

State & Tribal Wildlife Grants Program 10 Years of Success

State & Tribal Wildlife Grants preventing species from becoming endangered in all 50 states & U.S. territories



September 2011

Prepared by:



ASSOCIATION of
FISH & WILDLIFE
AGENCIES

www.fishwildlife.org

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The State and Tribal Wildlife Grants Program is administered by the U.S. Fish & Wildlife Service, Wildlife and Sport Fish Restoration Program which partners with states, territories and the District of Columbia to conserve fish, wildlife and their habitats. Most of the projects highlighted in this report were supported through apportioned funding distributed according to a formula based on population and land area. For a breakdown of apportioned funding go to www.teaming.com.



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This report includes examples from every state that demonstrate the program's success in preventing endangered species listings.



Introduction

The State and Tribal Wildlife Grants program is also important for maintaining and creating jobs in both the private and public sector. The program stretches taxpayer dollars by leveraging tens of millions in matching funds from state and private partners.



State and Tribal Wildlife Grants were the principal funding source that led to federal delisting of the Lake Erie Water Snake in September 2011.

In 2000, Congress created the State and Tribal Wildlife Grants (SWG) program. This program uniquely provides critical funding to every U.S. state and territory to plan and implement proactive conservation actions to prevent the nation's fish and wildlife from becoming endangered. The State and Tribal Wildlife Grants program is considered the CORE program for keeping species healthy and off the federal threatened and endangered species list, a goal shared by a broad constituency of conservationists, business, farmers, ranchers, and land developers.

Using State and Tribal Wildlife Grants funding, each state and territory developed a comprehensive wildlife conservation strategy (State Wildlife Action Plan). The plans represent a groundbreaking effort to bring together the best science available to conserve priority fish and wildlife and their habitats through innovative public-private partnerships. The plans identified 12,000 species that are at risk of becoming endangered and offered a set of conservation actions to address key threats, providing a voluntary, non-regulatory alternative to the federal listing process.

The State and Tribal Wildlife Grants program has had strong bi-partisan backing and is supported by over 6,300 organizations and businesses who make up the Teaming With Wildlife coalition (www.teaming.com). The coalition represents millions of bird watchers, hikers, hunters, anglers, and other nature enthusiasts and their businesses.



The coalition was founded in the mid-1990's to specifically advocate for the creation of the State and Tribal Wildlife Grants program and remains strong and committed today to ensure this successful program continues.

This report includes examples from every state that demonstrate the program's success in preventing endangered species listings. The examples include multi-state projects like work being done in the Northeast to recover the New England Cottontail, a federal candidate species and, state-specific projects like one led by the Ohio Department of Natural Resources that was successful in removing the Lake Erie Water Snake from the federal endangered species list.

With no dedicated funding stream, the State and Tribal Wildlife Grants program is the primary funding source available for state fish and wildlife agencies and their conservation partners to restore and actively manage our nation's declining wildlife. The program has been funded at relatively modest levels averaging just over \$1 million in apportioned funding annually for each state and territory. The State and Tribal Wildlife Grants program is the primary source of funding for state fish and wildlife diversity programs and their partners and without it actions to prevent endangered species listings would be greatly curtailed or stopped.

The State and Tribal Wildlife Grants program is also important for maintaining and creating jobs in both the private and public sector. The program stretches taxpayer dollars by leveraging tens of millions in matching funds from state and private partners. The public enjoys cleaner waters, more abundant public lands, and improved management for all species of wildlife thanks to this program. Consumers who support the \$730 billion outdoor recreation industry benefit from enhanced recreational opportunities. The State and Tribal Wildlife Grants program is one of the few federal grant programs with rigorous performance measures. The measures are currently being incorporated into the U.S. Fish and Wildlife Services' new Wildlife TRACS

grant reporting and assessment tool. They can show how conservation actions that can take decades to take hold are making progress or in some cases need to be adjusted when threats are changing.

This report highlights just a few examples of successful work in each state and territory that was made possible by the State and Tribal Wildlife Grants program. This program has profoundly improved states' ability to conserve the full array of fish and wildlife and to collaborate with partners. Without continued funding for the State and Tribal Wildlife Grants program, the prognosis for many at-risk species is bleak and we can expect a growing need for federal intervention into fish and wildlife management.

This report highlights just a few examples of successful work in each state and territory that was made possible by the State and Tribal Wildlife Grants program. This program has profoundly improved states' ability to conserve the full array of fish and wildlife and to collaborate with partners. Without continued funding for the State and Tribal Wildlife Grants program, the prognosis for many at-risk species is bleak and we can expect a growing need for federal intervention into fish and wildlife management.



Conserving at-risk fish and wildlife in Alabama

Oblong Rocksnail

(*Leptoxis compacta*)

Status: The Oblong Rocksnail was considered extinct but was rediscovered.

Project Description: SWG was used to survey a site where the species was rediscovered. Sequence data was obtained from the collected specimens in order to identify the species. Once the specimens lay eggs, cultured material will be obtained.

Outcome: Due to the investment in SWG, a species that was considered extinct for 30 years was rediscovered.

Partners: Alabama Department of Conservation and Natural Resources, University of Alabama



Due to the investment in SWG, a species considered extinct was rediscovered and its conservation status was reassessed. Furthermore, the species is a member of a critically endangered limpet genus.

Outcome: Due to the investment in SWG, a species considered extinct was rediscovered and its conservation status was reassessed. Furthermore, the species is a member of a critically endangered limpet genus. The genus represents a concentrated fraction of continental freshwater gastropod biodiversity. The rediscovery of the species triples the known extant populations of the genus.

Partners: Alabama Department of Conservation and Natural Resources, University of Michigan Museum of Zoology, Kentucky Department of Environmental Protection

Freshwater Mollusks & Fishes

Status: Alabama rivers host 79 federally listed and candidate mollusks (the most of any state), and 14 listed and candidate fishes. Only California has more federally listed animals.

Project Description: SWG was used to construct and operate the Alabama Aquatic Biodiversity Center (AABC), which coordinates conservation and research efforts for the state's rarest freshwater species. New culture methods were developed to grow mussels to a larger size before release, which is normally a roadblock for recovery for these species. The AABC cultured 2,790 federally listed mussels of five species in 2010, and 2000 individuals were reintroduced to three localities. It has also produced and released 66,574 federally endangered Plicate Rocksnails, initiating two new populations. Restoration efforts are also ready for two other federally endangered snails but releases are pending final agreements.

Wicker Ancyloid

(*Rhodacmea filosa*)

Status: The Wicker Ancyloid was considered extinct but was rediscovered.

Project Description: SWG was used to obtain specimens and conduct genetic and morphometric analysis to diagnose it as the species.



Cost= \$300,000 SWG dollars annually.

Outcome: Due to the investment in SWG, AABC gathered data which led to the downlisting of one endangered species (now threatened), and the rediscovery of two species previously considered extinct. Additional data to be gathered will be used for potentially downlisting another endangered species to threatened, and likely removing another snail from the federal candidate list.

Partners: Alabama Department of Conservation and Natural Resources, other state agencies, U.S. Fish and Wildlife Service, NGOs, Alabama Power Company, Missouri State University, University of Florida, University of Alabama, Auburn University, North Carolina State University, West Alabama University, Tuskegee University, many more partners



SWG was used to construct and operate the Alabama Aquatic Biodiversity Center (AABC), which coordinates conservation and research efforts for the state's rarest freshwater species. New culture methods were developed to grow mussels to a larger size before release, which is normally a roadblock for recovery for these species.



Conserving at-risk fish and wildlife in Alaska

Due to the investment in SWG, range-wide declines over the past 2 decades were found to likely be more localized and smaller than originally thought. The repeated surveys concluded that no significant population change occurred in Glacier Bay between 1993 – 2009/2010.



Kittlitz's Murrelet

(Brachyramphus brevirostris)

Status: In 2004, the Kittlitz's Murrelet was listed as a federal candidate species and was petitioned for state listing.

Project Description: SWG was used to develop survey methodology to accurately estimate population trends in core regions. Repeated surveys in 2009/2010 in Glacier Bay, a region thought to contain up to 25% of the world's breeding population, replicated 1993 surveys by the USFWS. SWG also was used to review population estimate methodology.

Cost = \$134,127 SWG dollars

Outcome: Due to the investment in SWG, range-wide declines over the past 2 decades were found to likely be more localized and smaller than originally thought.

The repeated surveys concluded that no significant population change occurred in Glacier Bay between 1993 – 2009/2010. This information is expected to result in the eventual removal of the species from the federal candidate list and supported Alaska's decision to not list as a state endangered species.

Partners: Alaska Department of Fish and Game, ABR, Inc., Audubon Alaska, U.S. Fish and Wildlife Service

Steller Sea Lion

(Eumetopias jubatus)

Status: The western population of the sea lion is federally endangered; the eastern population is federally threatened. Currently, a status review is being prepared to help determine if the eastern population will be removed from the list.

Project Description: SWG was used to collect data for age-specific estimates of survival and reproduction, movement patterns, body condition, and blood chemistry indices to assess the overall population status. Stable isotopes were used to compare age at weaning between populations. Mercury concentrations were measured in hair samples from both populations to assess exposure to heavy metals.

Cost = \$1,191,300 SWG dollars



Outcome: Due to the investment in SWG, occurrence, movement, and health information will inform the status review and potentially lead to the de-listing of the eastern population, which has achieved all population goals outlined in the Species Recovery Plan. Mark-recapture data will help shape the protections, conservation, and management that the NOAA National

Marine Fisheries Service (NMFS) provides or requires for the Steller Sea Lion.

Partners: Alaska Department of Fish and Game, University of Alaska, U.S. Geological Survey, NOAA National Marine Fisheries Service

Ice Seals:

Bearded (*Erignathus barbatus*)

Ringed (*Phoca hispida*)

Ribbon (*P. fasciata*)

Spotted (*P. largha*)



Status: The ice seals were considered for federal listing in 2008. Ringed and Bearded Seals were proposed to be listed as federally threatened in 2010.

Project Description: SWG was used to help fund a biological monitoring project to collect current age, growth, body condition, reproductive rate, diet, and disease information for comparison to similar data in the past.

Cost = \$474,753 SWG dollars

Outcome: Due to the investment in SWG, no measureable negative effects on ice seals were detected during recent periods of sea ice reduction. This information helped inform the NMFS status reviews for these species and was incorporated into the NMFS reviews of Ribbon and Spotted Seals, which contributed to the determination that their listing was not warranted. The reports for Ringed and Bearded Seals will be considered in the final rule for listing and may lead NMFS to determine that listing is not warranted for these two species either.

Partners: Alaska Department of Fish and Game, Ice Seal Committee, subsistence hunters, village tribal councils, NOAA National Marine Fisheries Service

Black Oystercatcher

(*Haematopus bachmani*)

Status: The Black Oystercatcher is one of the rarest shorebirds in North America, with the majority breeding in Alaska. Because little was known about its ecology or population status, it was included on the National Audubon Watch List and discussed for special status at both the state and federal level.

Due to the investment in SWG, no measureable negative effects on ice seals were detected during recent periods of sea ice reduction. This information helped inform the NMFS Status Reviews for these species and was incorporated into the NMFS reviews of Ribbon and Spotted Seals, which contributed to the determination that their listing was not warranted.



Due to the investment in SWG, the species (Black oystercatcher) was found to be more stable and abundant than previously thought. It has been removed from the National Audubon Watch List.



Project Description: SWG funds were used to determine distribution and population trends, breeding biology, range-wide productivity, threats, seasonal migration routes, and wintering concentrations. Partners developed the first International Black Oystercatcher Conservation Plan.

Cost = \$275,000 SWG dollars

Outcome: Due to the investment in SWG, the species was found to be more stable and abundant than previously thought. It has been removed from the National Audubon Watch List.

