



Department of Defense Legacy Resource Management Program

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Species Status Assessment for Focal Longleaf Pine Species

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Table of Contents

Abstract/Executive Summary	3
Introduction	4
Project Description	6
Background	6
Objectives	7
Methodology	8
Results and Discussions.....	10
Conclusions.....	11
Military Benefits	11

Abstract/Executive Summary

There is a clear need to increase regulatory certainty and predictability for Department of Defense (DoD) installations, and strategic investment in conducting Species Status Assessments (SSAs) for focal at-risk and candidate species offers a novel opportunity to align pre-listing management and conservation to increase regulatory certainty. The SSA framework is an analytical approach recently developed by US Fish and Wildlife Service (FWS) to deliver foundational science for informing all Endangered Species Act (ESA) decisions. Given Texas A&M-Natural Resource Institute's (NRI) expertise and capacity in species of concern research, policy, and engagement, and its close working relationships with FWS, coupled with an increasing workload and decreasing workforce within FWS, NRI is highly capable of conduct these SSAs to provide the science that informs ESA decisions relevant to the DoD mission. NRI conducted SSAs for five species that occur on DoD installations across the Southeast region, including the Okaloosa darter (*Etheostoma okaloosae*), Black Creek crayfish (*Procambarus pictus*), southern hognose snake (*Heterodon simus*), alligator snapping turtle (*Macrochelys temminckii*), and gopher tortoise (*Gopherus polyphemus*). DoD Legacy funding also supported additional Readiness and Environmental Protection Integration (REPI) funding to conduct SSAs for 5 San Clemente Island species. NRI organized and facilitated expert meetings, worked closely with FWS and DoD staff to compile species data, conducted viability analysis for species, and served as primary authors for all SSAs. These SSAs will inform listing decisions, recovery plans, and reclassification decisions for these species. By investing in the SSA process for these species, there was increased coordination between DoD and FWS, transmittal and communication of important ESA products to the appropriate installations via direct involvement in SSA expert teams

during the SSA process, and deadlines for listing and reclassification decisions were met in the face of increasing workload and dwindling FWS staff.

Introduction

Department of Defense (DoD) installations face great regulatory uncertainty and predictability, and strategic investment in the Species Status Assessment (SSA) process, particularly for focal at-risk and candidate species, offers a novel opportunity to align pre-listing management and conservation to increase regulatory certainty. The SSA framework was recently developed by US Fish and Wildlife Service (FWS) to deliver foundational science for informing all Endangered Species Act (ESA) decisions via an analytical approach. All future ESA listing determinations, recovery plans, biological opinions, Candidate Conservation Agreements (CCAAs), Habitat Conservation Plans (HCPs), etc., will be informed by an SSA. The result of SSAs are more rigorous species viability assessments, improved and more transparent and defensible decision making, and clearer and more concise documents.

An SSA is a focused, repeatable, and rigorous scientific assessment. The SSA is designed to “follow the species” in the sense that the information on the biological status is available for conservation use and can be updated with new information. Thus, the SSA provides a single source for species’ biological information needed for all ESA decisions (e.g., listing, consultations, grant allocations, permitting, HCPs, and recovery planning). The biological analysis and the resulting stand-alone science-focused assessment allow for State and partner engagement in the science used to base ESA decisions. Early identification of factors most influential to the species’ condition affords timely opportunities to work with partners to implement conservation efforts in advance of potential ESA decisions.

The FWS has an ever-increasing workload for listed and candidate species, a decreasing staff, and this workload is not evenly spread across all regions. Due to the fluid nature of SSAs, regional workload can shift on an annual basis, and some field offices can become overwhelmed on any given year. Innovative partnerships and contracting can serve to address meeting agency goals, as shown in the successful collaboration of NRI and FWS Southeast Region in conducting SSAs for both Recovery and Listing programs over the last four years.

The Southeast Regional Partnership for Planning and Sustainability (SERPPAS) test and evaluation (T&E) workgroup identified five focal at-risk amphibian and reptile species: gopher frog (*Rana capito*), gopher tortoise (*Gopherus polyphemus*), southern hognose snake, Florida pinesnake (*Pituophis melanoleucus mugitus*), and striped newt (*Notophthalmus perstriatus*) within the historic range of longleaf pine that will require SSAs; due to a disjunct in timing related to the period of performance of the Legacy grant and FWS workplans, NRI was limited to assisting only on the southern hognose snake and gopher tortoise SSAs. Also, several species that occur on DoD installations have been identified as opportunities for potential de/down listings, including the Okaloosa darter and 5 species on San Clemente Island. The Black Creek crayfish is a candidate for listing, and the majority of this species occurs on Camp Blanding, Florida. Finally, the alligator snapping turtle has been identified as a priority species for DoD, as it occurs on several installations across the Southeast U.S. and needs an SSA conducted to support an ESA determination.

