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# American Red Wolf SAFE Program Action Plan 2019-2022

Submitted by Program Leader  
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With Red Wolf SSP, Canid and Hyenid TAG, Program Partners and Advisors



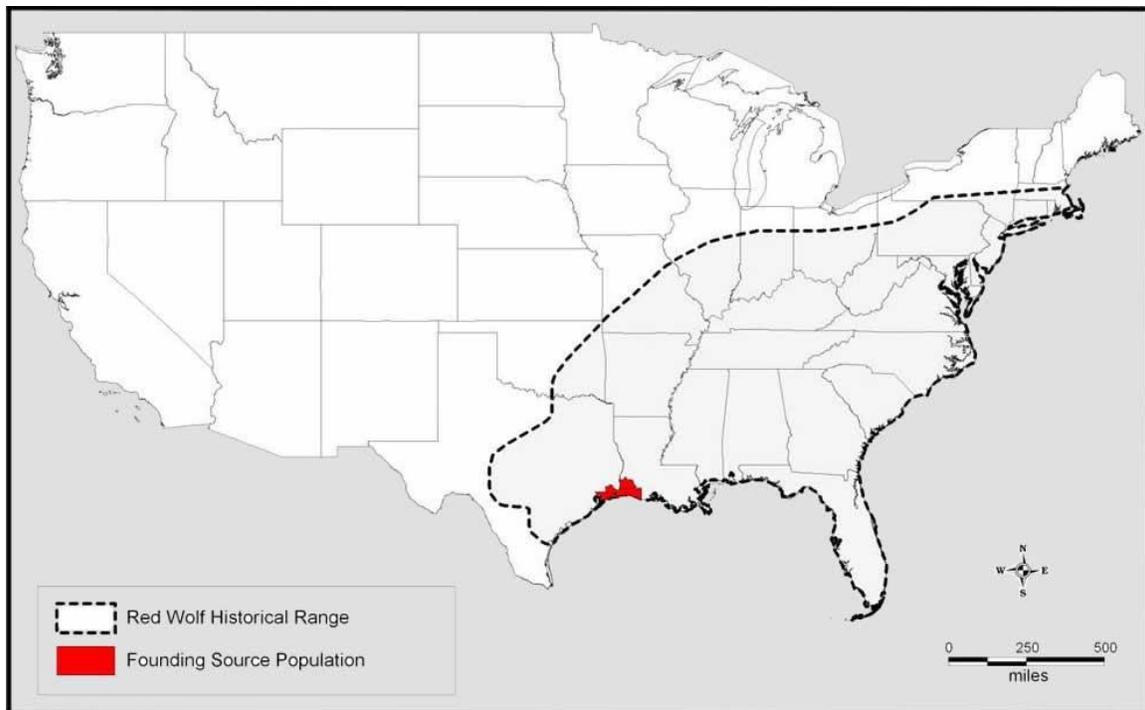
## **Table of Contents**

Background.....	3
Program Goal.....	4
Program Participants.....	6
Conservation Target.....	6
Status of Taxa within AZA Community.....	6
AZA Conservation and Public Engagement Activities.....	7
Conservation Status.....	10
Recovery Plan.....	10
Threats.....	12
Program Objectives.....	13
Program Summary Table.....	15
References.....	23

## Background

The American Red Wolf (*Canis rufus*) is one of the most endangered canids in the world. Red wolves are mostly brown and buff colored with some black along their backs, often with a characteristic reddish color on their ears, head and legs. They have tall pointed ears and long, slender legs with large feet. They once inhabited a vast region from the Gulf Coast north to the Ohio River Valley and southern New York, east to the Atlantic coast and west to central Texas. They were the apex predator of the Eastern United States preying on white tail deer, raccoons, rabbits, rodents and other smaller mammals.

The wolves were driven to near extinction by the 1970s due to habitat loss, widespread persecution of predators and hybridization with coyotes. At that time, the U.S. Fish and Wildlife Service (USFWS) began an aggressive conservation effort – the American Red Wolf Recovery Program which removed the final wild red wolves from southwestern Louisiana and southeastern Texas. These last fourteen remaining pure red wolves would become the founders of the current population. The primary recovery objectives were to protect and promote the growth of a non-hybridizing population of red wolves in the wild, and sustain an active captive component. Together these efforts will help maintain the genetic integrity of the species.



## Program Goal

The American Red Wolf SAFE Project partners are committed to the conservation efforts for the American Red Wolf. These efforts include maintaining a healthy and viable population of red wolves under human care, growing education and awareness efforts, and aiding research vital to supporting the recovery and management of this species.

The goal for this initial American Red Wolf SAFE Action Plan is to increase capacity for red wolves under human care over the next 3 years from the current capacity of 225 to the USFW recommended minimum capacity of 330 wolves in the Species Survival Plan (SSP). 330 wolves are needed in the SSP population to maintain genetic diversity above 80% for the next 150 year according to the most recent population viability analysis (Faust *et al.* 2016 - Red Wolf PVA). To increase the population under human care to this recommended capacity, 50 new spaces in the next 3 years will need to be identified. With 330 wolves in the SSP, it will become a source/assurance population for any additional recovery areas that are identified by USFWS.