Partners: Alaska Department of Fish and Game, U.S. Forest Service, U.S. Fish and Wildlife Service, U.S. Geological Survey, National Park Service, University of Alaska Fairbanks, Oregon State University, Parks Canada, Canadian Wildlife Service, Laskeek Bay Conservation Society in British Columbia

Marbled Murrelet

(Brachyramphus marmoratus)

Status: The population of Marbled Murrelet in Alaska is a federal species of conservation concern.

The population in Oregon, Washington, and California is a federally threatened Distinct Population Segment.

Project Description: SWG was used to develop survey methodology to accurately estimate Marbled Murrelet populations in core regions in southeast Alaska. SWG also was used to conduct an assessment to determine factors affecting reproductive success.

Cost = \$1,365,868 SWG dollars

Outcome: Due to the investment in SWG, the USFWS decided to continue to separate the Alaska population from those in OR, WA, and CA and ruled that listing in Alaska was not warranted. Improved

survey methodology will increase the accuracy of future trend data.

Partners: Alaska Department of Fish and Game, Audubon Alaska, U.S. Fish and Wildlife Service, U.S. Geological Survey, Oregon State University, University of Washington, University of Wisconsin, Wildlife Trust

Prince of Wales Spruce Grouse

(Falciennis canadensis isleibi)



Status: In 2010, the USFWS conducted an assessment to determine the subspecies status and listing needs. It is listed on the Audubon Alaska WatchList as a vulnerable, but not declining, population.

Project Description: SWG was used to confirm taxonomy, collect habitat and life history information, develop and test survey methodology for estimating population size and trend, and collect mortality data including hunter harvest information.

Cost = \$50,364 SWG dollars

Outcome: Due to the investment in SWG, the USFWS determined that the subspecies did not warrant federal listing.

Partners: Alaska Department of Fish and Game, University of Alaska, U.S. Forest Service

Conserving at-risk fish and wildlife in Arizona

Page Springsnail

(*Pyrgulopsis morrisoni*)

Status: In 1989, the Page Springsnail was designated as a candidate species for federal listing, but in 2010, the USFWS used the results of SWG-funded projects to determine that its listing priority rank could be reduced.



Project Description:

SWG was used to develop a Candidate Conservation Agreement with Assurances (CCAA) to aid in the monitoring, protection, and management of the snail.

Cost = \$141,280 SWG dollars

Outcome: Due to the investment in SWG, the snail populations at extant sites were found to be stable and secure, with one site expanding in range, and an extirpated site becoming re-colonized from a nearby population. The USFWS determined that the species is not at risk of becoming endangered and may remove it from the candidate list.

Partners: Arizona Department of Game and Fish, Phoenix Zoo

Bald Eagle

(*Haliaeetus leucocephalus*)

Status: The Bald Eagle was delisted nationally in 2007 but the Arizona desert-nesting eagle population was temporarily listed as a threatened Distinct Population Segment from 2008 through 2010 pending a 12-month review. The small population of desert-nesting eagles continues to be a contentious issue with on-going court battles.

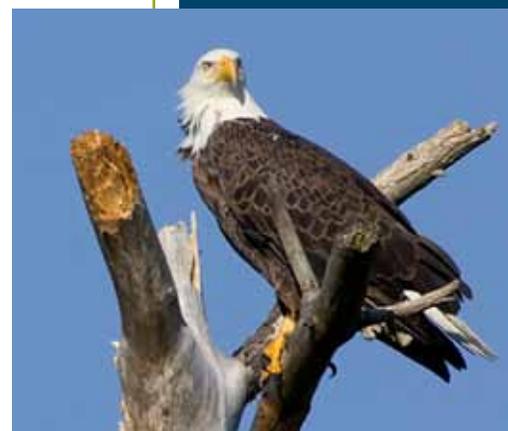
Project Description:

SWG funds are used to help fund the Arizona Bald Eagle Management Program which consists of annual nest searches, occupancy and productivity surveys and the Emergency Eagle Rescue Team.

Cost = \$135,000 SWG dollars annually

Outcome: Due to the investment in SWG, litigants in a court case were persuaded to withdraw their petition for an emergency injunction to re-list the population as threatened. Although the case continues, the SWG-funded Arizona Bald Eagle Management Program provides the USFWS with a strong argument that listing of the Bald Eagle in Arizona is unwarranted.

Partners: The Southwest Bald Eagle Management Committee consists of 25 state, federal, private, and tribal entities dedicated to the conservation of Bald Eagles



SWG funds are used to help fund the Arizona Bald Eagle Management Program which consists of annual nest searches, occupancy and productivity surveys and the Emergency Eagle Rescue Team.



Hualapai Mexican Vole

(*Microtus mexicanus hualpaiensis*)



Status: The Hualapai Mexican Vole is a federally endangered species, but has been petitioned to be removed from the federal list.

Project Description:

SWG was used to continue a species status review that could result in the delisting of the species. Data from previous surveys in areas surrounding the Hualapai Mountains were used to determine distribution and conduct genetic research to document differences of neighboring populations as well as taxonomic concerns to support the delisting.

Cost = \$5,000 SWG dollars

Outcome: Due to the investment in SWG, the vole was found to have a wider distribution than previously thought and is genetically similar to voles surrounding the Hualapai Mountains. Thus, the state petitioned the USFWS to remove the species from the endangered species list.

Partners: Arizona Game and Fish Department

Black-tailed Prairie Dog

(*Cynomys ludovicianus*)

Status: The Black-tailed Prairie Dog has been petitioned to be placed on the endangered species list.

Project Description: SWG was used to reintroduce the prairie dog to southern Arizona where they had been extirpated since the 1950's, thus expanding their distribution and relieving the urgency for a listing action.

Cost = \$50,000 SWG dollars

Outcome: Due to the investment in SWG, three separate colonies were established in order to meet Arizona's required 5,100 occupied acres, as identified in the Multistate Conservation Plan for Black-tailed Prairie Dogs. Efforts are continuing.

Partners: Arizona Game and Fish Department, U.S. Fish and Wildlife Service, Bureau of Land Management, Arizona State Lands, Las Cienegas National Conservation Area, National Wildlife Federation, Sky Island Alliance



SWG was used to continue a species status review that could result in the delisting of the species (Hualapai Mexican Vole). Data from previous surveys in areas surrounding the Hualapai Mountains were used to determine distribution and conduct genetic research to document differences of neighboring populations as well as taxonomic concerns to support the delisting.

Conserving at-risk fish and wildlife in Arkansas

Red-cockaded Woodpecker

(Picoides borealis)

Status: The Red-cockaded Woodpecker is a federally endangered species.

Project Description: SWG was used to restore grassland and open woodland habitat using techniques such as prescribed burns and mechanical thinning treatments on 1375 acres of land. Five pairs of sub-adult woodpeckers were re-introduced to the site in October 2010.

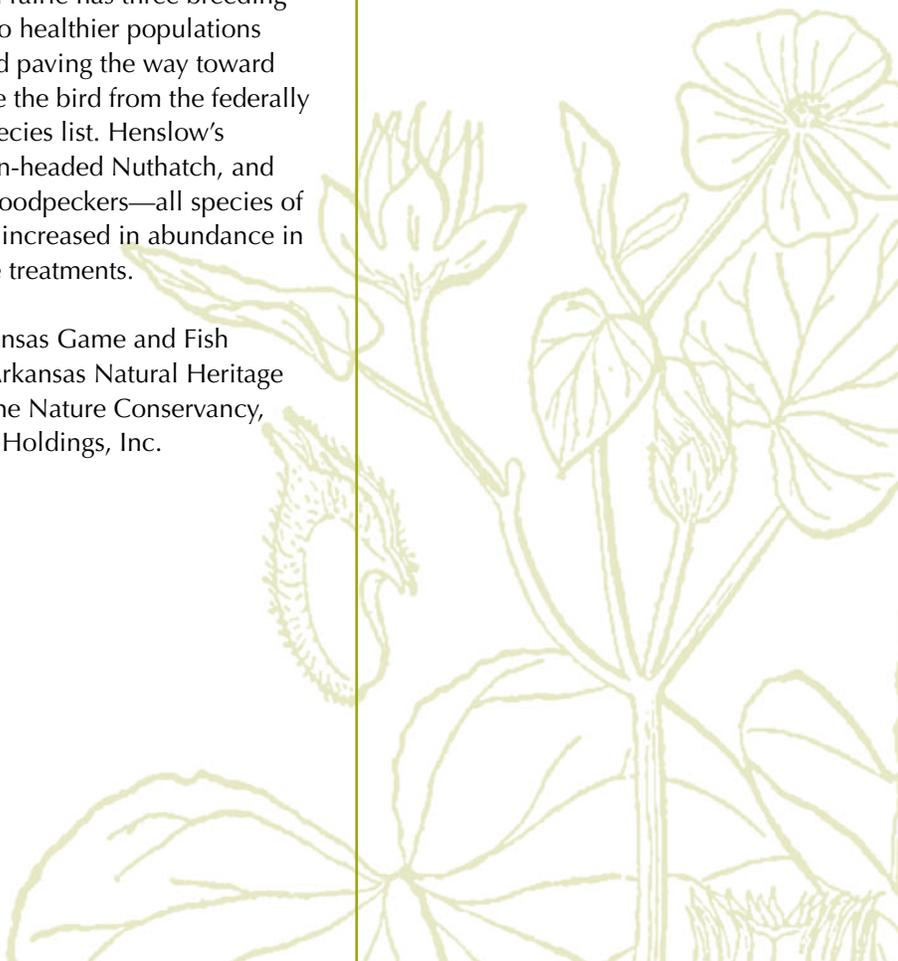
Cost = \$111,930 SWG dollars

Outcome: Due to the investment in SWG, Warren Prairie has three breeding pairs, leading to healthier populations in Arkansas and paving the way toward helping remove the bird from the federally endangered species list. Henslow's Sparrow, Brown-headed Nuthatch, and Red-headed Woodpeckers—all species of concern—also increased in abundance in response to the treatments.

Partners: Arkansas Game and Fish Commission, Arkansas Natural Heritage Commission, the Nature Conservancy, Potlatch Forest Holdings, Inc.



Five pairs of sub-adult woodpeckers were re-introduced to the site in October 2010.



Conserving at-risk fish and wildlife in California

Due to the investment in SWG, the blackbird population is able to be restored, avoiding a costly endangered species listing.

Tri-colored Blackbird

(Agelaius tricolor)

Status: The Tri-colored Blackbird is a species of greatest conservation need in the California Wildlife Action Plan. California is home to 99% of the world's population, which has dropped drastically in the last 60 years.

Project Description: SWG was used to conserve native wetland habitat. In the absence of these wetlands, the birds commonly nest in silage fields, ditches, and dairy farms, which is a serious risk when fields are ready for harvest and young birds cannot yet fly.

Cost = \$167,000 SWG dollars

Outcome: Due to the investment in SWG, the blackbird population is able to be restored, avoiding a costly endangered species listing.

Partners: California Department of Fish and Game, Audubon California, California Farm Bureau, California Cattlemen's Association, Pacific Gas and Electric Company, University of California



Conserving at-risk fish and wildlife in Colorado

Gunnison's Sage-Grouse

(Centrocercus minimus)

Status: The Gunnison's Sage-grouse is a federal candidate species with a listing priority of "2." A decision on listing is expected in FY12.

Project Description: SWG funds are used to implement strategies to maintain a viable population in the Gunnison Basin and restore satellite populations. Over 30,000 acres of critical habitat are protected range-wide through conservation easements, fee title purchases, and Candidate Conservation Agreement with Assurances.

Cost = \$2,732,719 SWG dollars

Outcome: Due to the investment in SWG, nearly 69% of occupied Gunnison Sage-grouse habitat now has some level of protection from development.

Partners: Colorado Division of Wildlife, The Nature Conservancy, Crested Butte Land Trust, Colorado Open Lands, Mesa Land Trust, Gunnison Ranchland Conservation Legacy, Colorado Cattleman's Association, Black Canyon Land Trust



Due to the investment in SWG, nearly 69% of occupied Gunnison Sage-grouse habitat now has some level of protection from development.