Given Texas A&M-Natural Resource Institute's (NRI) expertise and capacity in species of concern research, policy, and engagement, and its close working relationships with FWS, coupled with an increasing workload and decreasing workforce within FWS, there was a

great opportunity for NRI to conduct these SSAs to provide the science that informs ESA decisions. It is critical that the best available science is used in making these ESA determinations.

Project Description

Background

NRI has contributed toward key FWS agency and department goals (i.e. complete recovery plans, all recovery plans shall have quantitative delisting criteria, do 5-year reviews every 5 years, complete listing determinations and reclassify species when appropriate) by providing SSA support. As such, this collaborative program is building capacity within the Service while meeting their At-Risk, Listing, and Recovery responsibilities. Because of the successes seen in Region 4, and more recently, Region 8, continued NRI contractual support is a viable option to meet workload demands at a cost effective rate. Our researchers provide expertise in a wide range of taxa including birds, bats, mammals, mussels, and plants, and all have significant experience writing SSAs in the Southeast Region.

Currently, the NRI SSA Team consists of a project manager (Mike Marshall) and 6 full time employees dedicated to assisting with the development of SSAs. The NRI SSA Team has also been supported by several researchers and graduate students who have worked part-time on a case-by-case basis conducting SSAs, as well as a GIS team who can provide additional support. Over the last 4.5 years, NRI has completed drafts for over 60 SSAs. Besides the reduced workload, other benefits to the FWS have included:

- Cost effective SSA support—average cost per SSA has been \$15-20k
- Cooperative agreements with NRI can utilize the CESU as a contracting mechanism, which results in a streamlined process with a relatively low IDC (17.5%)

- Expedited timelines—NRI SSA Team typically works on a 21 week timeline to complete SSAs (i.e. draft ready for peer review). This allows quick turn-around to better enable Service personnel to meet deadlines on associated ESA products, such as 5-year reviews, recovery plans, and federal register rules.
- SSAs have led to multiple reclassifications, including down-listings and de-listings; multiple candidate species not-warranted for listing; multiple Recovery Plans supported by SSAs
- DoD has invested in the NRI-Service partnership by funding SSAs through REPI contract support

Objective

The original goal was to conduct SSAs for five focal at-risk amphibian and reptile species in the longleaf pine system in the Southeast region, to include gopher frog, gopher tortoise, southern hognose snake, Florida pinesnake, and striped newt. Because the Florida pinesnake and gopher frog did not have timelines conducive to the period of performance of the DoD Legacy grant, the specific SSAs were modified post-award. The agreed upon SSAs for NRI to conduct were gopher tortoise, southern hognose snake, Okaloosa darter, Black Creek crayfish, and other SSAs to be determined; these to be determined species ended up being the alligator snapping turtle SSA and additional support to write 5 San Clemente Island (SCI) species SSAs (SCI paintbrush (*Castilleja grisea*), SCI lotus (*Acmispon dendroideus* var. *traskiae*), SCI Bell's sparrow (*Artemisiospiza belli clementeae*), SCI larkspur (*Delphinium variegatum* ssp. *kinkiense*), and SCI bushmallow (*Malacothamnus clementinus*)). These

SSAs will inform all listing decisions, recovery plans, and biological opinions for these species, specifically:

- Southern hognose snake (listing decision)
- Okaloosa darter (reclassification decision)
- Black Creek crayfish (listing decision)
- Alligator snapping turtle (listing decision)
- Gopher tortoise (listing and reclassification decisions—covers the entire range, both listed and candidate portions)
- 5 San Clemente Island Species: 4 plants and 1 bird (reclassification decisions)

Methodology

The entire SSA process takes about a year on average, although more complex species can take several years, and less complex species only a few months. The SSAs NRI conducted under the Legacy program from September 2018 through March 2020 took, on average, one year to complete. The first step in the SSA process was to form a Core Team and Expert Team. The Core Team was the group of people, typically FWS staff or contractors (e.g. NRI staff), who held weekly calls, wrote the actual report, and performed the analyses. The Expert Team consists of species experts or experts in management of the species, who helped the Core Team to pull together relevant data and literature, answered elicitation questions that helped to guide the analyses, and reviewed the SSAs at multiple times throughout the process. Once the teams were formed, a kickoff call was held, in which the Core Team and Expert Teams discussed what an SSA is; why an SSA was being conducted for the species; roles and responsibilities; project plan; and timeline.