In addition to increasing the population under human care, the goal of this action plan is to identify methods to educate and engage guests, non-government organizations (NGOs), governments and land owners in recovery areas about the benefits the red wolf provides to the ecosystem and economies of the areas where reintroduction efforts are focused.

Wolf recovery is rife with conflict – often deep-rooted identity conflict. Conservation efforts that do not take the human dimension into account often deepen the conflict and are destined to fail. Myriad studies on conflict have demonstrated that animals (in this case, red wolves), ecosystems, and communities are better served by processes that bring people together in respectful dialogue and genuine collaboration. Conflict is continuously present in human relationships; it tends to emerge when disruption occurs (e.g. reintroduction of a large carnivore) and is the inevitable outcome of human interaction. If left unaddressed or unresolved, it becomes more complicated and intractable. In the case of human wildlife conflict, if left unresolved, it can be an impediment to conservation efforts (Madden 2014). As science has borne out time and again, when humans and wolves are forced to share the landscape, it is often the social carrying capacity rather than the biological carrying capacity that will determine their fate (Treves 2006). A stakeholder process that represents a community of place and community of interest, and is participatory and inclusive, can result in a pragmatic approach the problem.

There are myriad mitigation/mediation strategies that attempt to resolve surface-level conflict; however, these methods typically do not address the underlying or deep-rooted social issues that can ultimately decrease or dissolve receptivity to conservation goals. Conservation Conflict Transformation (CCT) should be encouraged as the mechanism for a robust stakeholder process. Foregrounded in the field of peacebuilding, CCT attempts to transform both micro and macro level conflict through a set of theories, principles, and processes that focus on capacity building and strive to promote resilient human communities that can better coexist with wildlife. The CCT approach supports

coexistence by focusing on integrated solutions that address the cultural, social, ecological, economical, and political complexities of a given community (Madden 2015). According to its founder, Francine Madden:

By addressing the more elusive and deep-rooted social side of conflict through CCT, communities and decision-makers are more receptive to community and conservation goals, polarization of conflict decreases, shared common ground is identified and built upon, hostile relationships are transformed and commitments to positive change are genuine and on-going. By creating these more constructive social conditions, efforts to address the more tangible evidence of the conflict are more successful and sustainable (2015).

CCT focuses on capacity building and developing relationships needed to foster dignity, trust, and respect among stakeholders. This dignity, trust and respect humanizes the “other” and creates conditions where stakeholders can move from “an ‘us’ versus ‘them’ mentality to a more inclusive and genuine ‘we’” (Madden 2014). CCT has typically been deployed once conflict has developed, but given how controversial the wolf issue has been in every other state that currently has them, it seems pragmatic to develop these capacities before wolves are released into a newly identified reintroduction site. If there is “underlying conflict,” which is a history of unresolved disputes, or “identity-based/ deep-rooted conflict,” which involves values, beliefs, or social-psychological needs, stakeholders will have already begun to work through these complex, often protracted, issues by the time the “dispute,” which is the obvious, tangible manifestation of a conflict (in this case, wolves) arises (Madden 2014). This process, if done well, leads to more durable solutions. Persistence of the American Red Wolves would be greatly served by such a process and as such, AZA should find ways to encourage, endorse and support such a process.

## Program Participants

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## Conservation Target

The Conservation target for this action plan is the American Red Wolf (*Canis rufus*).

## Status of Taxa within AZA Community

The American Red Wolf is a Yellow Species Survival Program (SSP) and is part of the Canid and Hyaenid Taxonomic Advisory Group (TAG). The SSP management team makes up the entire SAFE Steering Committee. A yearly Breeding and Transfer Plan is published with 100% participation from partner institutions. There are 43 partner institutions within the SSP with a total of 262 animals under human care. On average, 30 breeding pairs are made every year with a breeding success of approximately 20%. There are between 30 and 40 pups are born annually. Currently, the SSP is at 115% capacity and will have to reduce the population unless more spaces are identified.

## AZA Conservation and Public Engagement Activities

There are 28 AZA facilities that house the American Red Wolf. The numbers of red wolves housed at each facility range from 2 to close to 50. The Red Wolf SSP provides a breeding and transfer plan to all RWSSP facilities yearly. The RWSSP also provides each facility with education materials that facilities can use to engage with their guests.

Current research studies include:

*Red Wolf Genome Resource Banking* – Karen Goodrowe Beck, PhD, General Curator and RWSSP Reproductive Advisor, PDZA and Nucharin Songsasen, DVM, PhD, Research Biologist, Smithsonian Conservation Biology Institute.

*Role of diet in the severity of inflammatory bowel lesions in red wolves.*  
– Kadie Anderson, DVM, Associate Veterinarian, PDZA.

*Understanding the link between gut microbiomes and inflammatory bowel disease in the red wolf.* – Nucharin Songsasen, DVM, PhD, Research Biologist, Smithsonian Conservation Biology Institute.

*Clinical and genetic characterization of a suspected X-linked hereditary retinal degenerative disease affecting red wolves (Canis rufus).*

Primary contact – Freya Mowat, PhD, Assistant Professor, Ophthalmology, North Carolina State University.