Conserving at-risk fish and wildlife in Connecticut

Due to the investment in SWG, the rabbit was found to be more widespread and abundant in Connecticut than previously thought, providing the first detailed picture of its status in New England and providing information on habitat preferences critical to management efforts.

New England Cottontail

(Sylvilagus transitionalis)

Status: The New England Cottontail was designated as a candidate for federal listing in 2006. The USFWS used the results of SWG-funded projects to evaluate the species status to determine if it warrants federal listing and states within its range have used SWG to enhance remaining habitat for this species in an effort to prevent listing.

Project Description: SWG funds were used to conduct surveys to determine distribution and relative abundance, research its life history and interactions with Eastern Cottontails, evaluate habitat features key to survival of the species, and to enhance habitat in an effort to increase populations.

Outcome: Due to the investment in SWG, the rabbit was found to be more widespread and abundant in Connecticut than previously thought, providing the first detailed picture of its status in New England and providing information on habitat preferences critical to management efforts. The species listing has been delayed while habitat management efforts seek to stabilize populations, saving taxpayer dollars and avoiding complicated reviews that could negatively impact local municipalities and private landowners.

Partners: Connecticut Department of Energy and Environmental Protection, USDA-Natural Resources Conservation Service, University of New Hampshire, Wildlife Management Institute, private landowners



Conserving at-risk fish and wildlife in Delaware

Little Brown Bat

(Myotis lucifugus)

Big Brown Bat

(Eptesicus fuscus)

Status: Both species were once very common in the northeast but are threatened by a disease named White-nose Syndrome (WNS). Population status reviews are being conducted by the USFWS.

Project Description: SWG was used to monitor maternity bat colonies for population changes and for conservation. SWG was also used to start a bat box project to supply bat boxes for use in conjunction with bat exclusions.

Cost = \$29,673 SWG dollars

Outcome: Due to the investment in SWG, the spread of WNS has been slowed in Delaware. 65 bat colonies have been documented and monitored for signs of disease to protect the bat from extinction. Boy scouts have distributed bat boxes to homeowners who have bats in their attics or chimneys to be used in conjunction with bat exclusions to provide alternate roost sites, thereby protecting the colonies and safeguarding humans.

Partners: Delaware Division of Fish and Wildlife, Boy Scouts



Boy scouts have distributed bat boxes to homeowners who have bats in their attics or chimneys to be used in conjunction with bat exclusions to provide alternate roost sites for the bats, thereby protecting the colonies and safeguarding humans.

Conserving at-risk fish and wildlife in the District of Columbia

Due to the investment in SWG, a substantial number of species of greatest conservation need were protected from mortality due to urban development.



MN DNR, Carol Hall

Spotted Salamander

(Ambystoma maculatum)

Eastern Box Turtle

(Terrapene carolina carolina)

Red-spotted Newt

(Notophthalmus viridescens)

Status: The Spotted Salamander, Red-spotted Newt, and Eastern Box Turtle are listed as species of greatest conservation need in the District of Columbia.

Project Description: SWG was used to translocate adult Spotted Salamanders and their eggs masses, Red-spotted Newts, and Eastern Box Turtles from in and around a pond that was set for development. The turtles were fitted with radio-transmitters to monitor whether they remain in the protected area and survive.

Cost = \$6,265 SWG dollars

Outcome: Due to the investment in SWG, a substantial number of species of greatest conservation need were protected from mortality due to urban development.

Partners: District Department of the Environment Fisheries and Wildlife Division, several agency volunteers, Environmental Systems Analysis, Inc.

Conserving at-risk fish and wildlife in Florida

Gopher Frog

(Lithobates Capito)

Status: The Gopher Frog is a state species of special concern. Based on IUCN Red List criteria and the results of SWG-funded surveys, the frog was recommended to not be state listed.

Project Description: SWG was used to conduct surveys on population status and habitat.



Cost = \$31,583 SWG dollars

Outcome: Due to the investment in SWG, 83 previously unknown breeding ponds were identified. This new status information was used in the decision not to state list the species and prevented the petitioning of the USFWS to list the frog as threatened range-wide.

Partners: Florida Fish and Wildlife Conservation Commission, Florida Department of Environmental Protection, Florida Division of Forestry, U.S. Fish and Wildlife Service, U.S. Geological Service, U.S. Forest Service, Polk County, Seminole County, Water Management Districts, Central Florida Zoo, The Orianne Society, Coastal Plains Institute, Bok Tower Gardens, University of Florida, Florida State University, University of Central Florida, volunteers

Due to the investment in SWG, 83 previously unknown breeding ponds were identified.

Conserving at-risk fish and wildlife in Georgia

Due to the investment in SWG, the new information was used by the National Marine Fisheries Service in February 2011 to determine that federal endangered species listing is not warranted.

Alabama Shad

(*Alosa alabamae*)

Status: The anadromous Alabama Shad was listed as a candidate for federally endangered listing in 1997. In April 2010, it was petitioned for federal listing.

Project Description: SWG funds were used to conduct telemetry studies to evaluate movements through navigation locks and estimate population size. This provided the foundation for research to evaluate the current status of Alabama Shad and the development of management strategies to improve fish passage and access to spawning grounds in the Apalachicola-Chattahoochee-Flint system.



Cost = \$36,000 SWG dollars

Outcome: Due to the investment in SWG, the new information was used by the National Marine Fisheries Service in February 2011 to determine that federal endangered species listing is not warranted.

Partners: Georgia Department of Natural Resources, Wildlife Resources Division

Gopher Tortoise

(*Gopherus polyphemus*)

Bachman's Sparrow

(*Peucaea aestivalis*)

Status: The Gopher Tortoise is a state threatened species and the Bachman's Sparrow is a federal species of concern.

Project Description:

SWG funds are being used to restore 52,000 acres of sandhills habitat by 2014 using methods such as prescribed burns and planting longleaf pines. Gopher Tortoise monitoring is being expanded.

Cost = \$981,000 SWG dollars for Phase II of the project

Outcome: The SWG-funded project is improving habitat used by tortoises and breeding birds. Gopher Tortoises are slow-reproducing species so population changes will take years but should help prevent endangered species listing.

Partners: Georgia Department of Natural Resources, Georgia, Alabama, Florida, Louisiana and Mississippi state wildlife agencies, The Nature Conservancy, Georgia Power, The Orianna Society, US Fish and Wildlife Service, Gopher Tortoise Council, Joseph W. Jones Ecological Research Center at Ichauway, Fort Gordon, private landowners



Conserving at-risk fish and wildlife in Hawaii

Oahu Elepaio

(Chasiempis ibidis)

Status: The Oahu Elepaio is a federally endangered and state endangered species endemic to Oahu.

Project Description: Since 2005, SWG funds have been used to monitor population demography and control rodents and mongoose. Birds were banded, nests were located and monitored, and predator control was deployed.

Cost = \$105,000 SWG dollars

Outcome: Since 2005, the number of territories has increased annually and 87 fledglings were produced. Although this may seem like a small number of birds, elepaio are long-lived and 87 likely represents well over 5% of the species' current population. The monitoring increased what is known about the species and contributed to improving management.

Partners: Hawai'i Department of Land and Natural Resources

Hawaiian Petrel

(Pterodroma sandwichensis)

Status: The Hawaiian Petrel is a federally and state endangered species.

Project Description: Since July 2005, SWG funds have been used to assess the size and extent of the colony, identify and mitigate for threats to the birds, collect reproductive data, control feral cats, and map and control alien vegetation.

Cost = \$557,500 SWG dollars

Outcome: Since 2005, 75,947 trap nights have resulted in the removal of 84 cats from the colony. Although this appears to be a relatively low capture rate, evidence suggests that feral cats move into seabird breeding colonies when birds arrive. Thus a relatively small number of cats could kill a large number of petrels during each breeding season. Annual surveys indicate a breeding population exceeding 2,000 birds, suggesting that this colony provides breeding habitat for a large percentage of the world's Hawaiian Petrel population.

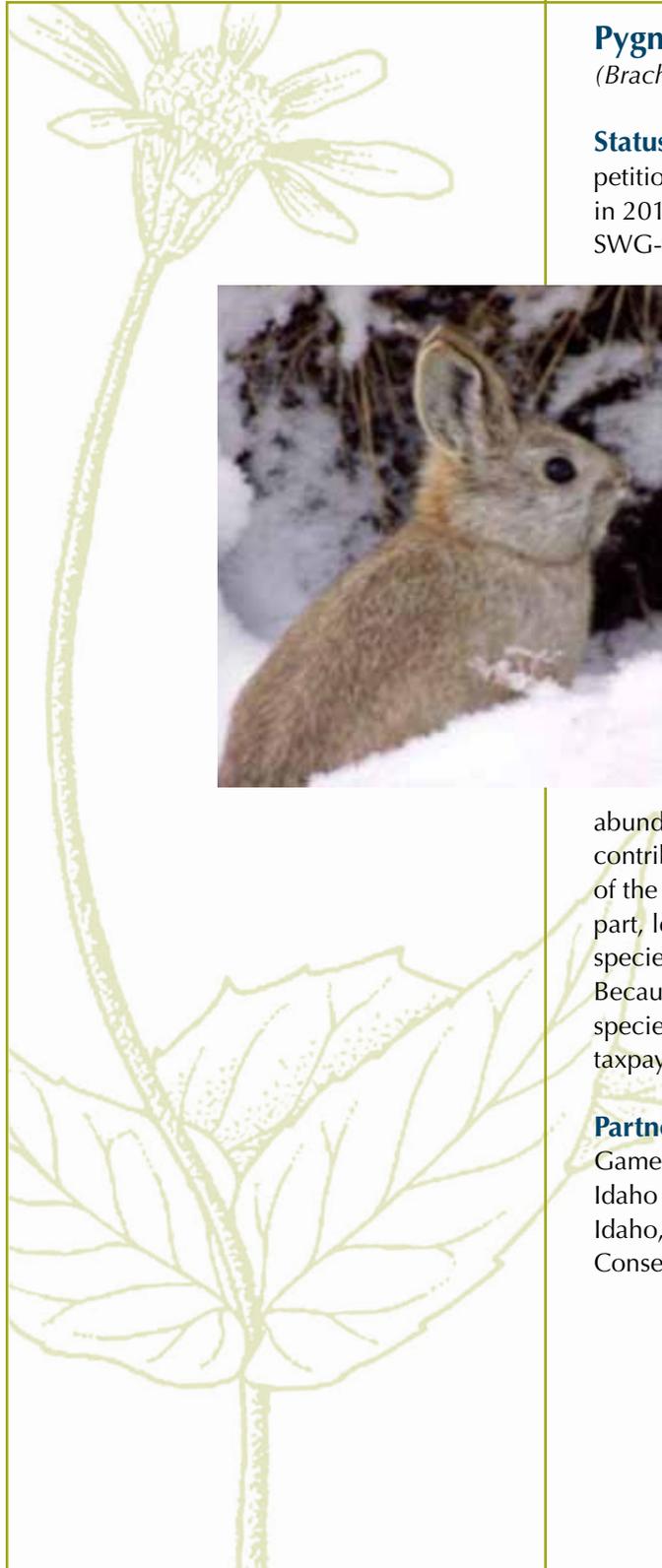
Partners: Hawai'i Department of Land and Natural Resources, University of Hawaii at , Tri-Isle Resource Conservation & Development, Hawaii Office of Hawaiian Affairs, Maui County



Since 2005, 75,947 trap nights have resulted in the removal of 84 cats from the colony. Although this appears to be a relatively low capture rate, evidence suggests that feral cats move into seabird breeding colonies when birds arrive.

Conserving at-risk fish and wildlife in Idaho

SWG-funded surveys found that the rabbit was more widespread and abundant than previously thought. SWG contributed to the first complete picture of the status of the species, which, in part, led the USFWS to determine that the species does not warrant federal listing.