The SSA writing and analysis process has three successive stages: 1) document the life history and ecological relationships of the species in question to provide the foundation for the assessment, 2) describe and hypothesize causes for the current condition of the species, and 3) forecast the species' future condition. The future condition refers to the ability of a species to sustain populations in the wild under plausible future scenarios. The scenarios help explore the species' response to future environmental stressors and to assess the potential for conservation to intervene to improve its status. The SSA process incorporates modeling and scenario planning for prediction of extinction risk and applies the conservation biology principles of representation, resiliency, and redundancy to evaluate the current and future condition.

Once the SSA was completed and reviewed by both the Core and Expert Teams, the SSA went through a peer review process. Once peer review comments were incorporated, a Recommendation Team Meeting (RTM) was held, in which Project Leaders from the FWS Regional Office and relevant Field Offices listened to a presentation of the SSA, asked questions about the SSA, and ultimately arrived at a policy decision of threatened, endangered, or not warranted. The SSA is not a decision document; all decision analyses were done outside of the SSA writing process. The SSA results in a scientific report distinct from policy application, which contributes to streamlined, transparent, and consistent decision-making and allows for greater technical participation by experts outside of the FWS, for example, by state natural resource agencies and DoD staff.

Results and Discussions

SSAs were completed for all species except for the gopher tortoise, which is ongoing, and was to be funded under a second period of performance. Texas A&M NRI secured funding

from FWS to continue supporting the SSA for gopher tortoise, and the anticipated date for a final draft of this SSA is August 2021. Final drafts of SSAs will be provided as made available by USFWS, as separate attachments, and serve as the results of this project. All SSAs led to recommendation meetings and subsequent decisions by project leaders on the status of the species. Texas A&M NRI were not present for the final decisions on the status of the species, as the decisions are not publicly available until a proposed rule is published in the federal register.

Species	NRI Lead	FWS Lead Office	Completion (status)
Southern hognose snake	Mike Marshall	Charleston, SC	2019 (not warranted)
Okaloosa darter	Tiffany MacFarland	Panama City, FL	2019 (delisted)
Black Creek crayfish	Katherine Smith-Hicks	Jacksonville, FL	2020 (forthcoming)
Alligator snapping turtle	Stephanie DeMay	Panama City, FL	2020 (forthcoming)
Gopher tortoise	Mike Marshall	Jacksonville, FL	2021 (forthcoming)
SCI paintbrush	Tiffany MacFarland	Carlsbad, CA	2019 (delisted)
SCI lotus	Tiffany MacFarland	Carlsbad, CA	2019 (delisted)
SCI Bell's sparrow	Tiffany MacFarland	Carlsbad, CA	2019 (delisted)
SCI larkspur	Tiffany MacFarland	Carlsbad, CA	2019 (delisted)
SCI bushmallow	Tiffany MacFarland	Carlsbad, CA	2019 (delisted)

Conclusions

Texas A&M NRI's involvement in these SSAs was key to synthesizing the best available data in a way that facilitated an informed decision process. For example, both the southern hognose snake and the gopher tortoise SSAs have sophisticated modelling at the core of the analysis. This modelling and synthesis of massive data sets was likely only possible because FWS has assistance, as their workload is ever increasing, and staffing is limited. Making good decisions is contingent on the quality and synthesis of the data, and the Legacy funding ensured that the decision process was based on the best available data and analysis. Because most of these SSAs supported de or down listings, the project benefits the military mission by easing restrictions on installations in which these species occur. Also, this project highlighted DoD's role in the recovery of species, by being good land managers and stewards of the land. The fact that most of these species have recovered shows that there is not necessarily a conflict between the military mission and the stewardship of natural resources.

Military Benefits

Military installations provide habitat for significant populations of federally listed and at-risk species. These species can and do adversely impact training and testing on military installations due to ESA requirements. Collaboration between federal, state, and other partners to develop and promote innovative strategies for proactive conservation of at-risk species and increased flexibility for addressing impacts to both listed species and military missions is critical. Approaches such as conservation agreements, mitigation credit strategies, and projects to increase status information of at-risk species to inform Species Status Assessments conducted by the U.S. Fish and Wildlife Service to inform listing and

reclassification decisions can be effective in increasing training flexibility for DoD. These efforts will promote and support ecosystem restoration, maintenance, and monitoring on and off military installations to enhance the conservation of at-risk and listed species; increase flexibility for on-installation training; increase regulatory predictability for military services, other federal agencies, and private landowners who engage in proactive conservation; and provide a process for DoD and other partners to share species data that will inform regulatory decisions.