Smithsonian Conservation and Biology Institute hosted an American Red Wolf Science and Conservation Workshop in August of 2018. The goals of the workshop: 1) share new information on the biology and management of the species and (2) identify knowledge gaps and management/research priorities that can be implemented short-term to improve conservation both in situ and ex situ. Four discussion themes were identified which included 1) population genetics and genomic tools for helping sustain the ex situ population; 2) future reintroduction sites; 3) red wolves on the landscape; and 4) communicating to stakeholders, including the public.

Working teams were created including a communications team, fundraising team, research team and release site advisory team.

The workshop resulted in the following recommendations to USFWS:

- Complete a new recovery plan.
- Establish a red wolf recovery coordinator/team.
- Refocus on the North Carolina red wolf in situ population.
- Create a thoughtful, proactive communications strategy that builds trust and partnerships.
- Provide support to the SSP program to allow breeding centers and zoos to build space to create a self-sustaining ex situ population.
- Support high priority research for both in situ and ex situ populations.
- Partner with local governments, state governments and non-government organizations to generate needed funding for recovery.

The following recommendations were also provided to non-USFWS stakeholders:

- Publishing all scientific data on the American Red Wolf.
- Re-evaluate the PVA to ensure an ex situ population can support new recovery efforts.
- Assemble and summarize information on requirements for new potential recovery locations.
- Define issues of interest and concern for landowners in recovery locations.
- Lead in rebranding the American Red Wolf to create national and regional pride.
- Conduct congressional and agency outreach in North Carolina and other states of potential recovery areas.
- Ensure a healthy and viable ex situ population.

All original program partners to the AZA American Red Wolf SAFE Program have provided a statement of conservation activities below:

North Carolina Zoo has been involved in Red Wolf Recovery Program since 1995. A commitment to the RWSSP has been shown by having a staff member from the NCZ on the management team since 1997. Also in 1997 a propagation area for red wolves was created to help with increasing the numbers of wolves in partner facilities. In 2002 NCZ was the first captive facility to work with USFWS to bring wolf pups to the reintroduction site in Northeast North Carolina and foster captive born pups with a wild mother. In 2016 the NCZ increased their propagation area to be able to house as many as 20 wolves. We are currently in the planning phase to increase holding for red wolves to be able to house as many as 60 wolves. With this project we will also be building an education facility.

The NCZ has been dedicated for many years to educate guests about the American red wolf. We see the expansion of our captive breeding facility, the continued commitment to the Red Wolf SSP and sponsoring the proposal to make the Red Wolf an AZA SAFE species as logical steps to help save this species from extinction.

Endangered Wolf Center has been instrumental in red wolf recovery since the beginning. Founders were brought to EWC to save this critically endangered American species from extinction. The first red wolf female to give birth in the wild, after reintroduction started in 1987, was from the EWC. And we continue to fight for this species, in many ways, like looking for new partnerships; for example, bringing Arkansas State University (home of the red wolf mascot) onto the conservation team.

Point Defiance Zoo & Aquarium formally began its involvement in the Red Wolf Recovery Program in 1973 through a cooperative agreement with the USFWS to establish and coordinate a breeding program and develop husbandry techniques necessary to manage the species. Since that time, PDZA has established off-site facilities designed to advance the principles of managing red wolves for re-establishment in the wild and has worked cooperatively with the USFWS and the Red Wolf SSP on these efforts since 1987 when red wolves were first released to the wild in northeastern North Carolina. That same year PDZA received AZA's Edward H. Bean award for long-term red wolf propagation. Pup fostering within the SSP population was initiated at PDZA in 1987 and has been expanded to include fostering SSP-born pups into wild litters as a management strategy to augment the wild population. PDZA established a red wolf sperm bank in

1990 that currently includes 81 males represented in the sperm bank and has also achieved two successful litters via artificial insemination. PDZA organized the first red wolf education summit in 1997 that has now become a regular part of SSP annual planning meetings. Since 2002, PDZA and Point Defiance Zoo Society's Dr. Holly Reed Conservation Fund has awarded ~ \$300,000 to support multiple red wolf projects involving both the SSP, wild populations and education initiatives.

Zoo Knoxville is extremely proud to be a part of the Red Wolf SSP and the Red Wolf Recovery Program, which was the first wolf reintroduction program of its kind and the first to use zoo-based population management as a component to support recovery. The novel use of island propagation sites to acclimate captive wolves to augment the mainland population and fostering zoo-born red wolf pups into wild litters to enhance population recruitment are just a few examples of how the Red Wolf Recovery Project has helped shape recovery efforts of other carnivore species in the United States. Zoo Knoxville has been a partner in the Red Wolf Recovery Program through involvement with the Association of Zoos & Aquariums Red Wolf Species Survival Plan since 1990. We participate as one of 43 cooperating institutions that provides quality animal care and managed breeding for the zoo-based red wolf population which serves an essential genetic reservoir for their wild counterparts. We were fortunate to actively participate in the restoration attempt of this canid, once native to Tennessee, into our own backyard at the Great Smoky Mountains National Park. Throughout our participation in the Red Wolf SSP over the past 28 years, we continue to educate our nearly 500,000 guests per year about this ground-breaking program and the value of having red wolves on the southeastern U.S. landscape. Additionally our monetary support for the program of over \$15,000 since 2010 demonstrates that the Zoo Knoxville is dedicated to red wolf conservation and restoration.