Pygmy Rabbit

(Brachyiaqus idahoensis)

Status: In 2003, the Pygmy Rabbit was petitioned for listing under the ESA but in 2010, the USFWS used the results of SWG-funded projects to determine that the species does not warrant federal listing.

Project Description: SWG was used to fund surveys to determine the distribution and relative abundance of the rabbit, and research the life history and population genetics of the rabbit.

Cost = \$45,522 SWG dollars

Outcome: SWG-funded surveys found that the rabbit was more widespread and abundant than previously thought. SWG contributed to the first complete picture of the status of the species, which, in part, led the USFWS to determine that the species does not warrant federal listing. Because of the investment in SWG, a species was kept off of the ESA, saving taxpayer money.

Partners: Idaho Department of Fish and Game, Bureau of Land Management, Idaho National Laboratory, University of Idaho, Boise State University, Wildlife Conservation Society

Conserving at-risk fish and wildlife in Illinois

Harlequin Darter

(Etheostoma histrio)

Eastern Sand Darter

(Ammocrypta pellucida)

Status: The Harlequin Darter is a state endangered species and the Eastern Sand Darter is a state threatened species.

Project Description: SWG was used to survey population size, density, and current range of the species.



Cost = \$94,000 SWG dollars

Outcome: Because of the SWG-funded project, these species were found to be more abundant.

Partners: Illinois Department of Natural Resources

Barn Owl

(Tyto alba)

Status: The Barn Owl is a state endangered species.

Project Description: SWG was used to place and monitor nest boxes, and protect and manage grassland habitat.

Cost = \$46,000 SWG dollars

Outcome: Because of the SWG-funded project, the Illinois Barn Owl Recovery Plan was completed in 2010. Continued monitoring may determine that the owl is sufficiently abundant to warrant a status review. There are some indications that Barn Owl populations in the Midwest are slightly expanding.

Partners: Illinois Department of Natural Resources



Because of the SWG-funded project, the Illinois Barn Owl Recovery Plan was completed in 2010. Continued monitoring may determine that the owl is sufficiently abundant to warrant a status review.

Conserving at-risk fish and wildlife in Indiana

The SWG project made significant progress towards the recovery of woodrat, which will help keep it off the federal list. Subpopulation genetic diversity dramatically increased at sites receiving the out-of-state woodrats.

Allegheny Woodrat

(Neotoma magister)

Status: The Allegheny Woodrat is a state endangered species, is declining throughout its range, and a likely future addition to the federal list.

Project Description: SWG was used to investigate possible mechanisms to recover the woodrat in Indiana. Two causes proposed to contribute to this decline are raccoon roundworm and loss of genetic diversity in the increasingly small isolated populations. To increase the genetic diversity, 68 woodrats were captured from sites in Kentucky and Tennessee, and released into selected sites in Indiana, some of which were treated with deworming baits.

Cost = \$254,185 SWG dollars (\$584,748 total)

Outcome: The SWG project made significant progress towards the recovery of woodrat, which will help keep it off the federal list. Subpopulation genetic diversity dramatically increased at sites receiving the out-of-state woodrats. The deworming treatment significantly reduced available roundworm eggs.

Partners: Indiana Department of Natural Resources, Purdue University, Indiana Chapter of the Nature Conservancy



Joe Kosack/PGC



Conserving at-risk fish and wildlife in Iowa

Bobolink

(Dolichonyx oryzivorus)

Dickcissel

(Spiza americana)

Status: The Bobolink and Dickcissel are federal birds of conservation concern and could become candidates for federal listing in the future.

Project Description: SWG was used to conduct grassland bird surveys on restored grassland habitat. Comparisons were made between population densities found in cool versus warm season plantings. The results of that study are helping inform management decisions for grassland species.

Cost = \$155,419 SWG dollars

Outcome: The SWG-funded surveys provided managers the information they need to determine the most effective management practices to help prevent the species from becoming candidates for federal listing.

Partners: Iowa Department of Natural Resources, U.S. Geological Survey Iowa Cooperative Fish and Wildlife Research Unit, U.S. Fish and Wildlife Service, Iowa State University



Bobolink

Comparisons were made between population densities found in cool versus warm season plantings. The results of that study are helping inform management decisions for grassland species.



Conserving at-risk fish and wildlife in Kansas

In addition to other programs designed to improve grasslands for chick survival, the SWG project should help in the design of more favorable regulatory conditions through the current rule-making process.

Lesser Prairie Chicken

(Tymppanuchus pallidicinctus)

Status: The Lesser Prairie Chicken is listed as a federally warranted but precluded species currently under a rule making by the USFWS. It was reviewed for state threatened status last year but was not listed due to its recent stable population status.

Project Description: This Private Lands-focus project, started in 2009, is used to improve habitat for Lesser Prairie Chicken in the Red Hills region. Start-up funds on six approved projects totaled \$181,127 and involved 3,667 acres. Two subsequent application periods have resulted in an additional nine projects at \$180,585 and 3,260 acres. The project will continue for 2 more years.

Cost = \$361,712 SWG dollars

Outcome: In addition to other programs designed to improve grasslands for chick survival, the SWG project should help in the design of more favorable regulatory conditions through the current rule-making process.

Partners: Kansas Department of Wildlife, Parks and Tourism, numerous Red Hills landowners



Conserving at-risk fish and wildlife in Kentucky

Northern Madtom

(*Noturus stigmosus*),

Fanshell mussels

(*Cyprogenia stegaria*), and other mussel and fish SGCN

Status: Kentucky has 20 federally listed mussel species and 46 mussel species of greatest conservation need (SGCN).

Project Description: SWG funds were used to improve fish and mussel passage in a top tier mussel conservation area.

Cost = \$40,000 SWG dollars

Outcome: Within 12 months of project onset, a low-water ford was replaced with a bridge to restore the original flow of West Creek and facilitate mussel and fish passage. Fish and mussel communities now have one less barrier within this priority watershed. Monitoring of fish and mussels will continue at this site for several years to come.

Partners: Kentucky Department of Natural Resources, Harrison County, Judge Executive, The Nature Conservancy



Henslow's Sparrow

(*Ammodramus henslowii*)

Bobwhite Quail

(*Colinus virginianus*),

Grasshopper Sparrow

(*Ammodramus savannarum*)

Prairie Warbler

(*Dendroica discolor*)



Bobwhite Quail

Status: Natural grasslands in Kentucky have been reduced to less than 1% of their historic range. Grassland-dependent birds such as Bobwhite Quail, Henslow's Sparrows, and Grasshopper Sparrows have suffered severe declines nationwide.

Project Description: SWG funding was used to establish a team tasked with prairie and glade restoration in Kentucky. The team eradicated invasive species and implemented restoration practices within Grassland Bird Priority Conservation Areas.

Cost = \$67,384 SWG dollars

Outcome: The team completed restoration efforts within six sites on Mammoth Cave National Park and within three Nature Preserves. Their efforts resulted in habitat improvements for Henslow's Sparrows, Bobwhite Quail, and other grassland-dependent species.

Partners: Kentucky Department of Fish and Wildlife Resources, The Student Conservation Association, Mammoth Cave National Park, Kentucky State Nature Preserves Commission, Kentucky Exotic Pest Plant Council

The team completed restoration efforts within six sites on Mammoth Cave National Park and within three Nature Preserves. Their efforts resulted in habitat improvements for Henslow's Sparrows, Bobwhite Quail, and other grassland-dependent species.

Conserving at-risk fish and wildlife in Louisiana

This project is intended to lead to a self-sustaining sub-population, which is one of the criteria for downlisting in the Whooping Crane Recovery Plan.



Whooping Crane

(Grus americana)

Status: The Whooping Crane is a federally endangered species, with a current population size of around 550 individuals. Historically, Louisiana supported both resident and wintering populations.

Project Description: SWG funding was used to conduct a habitat evaluation at White Lake Wetlands Conservation Area, which found that suitable foraging and nesting habitat is present. SWG is now being used to establish a resident population of cranes in southwest Louisiana.

Cost = \$356,000 SWG dollars

Outcome: 10 Whooping Cranes were translocated to White Lake Wetlands Conservation Area in 2011, and have responded well. Additional releases are planned for 2012 and 2013. This project is intended to lead to a self-sustaining sub-population, which is one of the criteria for downlisting in the Whooping Crane Recovery Plan.

Partners: Louisiana Department of Wildlife and Fisheries, Louisiana State University School of Renewable Natural Resources, Louisiana State University Veterinary School, Louisiana Wildlife and Fisheries Foundation, Wildlife Conservation Society, U.S. Geological Survey, U.S. Fish and Wildlife Service



Louisiana Black Bear

(Ursus americanus luteolus)

Status: The Louisiana Black Bear is a federally threatened subspecies that has a disjunct range in Louisiana, with 3 principal sub-populations.

Project Description: SWG was used to fund five projects that have focused on reducing human conflicts with bears, reforesting former bear habitat to enhance corridors between sub-populations, estimating population growth rates, performing population viability analyses of sub-populations, and translocating bears to the Red River Complex to create an additional sub-population.

Cost = \$642,000 SWG dollars

Outcome: The SWG-funded project is helping achieve the criteria for de-listing the species as defined in the Black Bear Recovery Plan. To provide connectivity between sub-populations, 92,000 hardwood seedlings were planted on 800 acres of former bear habitat. To estimate population growth rate and analyze population viability, over 23,000 hair samples have been collected for genetic analysis and population size estimation. Over 500 bear/human conflict calls have been addressed by technical assistance, trapping, or relocating the bear, which has helped to decrease the number of bears illegally killed.

Partners: Louisiana Department of Wildlife and Fisheries, University of Tennessee, Black Bear Conservation Committee, St. Mary Parish, SweetDee Waste Disposal, the City of Patterson, LA.

Conserving at-risk fish and wildlife in Maine

Bald Eagle

(*Haliaeetus leucocephalus*)

Status: The Bald Eagle was listed as endangered in Maine in 1978, reclassified as a threatened species in 1995, and removed from Maine's list of Endangered and Threatened Species in 2009.

Project Description: SWG was used to help devise statewide strategies and identify optimal sites for long-term conservation of bald eagle nesting habitat as the fundamental safeguard for a lasting recovery of the species in Maine. This "safety net" concept was the last pending objective for state reclassification of bald eagles and was critical to removing bald

eagles from Maine's list of Endangered and Threatened Species in 2009.

Outcome: The bald eagle, a species once on the brink of extinction in Maine, is off the endangered species list and is now common throughout much of the state numbering more than 500 nesting pairs - the largest population of bald eagles in the Northeast.

Partners: Maine Department of Inland Fisheries and Wildlife, Maine Department of Conservation Bureau of Parks and Land, U.S. Fish and Wildlife Service, Acadia National Park, The Nature Conservancy, Maine Coast Heritage Trust, many local land trusts



The bald eagle, a species once on the brink of extinction in Maine, is off the endangered species list and is now common throughout much of the state numbering more than 500 nesting pairs - the largest population of bald eagles in the Northeast.

Conserving at-risk fish and wildlife in Maryland

Targeted populations have more than doubled in size and are now at carrying capacity in each wetland.

In addition, the species has expanded into other wetlands restored for two other rare or endangered amphibians using SWG funding, with one new population of the Barking Tree Frog becoming the largest in the state.

Barking Tree Frog

(Hyla gratiosa)

Status: The Barking Tree Frog is a state endangered species.

Project Description: SWG allowed the restoration of non-tidal freshwater wetlands supporting the few remaining individuals of this endangered amphibian as well as wetlands known to support it in the past.

Cost = \$40,000 SWG dollars

Outcome: Targeted populations have more than doubled in size and are now at carrying capacity in each wetland. In addition, the species has expanded into other wetlands restored for two other rare or endangered amphibians using SWG funding, with one new population of the Barking Tree Frog becoming the largest in the state. Furthermore, SWG created jobs for five local workers during the five-year project period.

