the landscape limit the opportunity for using this technique. Nevertheless, the Service remains hopeful that a litter will be produced and fostering can occur; if not this season, then next.

#### *Translocation of Adults from the SSP*

Recognizing the limits on pup fostering imposed by the current state of breeding pairs in the NC NEP, the Service will also attempt to translocate one or more adult red wolves from the SSP into the NC NEP. This will occur regardless of the ability to foster pups. With the release of adult captive-reared animals into the wild having such a low success rate, the preferred method would be to pair an adult red wolf from the SSP with a wolf resident in the NC NEP. However, the Service has been unable to capture any additional resident wolves of breeding age this season and mating will have occurred by the time this Plan is implemented, so that option is currently not feasible. Therefore, the Service has worked with the SSP to identify two pairs of captive red wolves that may be candidates for translocation to the NC NEP. The ideal pair would be: (1) unaccustomed to humans; (2) established breeders without a current litter; and (3) capable of being removed from the SSP without compromising SSP objectives relative to maintaining the species. Such a pair is not currently available, but the Service has coordinated with the leaders of the SSP to identify two reasonably suitable pairs that meets at least some of the above criteria. These two pairs of red wolves are currently being isolated within the SSP to limit human contact to the maximum extent possible and are being introduced to natural foods. The Service anticipates working with the SSP to move these two pairs to the NC NEP in the spring for release during the summer after an appropriate acclimation period. One pair of red wolves will be released into Alligator River National Wildlife Refuge, and one pair of red wolves will be released into Pocosin Lakes National Wildlife Refuge. Based on experience, this time of year is most preferable because: (1) prey is abundant; (2) cover is dense; (3) it is not hunting season, and (4) canids are less territorial at this time of year, which may reduce aggression from resident canids.

The original Plan, which was submitted to the Court on March 1, 2021, only identified one pair for release from the SSP. But given the abbreviated time that the Service had to develop the Plan, the Service continued discussions past the date the Plan needed to be submitted with the SSP regarding suitable animals. Upon further discussion, the Service was able to identify the potential for release of an additional pair. These two wolves are littermates (brother and sister), necessitating an additional level of coordination and effort to identify potential available mates and territories that are genetically and physically separated as these siblings were not to be paired in the same acclimation pen or released together to avoid inbreeding. The Service was able to locate additional territory and potential mates, allowing the Service to determine release of this additional pair is appropriate at this time.

Biological and practical constraints associated with the time of year, the number of vacant, high quality territories, and the availability of suitable red wolves from the SSP limit the number of wolves that we can release at this time to two pairs of wolves. However, as conditions change and opportunities arise, the Service will reevaluate its management options. The translocation of a family group (i.e., a breeding pair with pups) was considered but more advanced planning and



coordination with the SSP would be needed than could be accomplished this season. The likelihood of success of this technique is low, and on the escalated timeline for this season, potentially even more so. This technique will be reconsidered during planning for Phase II.

### *Phase II (Fall 2021 through May 2022)*

Given the uncertain outcomes associated with some of the actions in Phase I (e.g., pup fostering, establishment of breeding pairs) and the unforeseeable circumstances that are likely to arise between March 2021 and Fall 2021, Phase II actions are dependent on suitable conditions being present at the time of release. The Service offers the following as the general approaches it will take under a variety of scenarios.

#### *Translocation of Adults within NC NEP and from St. Vincent NWR to NC NEP*

The Service will continue to monitor the status and spatial distribution of the red wolves within the NC NEP, searching for opportunities to move red wolves within the NC NEP or from St. Vincent to the NC NEP in an attempt to establish breeding pairs. The Service will evaluate the availability of suitable resident red wolves to potentially pair with these individuals.

#### *Pup Fostering*

If any breeding pairs successfully raise either wild-born or fostered pups, during Phase I, capture and collaring of those pups during the fall/winter of 2021-2022 will be a high priority.

If any breeding pairs are established through Phase I efforts and produce litters that are accessible, the Service will expand pup fostering efforts during the 2022 breeding season (March-April 2022).

#### *Translocation of Adults*

The facilities that comprise the red wolf SSP meet each July to draft the Breeding and Transfer Plan for the following season. This Breeding and Transfer Plan identifies the red wolves that are to be paired and/or moved among SSP facilities to form new breeding pairs and make the best use of available spaces within the SSP. The Service will coordinate with the SSP during the development of the 2022 SSP Breeding and Transfer Plan to identify red wolves (including individuals, pairs, or family groups) for potential translocation into the NC NEP, again taking into consideration the multitude of factors that inform these decisions. We reiterate that any action to translocate adult red wolves (particularly pairs or family groups) from the SSP will set the Service back in achievement of its recovery goal for red wolves of 52 breeding pairs in the SSP.

### **Performance Measures**

The Service will use the measures and metrics below to measure the performance of any releases within the NC NEP

1. Survival of individual translocated adult red wolves at the following time intervals<sup>2</sup>:
  - 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 NC NEP at the end of the calendar year. As of March 1, 2021, there are 10 known red wolves in the NC NEP. Any increase in population size will be considered a success.
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 NC NEP (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.

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<sup>2</sup> Note that 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 NEP in February 2020 for which contact was lost in June 2020). Individual survival is not an explicit metric of success, but failure of any individuals to survive one year would necessitate reconsideration of the methods used for adult translocations.