Fossil Rim Wildlife Center has been involved in the conservation of the red wolf since 1989. Through the Red Wolf Species Survival Plan, Fossil Rim has played a role as a breeding facility and has produced 31 pups. Fossil Rim has also been an SSP holding facility and has been willing to take wolves in to free up space for other facilities to breed. We have taken part in many research projects over the years and have even assisted in sperm collections on male red wolves. Fossil Rim has the unique ability to take on any role the SSP needs and can manage this species in any way that is advantageous to the Red Wolf population and recovery efforts. Fossil Rim is a member of the Conservation Centers for Species Survival (C2S2) and this consortium represents a large acreage of land, decades of experience in wildlife management, and experience in species' recovery efforts and reintroduction programs. Through C2S2, we have the ability to provide resources, scientific research, and management expertise that can help create a sustainable population and push the Red Wolf Recovery program in the right direction.

The Museum of Life and Science has been a cooperator in the Red Wolf Species Survival Plan since 1992. Over 50 Red Wolves have lived at the Museum and five litters of pups have been born here since 1993.

Museum staff has served on the Red Wolf SSP Management Group for over 15 years and attended Master Plan meetings for over 20 years. We have participated in scientific advancement, collections, banking, and research studies led by multiple institutions. The Museum supports the work of the Red Wolf Coalition (RWC), the only private not-for-profit dedicated solely to the survival of the red wolf. Museum staff has served on the board of RWC for over 10 years. In this capacity, we have provided grants to Red Wolf Cooperators, allowing cooperators to attend meetings, enhance exhibits, and fund scientists' work.

## **Conservation Status**

The American Red Wolf is classified as endangered under the United States Endangered Species act.

The International Union for Conservation of Nature (IUCN) classifies the red wolf as critically endangered.

The State of North Carolina, where the only wild red wolves are found, classifies the species as endangered.

The American Red Wolf is not listed in CITES.

As of 2019 there are 262 wolves in the ex situ population housed in 43 partner institutions. Approximately 20-30 within an in situ population in one location in North East North Carolina. The in situ population is classified as Experimental Nonessential under the United States Endangered Species Act.

## **Recovery Plan**

The RWSAFE team, which is composed of long time members of the RWSSP has an ongoing, close relationship with the USFWS Red Wolf Program leads. The RWSAFE Program lead work closely with the USFWS Program lead to jointly shape a recovery plan.

In 1967, the American Red Wolf was first listed as endangered under the Endangered Species Preservation Act and in 1969, a red wolf captive breeding program was initiated at Point Defiance Zoo & Aquarium in Tacoma, Washington.

The first litter of red wolf pups born in breeding program at Point Defiance Zoo & Aquarium occurred in 1977, and the first experimental release of red wolves occurred on the federally protected Bulls Island in South Carolina. This was the start of the recovery plan and where experimental tracking, recapture and release techniques were first used.

In 1980, the last red wolves were removed from the wild and the species was declared biologically extinct in the wild.

Publication of a final rule in the Federal Register to introduce mated pairs of red wolves into the Alligator River National Wildlife Refuge in eastern North Carolina happened in 1986, which led to the establishment of the current nonessential experimental population (NEP). The restoration of the American Red Wolf back to its historical range officially began with the release of the first red wolves to the mainland United States on September 14<sup>th</sup>, 1987. The first animals released were able to produce the first litter of pups in the wild at Alligator River National Wildlife Refuge just a few months later in May of 1988.

In 1991, a second recovery area in the Great Smoky Mountains National Park along the border of North Carolina and Virginia was officially started with the

publication of a final rule in the Federal Register. Releases in the Great Smoky National Park began in 1992 and the first litter of pups were born in 1993.

It was not until 1995 that there was an official amendment to the special rule in the Federal Register addressing private landowner concerns about reintroduced red wolves.

The red wolf project ended at Great Smoky Mountains National Park due to lack of adequate food sources which was causing the wolves to leave the national park in 1998. This along with coyote introgression into NC were seen as major impacts on the possible success of recovery of the red wolf.

In 2000, an adaptive management plan was implemented to address red wolf/coyote hybridization within the NEP area with great success. Coyote genetic introgression into the red wolf population was all but halted. To date only 3% of coyote introgression has occurred.

The size of the wild population in North Carolina peaked at an estimated 120-130 wolves in 2006 with the use of the adaptive management plan which involved using sterile coyote as placeholders of territories until red wolves could move in. At this time, it was shown that with enough red wolves on the landscape, hybridization with coyotes was very limited.

The United States Fish and Wildlife Service recognized steps were needed to improve the management of the NEP, which included the need to conduct an evaluation of the Red Wolf Recovery Program in 2013. A Memorandum of Understanding on collaborative conservation of red wolves and other canids, including coyotes, on the North Carolina Albemarle Peninsula was signed by the FWS and the North Carolina Wildlife Resources Commission (NCWRC).