Partners: Maryland Department of the Environment, U.S. Fish and Wildlife Service, Maryland Park Service, The Nature Conservancy, Delaware Nature Society



Conserving at-risk fish and wildlife in Massachusetts

Imperial Moth

(Eacles imperialis)

Status: The Imperial Moth is a state threatened species and is regionally (New England) threatened.

Project Description: SWG was used to help develop *BioMap2*, which identifies habitat and landscape essential to safeguarding the species identified by the state wildlife action plan and partners. For example, Pitch Pine forest was delineated as a prime habitat for the Imperial Moth, which feeds on Pitch Pine needles as a caterpillar.

Outcome: One outcome of this SWG-funded project is that the habitat of the state threatened moth will receive focused protection to ensure its long-term persistence, thus helping to prevent a state endangered listing.

Partners: Massachusetts Department of Fish and Game, The Nature Conservancy

One outcome of this SWG-funded project is that the habitat of the state threatened moth will receive focused protection to ensure its long-term persistence, thus helping to prevent a state endangered listing.



Conserving at-risk fish and wildlife in Michigan

An MOU between key agencies was signed in May to continue on-the-ground habitat management for this species after de-listing. However, this agreement is fully dependent upon funding, and currently SWG funding is one of the few sources that are appropriate.



Kirtland's Warbler

(*Dendroica kirtlandii*)

Status: The Kirtland's Warbler is the rarest warbler in North America and was one of the first species to be put on the federally endangered list. The population recently met recovery goals, and agencies are drafting a post-delisting conservation plan.

Project Description: SWG funding has been crucial. This bird is dependent on habitat management, and the current recovered population is a direct result of past habitat management, which has also supported commercial timber harvest of Jack Pine.

Cost = \$1,828,023 SWG

Outcome: As a direct result of this management, the Kirtland's warbler has reached its recovery goals. Secure funding is the only barrier to delisting. An MOU between key agencies was signed in May to continue on-the-ground

habitat management for this species after de-listing. However, this agreement is fully dependent upon funding, and currently SWG funding is one of the few sources that are appropriate.

Partners: Michigan Department of Natural Resources, U.S. Fish and Wildlife Service, U.S. Forest Service, National Fish and Wildlife Foundation, The Nature Conservancy

Eastern Massasauga Rattlesnake

(*Sistrurus catenatus catenatus*)

Status: The Eastern Massasauga Rattlesnake is a federal candidate species.

Project Description: SWG funding was used for habitat management and research for this snake, as well as research to better understand the species needs and population status. The Michigan Department of Natural Resources and partners are currently working on a Candidate Conservation Agreement with Assurances (CCAA).

Cost = \$260,078 SWG dollars

Outcome: With continued SWG funding, the CCAA can be completed and habitat management can continue. Because the CCAA covers most of the remaining populations of this rattlesnake, it could address threats to this species and preclude the need to list it as a federally endangered species.

Partners: Michigan Department of Natural Resources, U.S. Fish and Wildlife Service



Conserving at-risk fish and wildlife in Minnesota

Blanding's Turtle

(Emys blandingii)



Status: The Blanding's Turtle is a state-threatened species.

Project Description: SWG was used to monitor habitat use within and adjacent to parks that are known to support populations but haven't experienced recruitment into the populations. Management plans were developed and implemented to improve habitat, reduce road mortality, and entice turtles to stay within the parks. Captive-reared turtles are released to augment wild populations.

Cost = \$43,412 SWG dollars

Outcome: Due to SWG-funded projects, the turtle population is expected to increase, helping lead to downlisting on the state list and prevent federal listing.

Partners: Minnesota Department of Natural Resources, Three Rivers Park District

Uncas Skipper

(Hesperia uncas)

Status: The Uncas Skipper is a state-endangered species.

Project Description: SWG was used to identify habitat patches with concentrations of rare species, such as the Uncas Skipper.



Outcome: Due to SWG-funded projects, managers now understand more about one of Minnesota's two sites for the skipper, helping to better manage the area and helping to lead to downlisting on the state list.

Cost = \$56,400 SWG dollars

Partners: Minnesota Department of Natural Resources, U.S. Fish and Wildlife Service

Due to SWG-funded projects, managers now understand more about one of Minnesota's two sites for the skipper, helping to better manage the area and helping to lead to downlisting on the state list.



The SWG project resulted in the discovery of new colonies of the Henslow's Sparrow and revealed that historic populations appear to be recovering, leading the agency to determine that endangered status is no longer necessary.

Henslow's Sparrow

(Ammodramus henslowii)

Status: The Henslow's Sparrow is a state endangered species. Minnesota is proposing to downlist the bird to threatened as a result of information from SWG-funded surveys.

Project Description: SWG was used to conduct surveys that documented breeding activity at 25 sites within 10 counties from 2006 to 2009.

Outcome: The SWG project resulted in the discovery of new colonies of the Henslow's Sparrow and revealed that historic populations appear to be recovering, leading the agency to determine that endangered status is no longer necessary.

Partners: Minnesota Department of Natural Resources

Wartyback Mussel

(Quadrula nodulata)

Round Pigtoe Mussel

(Pleurobema coccineum),

Hickorynut Mussel

(Obovaria olivaria)

Status: The Wartyback Mussel is a state endangered species; the Round Pigtoe Mussel is a state threatened species; and, the Hickorynut Mussel is a state species of special concern. Minnesota is proposing to downlist each mussel as a result of information from SWG-funded surveys.

Project Description: Starting in 1999, SWG was used to conduct a 10-year statewide mussel survey that resulted in a better understanding of each mussel's ecology and current status in Minnesota.

Outcome: The SWG project found that each mussel has larger populations and distribution than previously thought, leading the agency to determine that endangered status is no longer necessary.

Partners: Minnesota Department of Natural Resources



Conserving at-risk fish and wildlife in Mississippi

SWG is being used to collect baseline status information on coastal Alligator Gar.

Alligator Gar

(Atractosteus spatula)

Status: Once abundant in southern Mississippi, the Alligator Gar population has dwindled, making it extremely rare in the Mississippi Delta and possibly along the Gulf Coast.

Project Description: SWG is being used to collect baseline status information on coastal Alligator Gar.

Outcome: The SWG-funded research is essential to making effective management decisions and informing proactive conservation measures to conserve the gar for future generations.

Partners: Mississippi Department of Wildlife, Fisheries, and Parks



Conserving at-risk fish and wildlife in Missouri

Sexing the fish is critical because females only spawn once every two or three years and therefore need to be kept in the hatchery longer than the males. The rivers have been stocked with fish, which recently resulted in fish mature enough to serve as brood fish.

Lake Sturgeon

(Acipenser fulvescens)

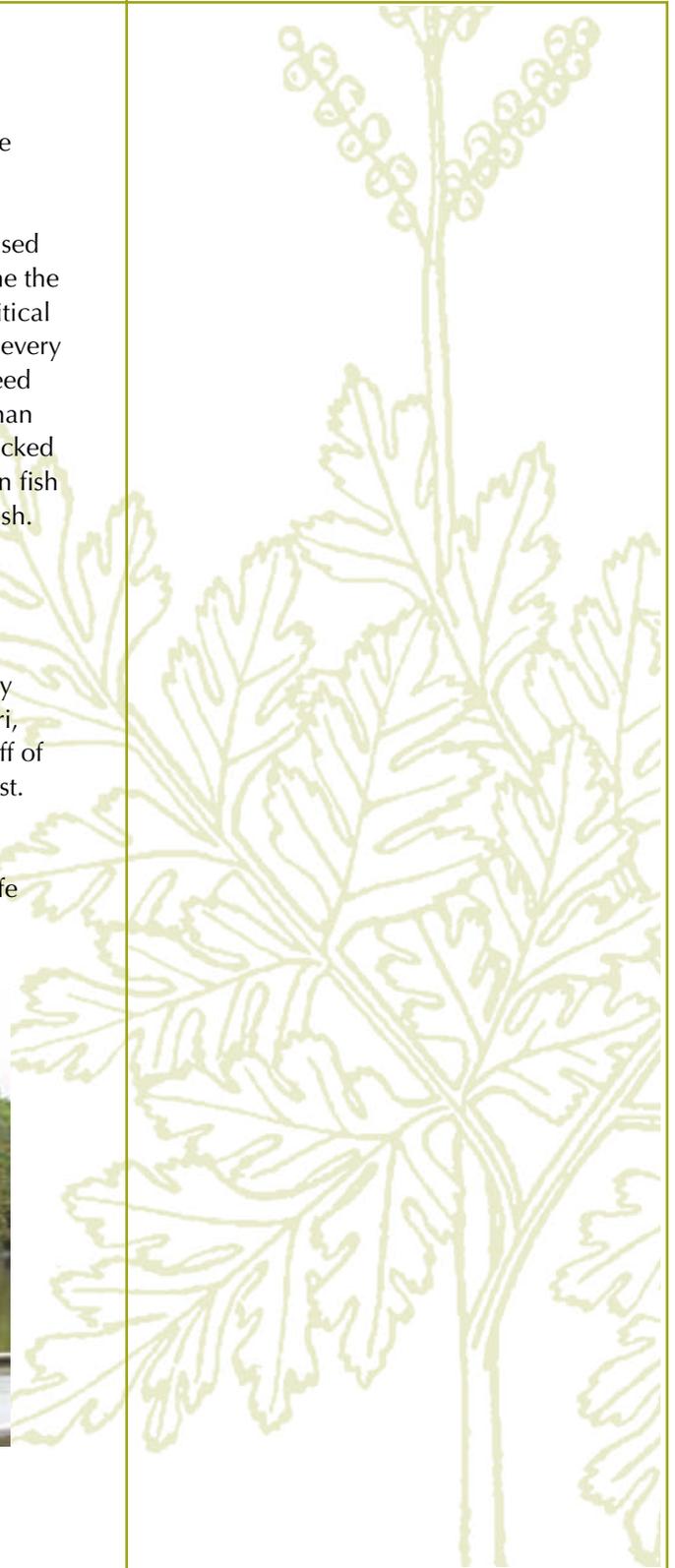
Status: The Lake Sturgeon is a state endangered species.

Project Description: SWG was used to develop a blood test to determine the sex of the fish. Sexing the fish is critical because females only spawn once every two or three years and therefore need to be kept in the hatchery longer than the males. The rivers have been stocked with fish, which recently resulted in fish mature enough to serve as brood fish.

Cost = \$230,000 SWG dollars

Outcome: Using SWG funds, a propagation program is successfully restoring the population in Missouri, thereby helping keep the species off of the federally endangered species list.

Partners: Missouri Department of Conservation, U.S. Fish and Wildlife Service, U.S. Geological Survey



Conserving at-risk fish and wildlife in Montana

Northern Leopard Frog

(Rana Pipiens)

Status: The eastern Montana population of the Northern Leopard Frog was state-listed as S3 (Potentially at Risk) but downgraded to S4 (Common, widespread, and abundant) in 2009.

Project Description: SWG was used to survey suitable habitat in eastern Montana.

Cost = \$300,000 SWG dollars

Outcome: Because of the SWG-funded project, widespread occupancy of the frog in eastern Montana was documented, warranting the species to be downgraded in status. The USFWS was petitioned to list the species as threatened but information from this SWG-funded project may lead to the USFWS determining that the species does not warrant federal listing.

Partners: Montana Department of Fish, Wildlife, and Parks, Montana Natural Heritage Program

Arctic Grayling

(Thymallus arcticus)

Status: The Upper Missouri River Basin Distinct Population Segment of Arctic Grayling is listed as a candidate species by USFWS and is a state species of concern. In 2010, the USFWS determined that the population warranted listing as threatened or endangered, but were precluded by the needs to complete listing actions of higher priority.

Project Description: The Fluvial Arctic Grayling Restoration Project facilitated work with private landowners to conserve the grayling and reestablish populations of grayling in formerly occupied habitats. The Montana Aquatic Project has facilitated conservation projects in collaboration with 33 landowners on about 160,000 acres which were enrolled in a Candidate Conservation Agreement with Assurances (CCAA) program. This is an agreement between the USFWS and non-federal property owners who voluntarily agree to manage their lands or waters to remove threats to species at risk of becoming listed. They receive assurances against additional regulatory requirements should that species be subsequently listed.

Cost = \$1,868,000 SWG dollars

Outcome: Annual monitoring efforts show that grayling numbers are stable to increasing in the Big Hole River. Reintroduction efforts have been successful in the upper Ruby River with natural reproduction occurring.

Partners: Montana Fish, Wildlife & Parks, U.S. Fish and Wildlife Service Partners Program, USDA Natural Resources Conservation Service, Montana Department of Natural Resources and Conservation, Big Hole Watershed Committee, Arctic Grayling Recovery Program, Big Hole River Foundation, Montana State University, private landowners



Annual monitoring efforts show that grayling numbers are stable to increasing in the Big Hole River. Reintroduction efforts have been successful in the upper Ruby River with natural reproduction occurring.

Conserving at-risk fish and wildlife in Nebraska

Because of the SWG-funded survey, it is estimated that there are 200-400 nesting birds in the state. Only two breeding pairs were known in 2000.



Photo by Bart Bly, Rocky Mountain Bird Observatory

Mountain Plover

(Charadrius montanus)

Status: The Mountain Plover was proposed for federal listing in 1999 and 2010. In 2011, USFWS determined that the bird does not warrant federal listing throughout all or a significant portion of its range.

Project Description: SWG was used to conduct research on the distribution, habitat use, and chick survival using private agricultural fields in southwest Nebraska. SWG was also used to establish a cooperative landowner nest avoidance program and use adaptive management to evaluate its effectiveness and adjust management.

Cost = \$377,590 SWG dollars

Outcome: Because of the SWG-funded survey, it is estimated that there are 200-400 nesting birds in the state. Only two breeding pairs were known in 2000. The investment of SWG contributed to the decision to preclude federal listing. Private landowners are now actively contributing to the conservation of this species.

Partners: Nebraska Game and Parks Commission, Rocky Mountain Bird Observatory, private landowners

Conserving at-risk fish and wildlife in Nevada

American Pika

(Ochotona princeps)

Status: In 2007, the American Pika was petitioned for listing under the ESA, but in 2009 the USFWS determined that listing for the pika was not warranted, due in part to SWG-funded projects.

Project Description: SWG was used to fund inventory surveys to determine the distribution of the pika and for research on genetics and temperature tolerance of the pika.

Cost = \$25,477 SWG dollars

Outcome: SWG-funded projects in Nevada have expanded the known range of this species and documented previously unknown populations, which helped to determine that the species does not warrant federal listing. SWG funds have contributed knowledge to the distribution of American Pika, which has resulted in a lower risk of the species being listed under the ESA.

Partners: Nevada Department of Wildlife, USFWS (Sheldon National Wildlife Refuge), Great Basin College, Friends of Nevada Wilderness, University of Nevada Reno, Oregon State University, U.S. Geological Survey, Nevada Muleys, Nevada Bighorns Unlimited



Peregrine Falcon

(Falco peregrinus)

Bald Eagle

(Haliaeetus leucocephalus)

Status: The Peregrine Falcon and Bald Eagle are Nevada State Endangered.

Project Description: SWG was used to monitor the Peregrine Falcon and wintering Bald Eagles.

Cost = ~\$165,000 SWG dollars

Outcome: The data from the SWG-funded monitoring in Nevada has assisted in the recovery of the two species. The number of Peregrine Falcon territories has increased from 1 in 1985 to currently 60+ territories. The Bald Eagle has increased across the nation. Nevada coordinates and assists with annual spring surveys of Peregrine Falcons and winter monitoring of Bald Eagles and other raptors.

Partners: Nevada Department of Wildlife, Great Basin Bird Observatory, Bureau of Land Management, U.S. Forest Service, National Park Service, Clark County Desert Conservation Program

Southwest Willow Flycatcher

(Empidonax traillii extimus)

Status: The Southwestern Willow Flycatcher has been a federally endangered species since 1985 and is State Endangered in Nevada.

The number of Peregrine Falcon territories has increased from 1 in 1985 to currently 60+ territories.



Due to the SWG-funded habitat restoration, many flycatchers are breeding in willow habitat at Key Pittman Wildlife Management area and Crystal Springs in Pahranaagat Valley.



Project Description: SWG was used to supplement other funding sources and lead to restoration of the Southwest Willow Flycatcher habitat at two sites.

Cost = \$12,000 SWG dollars

Outcome: Due to the SWG-funded habitat restoration, many flycatchers are breeding in willow habitat at Key Pittman Wildlife Management area and Crystal Springs in Pahranaagat Valley. Also, the department is making inroads with private landowners for potential survey and inventory on their properties for Southwest Willow Flycatcher conservation.

Partners: Nevada Department of Wildlife, US Fish and Wildlife Service, Private Landowners, Audubon Important Bird Area Coordinator



Amargosa Toad

(Bufo nelsoni)

Status: Found only in the upper Amargosa River in Nevada, the Amargosa Toad was recently petitioned for endangered species listing. However, the USFWS determined that listing the toad under ESA was not warranted.

Project Description: SWG was used for a long-term population monitoring program for the toad and the implementation of conservation actions outlined in a Conservation Agreement Strategy by a coalition of partners.

Outcome: The range and relative abundance of the toad is better understood, helping deny the petition to federally list the species. Implementing the Conservation Agreement Strategy has reduced and continues to minimize threats to the toad. This information will also aid efforts to work with local communities to develop habitat protection plans that will accommodate local development needs. These cooperative actions are a model for how partnerships can benefit both wildlife and community development.

Partners: Nevada Department of Wildlife

Conserving at-risk fish and wildlife in New Hampshire

Karner Blue Butterfly

(*Lycaeides melissa samuelis*)

Status: The Karner Blue Butterfly is a federal and state endangered species.

Project Description: Since 2000, SWG funds have been used for a captive rearing and reintroduction program.

Outcome: Due to the SWG-funded project, viable populations have been restored throughout their historic range in New Hampshire.

Partners: New Hampshire Fish and Game Department, The Nature Conservancy, New Hampshire Army National Guard, U.S. Fish and Wildlife Service, City of Concord



Gregor Schuurman, PhD

Due to the SWG-funded project, viable populations have been restored throughout their historic range in New Hampshire.

Conserving at-risk fish and wildlife in New Jersey

Bog Turtle

(Clemmys muhlenbergii)

Status: The Bog Turtle is a federally threatened species.

Project Description: SWG was used to manage 15 Bog Turtle sites across 75 acres of private and public land. Management includes identifying locations of the turtle, counting the turtles, and implementing habitat improvement techniques such as using cows, goats, and sheep to graze wetlands that are degraded by exotic and invasive plants.

Outcome: Because of the investment in SWG, habitat improvement led to increased nesting and healthier Bog Turtle populations in New Jersey, paving the way toward helping remove the turtle from the federal list.

Partners: New Jersey Department of Environmental Protection, Conserve Wildlife Foundation of New Jersey, passionate landowners, a dedicated group of volunteers

Because of the investment in SWG, habitat improvement led to increased nesting and healthier Bog Turtle populations in New Jersey, paving the way toward helping remove the turtle from the federal list.



Conserving at-risk fish and wildlife in New Mexico

Zuni Bluehead Sucker

(Catostomus discobolus yarrowi)

Status: Found in only 10% of its historic range, the Zuni Bluehead Sucker is a state endangered species and a federal endangered species candidate.

Project Description: SWG was used to remove predatory non-native Green Sunfish and crayfish, and purchase habitat for the species.

Outcome: Because of the investment in SWG, nearly the entire occupied range of the species will be protected for the long term, possibly preventing the need to federally list the species.

Partners: New Mexico Department of Game and Fish, the tribal Zuni Fish and Wildlife Department, The Nature Conservancy



SWG was used to remove predatory non-native Green Sunfish and crayfish, and purchase habitat for the species.

Conserving at-risk fish and wildlife in New York

Results of the hellbender survey demonstrated that recruitment of larvae was an issue and led to a headstarting project that successfully reared 600 larvae that will be used in future releases to restored habitats.

Allegheny Hellbender

(*Cryptobranchus alleganiensis alleganiensis*)

Status: The Allegheny Hellbender is a candidate species for state listing.

Project Description: SWG funds were used to survey the hellbender and conduct a headstarting project.



Cost = \$175,000 SWG dollars

Outcome: Results of the hellbender survey demonstrated that recruitment of larvae was a key issue and led to a headstarting project that successfully reared 600 larvae that will be used in future releases to restored habitats.

Partners: New York State Department of Environmental Conservation, Buffalo Zoo, Buffalo State College

Golden-winged Warbler

(*Vermivora chrysoptera*)

Status: The Golden-winged Warbler is a federal and state species of special concern.

Project Description: SWG funds were used to assess habitat preferences, conduct experimental habitat management, and monitor responses to experimental habitat management. They will also be used to enroll up to 500 acres of shrubland within the warbler's focus area to supplement work with landowners whose property does not have the agricultural history that makes them eligible for funding from the Natural Resources Conservation Service.

Cost = \$409,526 SWG dollars

Outcome: Due to the SWG-funded project, focus areas and management practices used by NRCS to target landowners interested in WHIP funding have been used to define similar focus areas throughout the Northeast.

Partners: New York State Department of Environmental Conservation, New York State Parks, Ithaca College



Conserving at-risk fish and wildlife in North Carolina

Bachman's Sparrow

(Peucaea aestivalis)

Status: The Bachman's Sparrow is a federal and state species of concern.

Project Description: SWG was used to conduct surveys of the bird on post-management early-successional habitat on Sandhills Game Land.

Outcome: The SWG-funded surveys documented a nearly 10-fold increase in the number of Bachman's Sparrow after habitat management. The survey results were used to inform ongoing management activities, likely leading to more population increases in the future, helping to prevent federal listing.

Partners: North Carolina Wildlife Resources Commission



The SWG-funded surveys documented a nearly 10-fold increase in the number of Bachman's Sparrow after habitat management. The survey results were used to inform ongoing management activities, likely leading to more population increases in the future, helping to prevent federal listing.

Conserving at-risk fish and wildlife in North Dakota

The SWG project resulted in new information about the otter population and the discovery of a healthy, reproducing population of both Fisher and Marten in the state.

River Otter

(Lontra canadensis)

Status: The River Otter is listed as a Level II Species of Conservation Priority in North Dakota's Wildlife Action Plan.

Project Description: SWG was used to evaluate the distribution and abundance of a population of otters, which had begun to re-establish in the state.

Cost = \$164,000 SWG dollars

Outcome: The SWG project resulted in new information about the otter population and the discovery of a healthy, reproducing population of both Fisher and Marten in the state. The study of one furbearer in the state led to information about two others that were previously unknown.

Partners: North Dakota Game and Fish Department, Frostburg State University



Freshwater Mussels

Status: Seven species of freshwater mussels are listed as Species of Conservation Priority in North Dakota's Wildlife Action Plan.

Project Description: SWG was used to evaluate freshwater mussel populations state-wide.

Cost = \$155,000 SWG dollars

Outcome: Information from the SWG-funded project was used to evaluate three species on the Species of Conservation Priority list for possible removal in the next revision of the North Dakota Wildlife Action Plan. Those three species are the Pink Heelsplitter, Threeridge, and Wabash Pigtoe. The project also recorded two species previously undocumented, the Deertoe and the Fragile Papershell.