Soon after an independent evaluation of the NEP was asked for and performed by the Wildlife Management Institute; findings of the peer-reviewed evaluation were released. The report found that while the recovery program has shown that wolves could be successfully released and survive in the wild, FWS needs to update its Red Wolf Recovery Plan, thoroughly evaluate its strategy for preventing coyote hybridization and increase its public outreach, along with other improvements. At the same time, the NCWRC established rules to ban nighttime hunting and require permits for daytime hunting of coyotes in the five-county red wolf recovery area in eastern North Carolina. This ban on coyote hunting caused many of the local landowners to feel animosity toward the red wolf and the recovery program.

In 2015, the FWS expanded the evaluation to include recovery efforts beyond the Program's NEP to identify actions necessary to guide red wolf recovery on the landscape.

Reintroductions of red wolves into the wild were suspended while additional science and research into the feasibility of species' recovery was gathered. The existing red wolves located in North Carolina are managed in accordance with the 1995 rule ending the very successful adaptive management plan.

Between 2016 and 2018 the red wolf recovery team reconvened with the intent to produce a set of recommendations for consideration by the FWS. The Service announced recovery of the red wolf in the wild is possible with significant changes that must be implemented to secure the captive and wild populations.

In 2018- the USFWS published a Species Status Assessment (<https://ecos.fws.gov/ServCat/DownloadFile/147196>) and 5-year review ([https://ecos.fws.gov/docs/five\\_year\\_review/doc5714.pdf](https://ecos.fws.gov/docs/five_year_review/doc5714.pdf)) for the red wolf. The latter recommended no change in the endangered status of the red wolf under the Endangered Species Act. The service proposed a new management rule for non-essential, experimental population of red wolves in North Carolina.

## Threats

Human-caused mortality (e.g., vehicle strikes, gunshots) can remove breeders from the wild wolf population. These threats, combined with habitat fragmentation from increasing development, allow coyotes to expand into the recovery area. Coyotes may directly compete with wolves for resources, as well as introduce diseases, and dilute wolf genetic lines through hybridization.

Other threats include the lack of public lands in the historical range of the red wolf. Any recovery program must have local support from state and local governments and the private local land owners. Overcoming the perceived threats that wolves when reintroduced to an area must be part of any recovery program in order for the program to succeed.

The threat of limited genetic diversity is also considered. The American Red Wolf of today is a decedent of 14 founders. Close monitoring of breeding plans under human care must take place in order to preserve as much genetic diversity as possible. Lacking any new founders to the population, the American Red Wolf will be able to maintain 80% genetic diversity for the next 100 years with proper management and increased population size.

## **Program Objectives**

**Conservation Objective 1.** Increase capacity by 50 spaces in 3 years to accommodate population under human care expansion to 330 wolves in order to maintain genetic diversity in the species while supporting a recovery program.

**Engagement Objective 1:** Support a robust, third party neutral (TPN) process that seeks to identify and work on deep-rooted identity conflict in recovery areas (current and future) that will help foster coexistence.

**Engagement Objective 2:** Establish collaborative conservation-focused relationship between key stakeholders & community

**Engagement Objective 3:** Increase tolerance with the community in red wolf recovery area and in potential recovery area

**Engagement Objective 4:** Engage with communities and local governments to actively identify new release site.

**Public Awareness & Involvement Objective 1.** Raise public awareness and encourage positive attitudes regarding the American Red Wolf and its conservation challenges.

**Public Awareness & Involvement Objective 2.** Increase public involvement in American Red Wolf conservation initiatives.

**Public Awareness & Involvement Objective 3.** Provide support and materials to SSP partners, enabling them to target the following internal and external audiences:

- General Public
- Staff & Volunteers
- Facility Visitors & Members
- Social Media Users
- Schools
- Local/Regional/National Government Officials

**Funding Objective 1.** Set up AZA Conservation Program Dedicated Fund for the AZA American Red Wolf SAFE program

**Funding Objective 2.** Decide on Type of Projects to Fund and Limits of Funding

**Funding Objective 3.** Determine Funding Streams

**Conservation Objective 1. Increase capacity by 50 spaces to assist with population growth to accommodate recovery goals**

<b>Action</b>	<b>Metrics</b>	<b>Timeframe/Budget</b>	<b>Evaluation plan</b>	<b>Partners</b>
1.1 Conduct a survey for SSP participants to identify expansion opportunities and capabilities of increasing their wolf numbers/spaces based on current facility setup.	a) Surveys completed	year 1	Compare survey results with current knowledge. Update SSP with new knowledge. Determine if 50 new spaces meets goal.	RWSAFE management team
Conduct surveys for AZA facilities that are not currently SSP participants to assess potential interest in acquiring red wolves	a) Surveys completed	year 1	Compare survey results with current knowledge. Update SSP with new knowledge.	RWSAFE management team
1.3 Identify and contact AZA facilities that are housing coyotes, generic grey wolves, and other non-SSP large carnivore species and inquire about joining the American Red Wolf program	a) 10-20 facilities identified, (b) facilities contacted and surveys completed	year 1	Update SSP with new knowledge.	RWSAFE management team
1.4 Identify and contact AZA facilities with North American sections and inquire about joining the program	a) 10-20 facilities identified, (b) facilities contacted and informed about red wolf program and need for expansion	year 1	Update SSP with new knowledge.	RWSAFE management team
1.5 Identify and contact reputable non-AZA facilities that are capable of breeding or holding non-breeding/post reproductive animals	a) Identify 5-10 facilities (b) facilities contacted and informed about red wolf program and need for expansion	years 2-3	Update SSP with new knowledge.	RWSAFE management team
1.6 Draft a cover letter, which will accompany AZA's Red Wolf SSP Sustainability Report, highlighting the American red wolf program, the need for increased space to reach our target numbers, and the importance of saving this species.	a) Letter written	first 2-3 months	Have contents of letter reviewed by USFWS	Red Wolf Task Force and all RWSSP coordinators
1.7 Create a document for recruiting non-AZA partners which states red wolf program requirements and has a partnership agreement that needs to be signed for participation.	a) document created b) document approved by USFWS	first 3-5 months	Have contents of document/letter reviewed by USFWS	Red Wolf Task Force and all RWSSP coordinators