Partners: North Dakota Game and Fish Department, Valley City State University

Conserving at-risk fish and wildlife in the Northeast

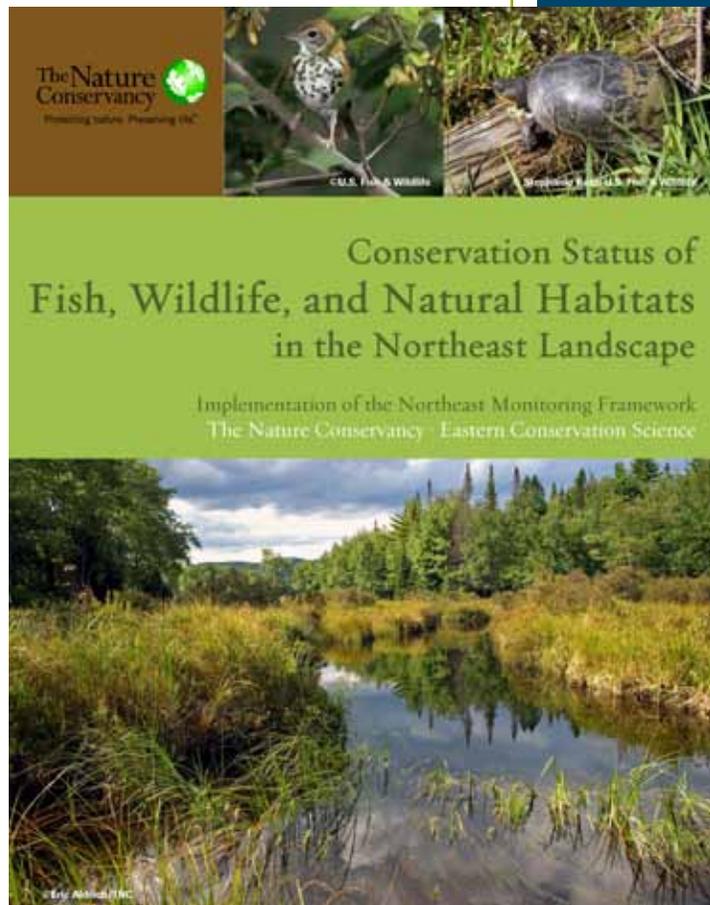
36 Regionally Significant Species of Greatest Conservation Need

Status: For 36 species of concern, such as Bicknell's Thrush, Atlantic Sturgeon, Eastern Small-footed Bat, and Wood Turtle, the northeast region bears the responsibility for their conservation because their center of distribution is in the northeast.

Project Description: SWG funds were used to conduct a comprehensive three-year assessment of species and habitats across the northeast and mid-Atlantic.

Outcome: The project synthesized information from over 30 sources, including State Wildlife Action Plans, and evaluated key indicators for six habitats and for species of concern.

Partners: Northeast Association of Fish and Wildlife Agencies, The Nature Conservancy's Eastern Conservation Science Office



The project synthesized information from over 30 sources, including State Wildlife Action Plans, and evaluated key indicators for six habitats and for species of concern.

Conserving at-risk fish and wildlife in Northern Mariana Islands

SWG was used to fund an expedition in 2006 that revealed that native forests on Sarigan support the healthiest tree snail populations known in the Mariana Islands.



Humped Tree Snail

(Partula gibba)

Status: The once-abundant population of Humped Tree Snail was declining due to feral goats and pigs consuming understory vegetation on Sarigan Island.

Project Description: In the late 1990s, all feral animals were removed and the forest started to recover. SWG was used to fund an expedition in 2006 that revealed that native forests on Sarigan support the healthiest tree snail populations known in the Mariana Islands.

Outcome: The place with the highest known density of the species will be conserved, which is important to the conservation of the species.

Partners: Northern Mariana Division of Fish and Wildlife

Conserving at-risk fish and wildlife in Ohio

Lake Erie Water Snake

(Nerodia sipedon insularum)

Status: De-listed as federally threatened in September 2011.

Project Description: SWG was used to establish permanent conservation easements on priority habitats, conduct research on the biology, ecology, and population growth of the snake, and educate the public to minimize human-induced mortality.

Cost = \$250,995 SWG dollars

Outcome: Annual surveys indicate a population exceeding 8000 snakes, significantly more than the 5555 snakes needed for population recovery, as defined in the USFWS Recovery Plan. Because of the investment in SWG, the species was delisted in September 2011.

Partners: Ohio Department of Natural Resources, U.S. Fish and Wildlife Service, Black Swamp Conservancy—Lake Erie Island Chapter, Western Reserve Land Conservancy, Northern Illinois University, Ohio State University Stone Laboratory, Lake Erie Island private property owners



Annual surveys indicate a population exceeding 8000 snakes, significantly more than the 5555 snakes needed for population recovery, as defined in the USFWS Recovery Plan.

Conserving at-risk fish and wildlife in Oklahoma

Rabbitsfoot Mussel

(Quadrula cylindrica)

Status: The Rabbitsfoot Mussel is a species under consideration for possible federal listing.

Project Description: SWG was used to re-establish the mussel in the upper Verdigris River. The recent discovery of a reproducing population in the Oklahoma portion of the river provides an opportunity to collect juvenile mussels in Oklahoma to raise and release in Kansas.

Outcome: Using SWG funds to restore the Rabbitsfoot Mussel population may prevent the need to federally list the species.

Partners: Oklahoma Department of Wildlife Conservation, Kansas Department of Wildlife and Parks, Oklahoma State University, Missouri State University

Using SWG funds to restore the Rabbitsfoot Mussel population may prevent the need to federally list the species.



Conserving at-risk fish and wildlife in Oregon

Washington ground squirrel

(Urocitellus washingtoni)

Status: The Washington Ground Squirrel is a state endangered species and a federal candidate species.

Project Description: SWG was used to survey and monitor the squirrel and investigate colony site dynamics, dispersal, and persistence.

Cost = \$63,000 SWG dollars

Outcome: Surveys indicated that the squirrel population increased during the study period and tracked the shifting of colony centers in response to vegetation changes related to spring weather conditions and elimination of grazing. Related work by The Nature Conservancy has monitored vegetation changes caused by fire and managing invasive weeds.

Partners: Oregon Department of Fish and Wildlife, U.S. Fish and Wildlife Service, U.S. Department of the Navy (Naval Weapons Systems Training Facility), The Nature Conservancy, Oregon State University, Portland General Electric, Threemile Canyon Farms



Surveys indicated that the squirrel population increased during the study period and tracked the shifting of colony centers in response to vegetation changes related to spring weather conditions and elimination of grazing.

Conserving at-risk fish and wildlife in Pennsylvania

Due to SWG-funded projects, the 10 species were removed from the state endangered species list, reducing the likelihood of the species being proposed for federal listing. SWG was also used to fund projects that identified an additional 10 species (fish, amphibian and mussel) requiring listing or upgrading in their status.



10 State-Listed Fish Species

Status: Ten fish species were state endangered, threatened, or candidate species until SWG-funded research provided accurate population assessments.

Project Description: SWG was used to provide critical data for ensuring the accurate assessment of species populations. These include: Smallmouth Buffalo, River Redhorse, Longnose Gar, Longhead Darter, Channel Darter, Skipjack Herring, Mooneye, Goldeye, Brook Silverside, and Silver Chub.

Cost = \$849,424 SWG dollars

Outcome: Due to SWG-funded projects, the 10 species were removed from the state endangered species list, reducing the likelihood of the species being proposed for federal listing. SWG was also used to fund projects that identified an additional 10 species (fish, amphibian and mussel) requiring listing or upgrading in their status. Consequently, greater effort can be directed at increasing protection and management of these species in order to recover the populations and remove them from this state list.

Partners: Pennsylvania Fish and Boat Commission, Carnegie Museum of Natural History, Pennsylvania State University, California University of Pennsylvania

Conserving at-risk fish and wildlife in Puerto Rico

Puerto Rican Parrot

(Amazona vittata)

Status: The Puerto Rican Parrot is a federally endangered parrot. It is endemic to Puerto Rico and is the only native parrot remaining in the U.S.

Project Description: SWG funds are used to help implement the Puerto Rican Parrot Recovery Program, which raises parrots in captivity, releases them into the wild, monitors populations, and helps protect nests from predators.

Cost = \$400,606 SWG dollars

Outcome: The recovery program aims to downlist the species from endangered to threatened by establishing an additional wild population and insuring that populations are self-sustaining with a population goal of 500 birds (5 year average) in each area.

Partners: Puerto Rico Department of Natural and Environmental Resources, U.S. Fish and Wildlife Service, U.S. Forest Service, U.S. Geological Survey, Mississippi and North Carolina State Universities, local and international NGOs



The recovery program aims to downlist the species from endangered to threatened by establishing an additional wild population and insuring that populations are self-sustaining with a population goal of 500 birds (5 year average) in each area.

Conserving at-risk fish and wildlife in Rhode Island

The Least Tern is a state threatened species, a regional species of concern in the Northeast, and is a federal species of management concern.



Least Tern (*Sternula antillarum*)

Status: The Least Tern is a state threatened species, a regional species of concern in the Northeast, and is a federal species of management concern.

Project Description: SWG funds were used to monitor and implement needed management such as fencing, public awareness, and vehicle limitations. The project includes work on other species like the federally threatened piping plover.

**Cost = Over \$100,000 annually
SWG dollars**

Outcome: Annual surveys indicate that Least Terns are being maintained at a level that does not warrant federal listing at this time.

Partners: Rhode Island Department of Environmental Management, U.S. Fish and Wildlife Service

Conserving at-risk fish and wildlife in South Carolina

Southern Dusky Salamander

(Desmognathus auriculatus)

Status: The Southern Dusky Salamander is a Species of Greatest Conservation Need in the South Carolina Wildlife Action Plan.

Project Description: SWG was used to survey suitable and historic habitat to determine the presence of the species and to conduct genetic research. Samples collected during the survey were used to determine the phylogenetic status of Dusky Salamanders in the South Carolina Coastal Plain.

Cost = \$40,000 SWG dollars

Outcome: Genetic analysis revealed that the Southern Dusky Salamander does not occur in South Carolina. The research revealed that five distinct lineages of *Desmognathus* occur in South Carolina, none of which is closely related to *Desmognathus auriculatus*. Based on the results, the Southern Dusky Salamander will be delisted as a South Carolina Species of Greatest Conservation Need.

Partners: South Carolina Department of Natural Resources, East Carolina University, University of South Carolina, Riverbanks Zoological Park and Gardens



Genetic analysis revealed that the Southern Dusky Salamander does not occur in South Carolina. The research revealed that five distinct lineages of Desmognathus occur in South Carolina, none of which is closely related to Desmognathus auriculatus. Based on the results, the Southern Dusky Salamander will be delisted as a South Carolina Species of Greatest Conservation Need.

Conserving at-risk fish and wildlife in South Dakota, Montana, Wyoming, Oklahoma, Colorado, and Texas

SWG-funded survey and recovery efforts have improved understanding of Swift Fox distribution and potential threats.



Swift Fox (*Vulpes velox*)

Status: The Swift Fox was a candidate for federal listing but was removed from the candidate list in 2001 due to new information and the improved coordination among the state, federal, tribal, and private partners of the Swift Fox Conservation Team. The Swift Fox remains a species managed at the state level as a furbearer, a state listed species, or a furbearer with a closed season.

Project Description:

Six of the 10 member states of the team have SWG-funded projects:

- **South Dakota** supported efforts by the Turner Endangered Species Fund to restore the fox on Bad River Ranches, SD.

Cost = \$103,000 SWG dollars

- **Montana** funded a small mammal inventory as an indicator of Swift Fox prey base on the Blackfeet Reservation.

Cost = \$62,000 SWG dollars

- **Wyoming** is funding an evaluation of various Swift Fox survey methods to help develop a statewide monitoring approach.

Cost = \$110,000 SWG dollars

- **Oklahoma** conducts population surveys each year to document current distribution.

Cost = \$5,000 SWG dollars/year

- **Colorado** funded a study to evaluate Swift Fox home ranges, diet, and den site use before and after a plague event.