1.8 Distribute letter/SSP sustainability report to all AZA facilities and letter/partner agreement document to all non-AZA facilities that have been contacted about joining the red wolf program.	a) Acknowledgement from all facilities that they received the information	by the end of year 1	Get feedback on value of letter/SSP sustainability report from AZA partners.	Red Wolf Task Force and all RWSSP coordinators
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**Engagement Objective 1. Support a robust, third party neutral (TPN) process that seeks to identify and work on deep-rooted identity conflict in recovery areas (current and future) that will help foster coexistence.**

Action	Metrics	Timeframe/Budget	Evaluation plan	Partners
1.1 Help federal, state agencies and politicians understand the need for a robust third- party neutral process that engages stakeholders	Identify and establish a relationship with key agency personnel in order to discuss the need/benefits of a robust process	Fall 2019 \$5000	Ability to meet with key personnel as identified	Agency personnel (USFWS, state Fish and Wildlife, state wildlife commissioners, local politicians).
1.2 Endorse, encourage, and financially support the process..	Establish a fund comprised of contributions from RWSSP institutions that would go towards supporting TPN efforts on the ground in the recovery areas	TBD	Ability for financially supporting third party neutral process	SSP members, federal and state agencies, politicians, etc.

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**Engagement Objective 2. Establish collaborative conservation-focused relationship between key stakeholders & community**

Action	Metrics	Timeframe/Budget	Evaluation plan	Partners
2.1 Identify vital members of geographically-relevant community	Face to face meetings, identifying vital members of the community to talk to key stakeholders (state agencies, politicians, hunting clubs, NGOs, etc).	Identify by Spring of 2019 set up meetings by Fall of 2019	Will stakeholders agree to meet and is there positive movement forward for conservation	SSP, NGOs, FWS, State Agencies

2.2 Identify stakeholders	-4 to 5 stakeholders identified and able to participate in meetings	Fall 2019	Ability for stakeholders to participate	SSP members, federal and state agencies, politicians, etc.
2.3 Conduct face to face meetings between community members, stakeholders, and mediator	-needs/desires of all parties identified -commonalities and differences acknowledged	Spring 2020	Survey to evaluate the benefits and challenges of meeting to improve future communication	Hunting clubs, conservation organizations, landowners, NGOs, SSP members, federal and state agencies, politicians, etc.
2.4 Develop collaborative conservation action plan	-conservation goals identified and agreed upon -actions, responsible parties, and timeline to support conservation goals identified -future meetings planned	Spring 2020+	-Statement of commitment from all present -follow up meetings	Hunting clubs, conservation organizations, landowners, NGOs, SSP members, federal and state agencies, politicians, etc.
<b>Engagement Objective 3. Increase tolerance with the community in red wolf recovery area and in potential recovery area</b>				
<b>Action</b>	<b>Metrics</b>	<b>Timeframe/Budget</b>	<b>Evaluation plan</b>	<b>Partners</b>
3.1 ID organizations that can fund this program. Work with NGOs and Granting Agencies to develop incentive plans	Research what plans have worked well with other carnivore recovery programs (i.e Pay for Presence with Mexican wolves) and develop a plan and I.D. partners to aid in implementation	Identify partners to help by spring 2020, set up meetings by summer of 2020, develop strategic planning by winter 2020	Evaluation by 2021 if communities are participating in incentive plan	SSP, NGO, AZA, land owners, state agencies

3.2 Work with local schools, students and teachers, within recovery area and potential new recovery areas	Create curriculum or lesson plans for teachers for every grade level about red wolf biology and recovery. Identify outside red wolf representative to introduce youth about the predator in their backyard	Identify schools willing to collaborate by fall 2020 to implement in 2020/2021 school year	Implement attitude survey to students at the beginning of the year and again at the end of the year to see if minds / attitudes have changed	Local schools, teachers, PTA
3.3 Programming for general public about red wolf biology and recovery	Offer free informational programming via local libraries, YMCA's and schools to general public	Identify lead education team by fall 2020 as well as venues within and surrounding red wolf recovery areas	Implement attitude survey before and after the program to evaluate if attitudes and knowledge change	Local university education / biology department, SSP facilities located within driving distance
3.4 Work with local businesses within red wolf recovery and surrounding areas. Encourage business to embrace red wolves because of potential for tourists in red wolf country. Encourage people to support businesses that support local wildlife	Provide small kiosk containing red wolf information, facts, photos and how one can help	Identify business willing to participate by fall 2020. Supply materials before the end of 2020	Follow up with each business after a predetermined period of time. Keep track of how many brochures are being taken. Offer an email sign up for red wolf updates, photos and information to track reach	Local businesses
3.5 Work with local special interest groups such as scouts, chamber of commerce, clubs, meetups	Offer free informational programming to these groups and encourage them to spread the word within their communities	Identify lead education team by 2020	Implement attitude surveys before and after programming to evaluate changed in perceptions about red wolves	Local special interest groups
3.6 Utilize the power of social media. Create a FB page/group or Instagram account specific to / targeting red wolf recovery areas to generate interest within local communities	Maintain platforms that will provide knowledge, fact and current events in the red wolf world and tie into local communities. Will give locals a platform in which to voice their concerns in a constructive, positive way	Create platforms by 2020	Number of participants / followers will determine success	SSP, local university student(s)
3.7 Provide an outlet for local people to address their concerns. A person or group that individuals can go to with a problem, where they will be heard and the problem addressed in a proper, fair manner.	Assemble a team who will respond to questions and concerns. Team should consist of one local person	Create team by 2020	Number of interactions / contacts will determine success	SSP, local red wolf representative

**Engagement Objective 4. Engage with communities and local governments to actively identify new release site**

Action	Metrics	Timeframe/Budget	Evaluation plan	Partners
<p>4.1 Develop site-specific engagement plans to help partners facilitate positive, fruitful relationships with recovery area communities.</p> <p>The community outreach plan will engage the public using a developed education program that will have 3 main universal talking points, but have an additional 2-3 talking points depending on audience (Education task force will identify key stakeholder in the recovery area, using educators, state agencies staffs and local community partners to help ID these important stakeholders (i.e. local influencers, local, state or federal representatives, local hunting/farming group leaders, local teachers, etc.).</p>	<p>Written document with strategic, step-by-step suggestions and guidelines.</p>	<p>Developed as needed when potential recovery areas are identified. Timeframe depends on FWS determining a potential location for recovery and the SAFE team partnering with FWS to help work with those communities. FWS timeframe for completing a recovery plan is unknown, but they are currently working on it.</p>	<p>1. Assess public &amp; local community support for red wolf reintroduction. Survey's in or near potential recovery areas used to gauge public opinion. Partner with University of Missouri-Columbia to use survey's specifically designed to assess large predator-human relationship in these areas.</p> <p>2. We will evaluate which mixed-methods will fit with specific communities based on their needs, demographics, ecosystem/land management issues, etc.</p>	<p>SSP, NGOs, FWS, universities, State Agencies</p>
<p>4.2 Involve community and stakeholders in Red Wolf Recovery, to help develop a connection to the animals and grow trust of FWS recovery team.</p>	<p>Work with FWS and local NGOs to develop ways to have the community (public, state agency staff, etc) participate in recovery (i.e. care of captive animals at FWS or SSP facilities, assist FWS in trapping efforts, radio telemetry monitoring, attend (and eventually help volunteer to teach) awareness programs at the FWS's Red Wolf Education Center in NC or in potential recovery areas, etc.). Our measurement of effectiveness will be to see if local communities participate in the programs</p>	<p>Identify ways to participate and develop plan on how to encourage participation by Spring 2019, implement as soon as possible</p>	<p>Develop survey to give to participants, pre and post involvement to see if opinions of red wolves have changed</p>	<p>SSP, NGOs, FWS, State Agencies</p>

	we develop, and if the participation levels increase over a 2 year period of time.			
<b>Public Awareness Objective 1. Raise public awareness and encourage positive attitudes regarding the American Red Wolf and its conservation challenges</b>				
<b>Action</b>	<b>Metrics</b>	<b>Timeframe/Budget</b>	<b>Evaluation plan</b>	<b>Partners</b>
Develop simple and effective messaging points to be used by partners. These messages will provide a unified approach to share with audiences why red wolves are important, what challenges they face, and why we should care.	3-5 simple messages that work for all partners, with background information.	Develop and disseminate to all red wolf education partners by September 2019.	1. Assess utility for SSP partners via survey and conversation. Utility parameters will include useability, perceived impact and adaptability (ease of adapting for specific facility use).	Red Wolf Task Force and all RWSSP coordinators
			2. Assess impact on target audiences via survey. Impact parameters will include understandability, resonance, attitude change, and motivational impact.	RWSSP Partner Facilities/Groups

**Public Awareness Objective 2. Increase public engagement in American Red Wolf conservation initiatives**

Action	Metrics	Timeframe/Budget	Evaluation plan	Partners
<p>Utilize Empathy for Wildlife Best Practices as a foundation in creating a digital American Red Wolf Educator Packet. These Best Practices were developed by the MECAP (Measuring Empathy: A Collaborative Assessment Project) partners (Point Defiance Zoo &amp; Aquarium, Woodland Park Zoo, and Seattle Aquarium). They have been vetted by an international panel of experts in Conservation Psychology, Education, and Audience Research; additionally they have been field tested by over 15 AZA facilities over the past several years.</p>	<p>Disseminate Empathy for Wildlife background material to all RWSSP partners, including specific suggestions for specific application to red wolves. Offer at least 3 Developing Empathy for Wildlife webinars for RWSSP partners and interested target audiences (schools, etc.)</p>	<p>Delivered to SSP partners by September 2019. Webinars conducted October 2019 – February 2020.  \$2000</p>	<p>1. Assess effectiveness and utility for SSP partners via survey and conversation. Parameters will include applicability, usefulness, and perceived impact on the target audience.</p>	<p>Red Wolf Task Force and all RWSSP coordinators</p>
			<p>2. Assess impact on target audiences via survey. Impact parameters will focus on motivation to become involved in red wolf conservation activities after experiencing programs with Empathy for Wildlife content.</p>	<p>RWSSP Partner Facilities/Groups</p>
<p>Develop coordinated public awareness &amp; action campaign to motivate involvement of all internal and external audiences.</p>	<p>One coordinated yearly campaign or response to media time sensitive issue.</p>	<p>Annually</p>	<p>1. Assess impact on target audiences via survey. Impact parameters will focus on participant numbers, level of involvement, and perceptions of experience of the target audiences.</p>	<p>Red Wolf Task Force and all RWSSP coordinators</p>
<p>Connect the public with current American Red Wolf conservation news &amp; support a consistent platform for involvement.</p>	<p>May utilize an existing social media platform or create a new platform (requires consultation with social media specialist).</p>	<p>Strategy implemented by February 2020.</p>	<p>Metrics will be developed to assess impact and other dimensions of engagement when strategy is developed. Preliminary baseline metrics will be level and depth of use, as well as effectiveness in moving audiences to involvement with selected red wolf conservation initiatives.</p>	<p>Red Wolf Task Force and all RWSSP coordinators. Social media specialist/group.</p>

**Public Awareness & Involvement Objective 3. Provide support and materials to SSP partners, enabling them to target the following internal and external audiences: General Public, Staff & Volunteers, Facility Visitors & Members, Social Media Users, Schools, and Local/Regional/National Government Officials.**

Action	Metrics	Timeframe/Budget	Evaluation plan	Partners
Provide comprehensive digital Red Wolf education packet to all RWSSP partners and interested audiences.	At least 25 distinct educational activities/resources for multiple age groups, including videos, pictures and audio files, with suggested applications for distinct audiences (schools, zoo visitors, social media users, etc.). Each activity/resource will be coupled with a simple conservation action that the target audience can accomplish/join to benefit red wolf conservation.	Delivered to SSP Partners by December of 2019	1. Assess effectiveness and utility for SSP Partners through surveys and conversation. Parameters will include applicability to suggested audiences, ease of use (by partners), and perceived impacts on target audiences.	Red Wolf Task Force and all RWSSP coordinators
awareness and action efforts			2. Assess impact on target audiences via survey. Impact parameters will include number of individuals reached, motivation to participate in red wolf conservation actions, and actual participation in suggested action activities. Metrics collected will establish baseline data for the specific audiences listed in this objective.	RWSSP partners.

**Funding Objective 1. Set up AZA Conservation Program Dedicated Fund for the AZA American Red Wolf SAFE program**

Action	Metrics	Timeframe/Budget	Evaluation plan	Partners
Locate organization that can host a SAFE dedicated fund. Investigate AZA dedicated conservation funds. Work with AZA Field Conservation Committee and Advancement Committee to understand options	Fund established	6 months		RWSAFE team

**Funding Objective 2. Decide on Type of Projects to Fund and Limits of Funding**

<b>Action</b>	<b>Metrics</b>	<b>Timeframe/Budget</b>	<b>Evaluation plan</b>	<b>Partners</b>
Work with SSP partners, new and old, to identify new or ongoing holding projects	Database of projects produced	1 year database, 2 year acquire funds, 3 year fund projects	Projects funded	RWSSP Partners
Work with recovery stakeholders to identify new or ongoing projects that need funding	Database of projects produced	1 year database, 2 year acquire funds, 3 year fund projects	Projects funded	NGOs, USFWS, SSP, SAFE Partners
Identify public awareness projects, new and old, that require funding	Database of projects produced	1 year database, 2 year acquire funds, 3 year fund projects	Projects funded	NGOs, USFWS, SSP, SAFE Partners
Identify needs within the RWSSP that require funding (ie. Husbandry workshops, Meeting hosting, improved care of wolves under human care)	Database of needs produced	1 year database, 2 year acquire funds, 3 year fund projects	Needs funded	RWSSP Partners

**Funding Objective 3. Determine Funding Streams**

<b>Action</b>	<b>Metrics</b>	<b>Timeframe/Budget</b>	<b>Evaluation plan</b>	<b>Partners</b>
Identify grant sources	Database of grant opportunities produced	6 months database, 1 year apply, 3 years grants won	Grants won	RWSAFE Team
Identify fundraising opportunities	Database of fundraising opportunities created	6 months, 1-3 years ongoing fundraising	Fundraisers in place	RWSAFE Team

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