Cost = \$19,000 SWG dollars

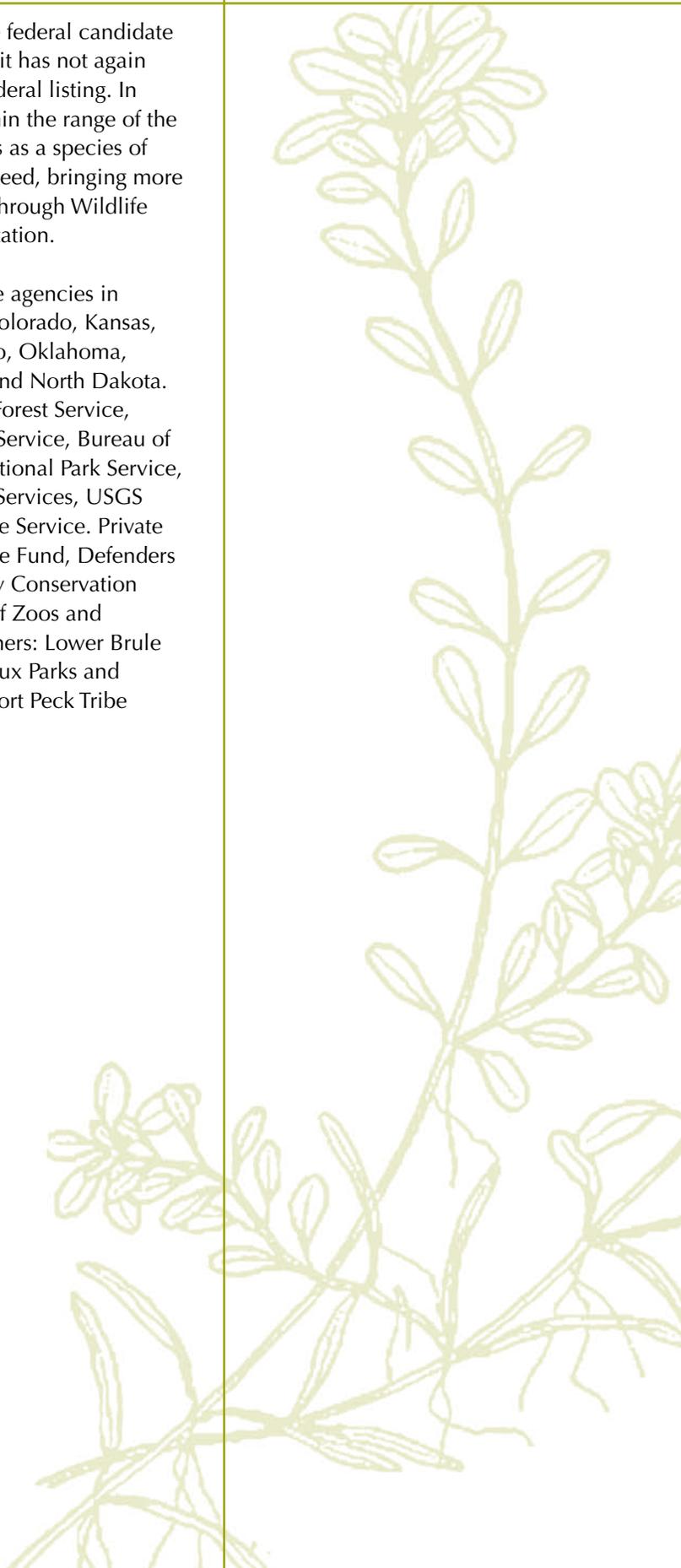
- **Texas** determined distribution of the Swift Fox by identifying potential habitat and determining current distribution in 25 Texas Panhandle counties.

Cost = \$107,000 SWG dollars

Outcome: SWG-funded survey and recovery efforts have improved understanding of Swift Fox distribution and potential threats. Two states, Colorado and Montana, recently opened limited trapping seasons. Swift Fox Conservation Team accomplishments contributed significantly to the removal

of this species from the federal candidate list and to the fact that it has not again been considered for federal listing. In addition, all states within the range of the fox include this species as a species of greatest conservation need, bringing more attention to fox status through Wildlife Action Plan implementation.

Partners: State wildlife agencies in Montana, Wyoming, Colorado, Kansas, Nebraska, New Mexico, Oklahoma, Texas, South Dakota, and North Dakota. Federal partners: U.S. Forest Service, U.S. Fish and Wildlife Service, Bureau of Land Management, National Park Service, USDA APHIS Wildlife Services, USGS BRD, Canadian Wildlife Service. Private partners: World Wildlife Fund, Defenders of Wildlife, Biodiversity Conservation Alliance, Association of Zoos and Aquariums. Tribal partners: Lower Brule Sioux Tribe, Oglala Sioux Parks and Recreation Authority, Fort Peck Tribe



*Swift Fox
Conservation Team
accomplishments
contributed
significantly to the
removal of this
species from the
federal candidate
list and to the fact
that it has not again
been considered for
federal listing.*

Conserving at-risk fish and wildlife in Tennessee

Bog Turtle

(*Clemmys muhlenbergii*)



Status: The Bog Turtle (southern population) is a state endangered and federally threatened species.

Project Description: SWG was used to purchase some of the only remaining Bog Turtle habitat in Tennessee.

Cost of acquisition = \$45,000

Outcome: Because of the SWG-funded project, high elevation cranberry bogs and fens in northeast Tennessee were protected, which has resulted in protecting some of the only remaining habitat for the threatened turtle.

Partners: Tennessee Wildlife Resources Agency, The Nature Conservancy

Pink Mucket

(*Lampsilis abrupta*)



Status: The Pink Mucket is a federally endangered species.

Project Description: SWG is used to propagate mussels and hold brood stock at the Gallatin Hatchery. Stock is shared with propagation facilities in Kentucky and Virginia.

Outcome: Because of the SWG-funded project, juvenile mussels are being stocked to augment populations of this endangered species.

Partners: Tennessee Wildlife Resources Agency, U.S. Army Corps of Engineers, Tennessee Valley Authority, The Nature Conservancy, Tennessee Tech University, World Wildlife Fund

Eastern Hellbender

(*Cryptobranchus alleganiensis alleganiensis*)

Status: The Eastern Hellbender is a federal species of concern.

Project Description: SWG was used to assess the status of the Eastern Hellbender. As a result of the Ozark Hellbender being proposed for listing as federally endangered, it was determined that there was a need to assess the status of the Eastern Hellbender in Tennessee.

Outcome: The goal of the SWG-funded project is to provide information that could lead to conserving the species in Tennessee without listing.

Partners: Tennessee Wildlife Resources Agency, Nashville Zoo, Middle Tennessee State University, Lee University, U.S. Forest Service, University of Tennessee, San Francisco State University



Conserving at-risk fish and wildlife in Texas

Lesser Prairie Chicken

(Tympanuchus pallidicinctus)

Status: The Lesser Prairie Chicken is a federal high priority candidate species and a proposed listing is currently being evaluated.

Project Description: SWG funds were used to restore and connect large blocks of suitable sandhill grassland habitat within the range of the prairie chicken.

Cost = \$125,204 SWG dollars

Outcome: 567 acres of Lesser Prairie Chicken habitat were restored and landowner relationships were built and enhanced. Restoration and monitoring efforts provide leverage for Candidate Conservation Agreements with USFWS to help landowners with assurances if the species is listed. Also, the monitoring efforts contribute to a five-state cooperative effort across Lesser Prairie Chicken range, including new conservation mapping and planning tools where data is allowed to be shared.

Partners: Texas Parks and Wildlife Department, Natural Resources Conservation Service, Farm Services Agency, US Fish and Wildlife Service Partners Program, private landowners

567 acres of Lesser Prairie Chicken habitat were restored and landowner relationships were built and enhanced. Restoration and monitoring efforts provide leverage for Candidate Conservation Agreements with USFWS to help landowners with assurances if the species is listed.



Conserving at-risk fish and wildlife in the U.S. Virgin Islands

SWG funds have allowed the first reptile and amphibian surveys ever for the Virgin Islands, providing new information on the distribution of sensitive species.



Puerto Rican Racer

(Alsophis portoricensis)

Status: The Puerto Rican Racer is a territory-listed species of concern.

Project Description: SWG funds were used to survey and discover a population of the Puerto Rican Racer, which had been thought to be extirpated from the islands since the last century. SWG funds are also used to educate the local residents about the value of the snake.

Outcome: The SWG-funded projects are ensuring protection for this population. The recovery of the racer to areas with reduced mongoose populations indicates a feasible opportunity for recovery. SWG funds have allowed the first reptile and amphibian surveys ever for the Virgin Islands, providing new information on the distribution of sensitive species.

Partners: Virgin Islands Department of Planning and Natural Resources

Virgin Islands Bo-Peep

(Eleutherodactylus schwartzi)

Status: The Virgin Islands Bo-Peep is considered stable. Before the SWG-funded survey, the species was listed as extirpated and data deficient.

Project Description: SWG funds were used to discover the previously-considered extirpated frog. The distribution of the five native frogs has been mapped and annual monitoring is conducted. Also, extensive studies have been conducted on invasive frog species and their impact on natives.

Outcome: The previously-considered extirpated frog was rediscovered, leading to a downlisting in its status. New information on the frog has helped guide management actions, including increased vigilance over imported materials to reduce the introduction of non-native frog species. Despite the increasing significance of global amphibian declines, no surveys for Virgin Islands frogs had been undertaken prior to the SWG program. The presence of



the chytrid fungus that is decimating amphibian populations elsewhere was recently confirmed, and studies are underway to determine the extent and impact of the infection within the territory.

Partners: Virgin Islands Department of Planning and Natural Resources

Green Turtle

(Chelonia mydas)

St. Croix Ground Lizard

(Ameiva polops)

Status: The Green Turtle is a federally threatened species in the Virgin Islands and the St. Croix Ground Lizard is a federally endangered species.

Project Description: SWG funds were used to remove the predatory mongoose from important sea turtle nesting beaches. Invasive Cattle Egrets are being non-lethally removed from the lizard habitat.

Outcome: Green Turtle nesting success has gone from 0% on St Croix' East End Beaches to around 50% due to mongoose control. Increased control and monitoring efforts will increase the nesting success of this species. The reduction of Cattle Egrets and other habitat enhancement efforts has led to an increase in endangered lizard abundance from around 120 individuals to over 300.

Partners: Virgin Islands Department of Planning and Natural Resources, USDA Wildlife Services



Green Turtle nesting success has gone from 0% on St Croix' East End Beaches to around 50% due to mongoose control.

Conserving at-risk fish and wildlife in Utah

SWG provided funding to repatriate and successfully establish two populations of the frog in areas where they have been extirpated for over 30 years and to conduct research on population genetics, life history, distribution, habitat requirements, and repatriation protocols.



Columbia Spotted Frog

(*Rana luteiventris*)

Status: In 1999, the Columbia Spotted Frog was petitioned for listing under the ESA. In 2002, the USFWS used the results of SWG-funded projects to determine that the species does not warrant federal listing.

Project Description: SWG was used to establish six permanent conservation easements protecting more than 2,000 acres of spotted frog habitat. SWG provided funding to repatriate and successfully establish two populations of the frog in areas where they have been extirpated for over 30 years and to conduct research on population genetics, life history, distribution, habitat requirements, and repatriation protocols.

Cost = \$390,137 SWG dollars

Outcome: USFWS determined that sufficient actions were implemented (in large part from SWG funding) to determine that the frog does not warrant federal listing.

Partners: Utah Division of Wildlife Resources, U.S. Fish and Wildlife Service, Bureau of Land Management, Bureau of Reclamation, U.S. Forest Service, Utah Reclamation Mitigation and Conservation Commission, Central Utah Water Conservancy District, Confederate Tribes of the Goshute Reservation, Brigham Young University, Utah State University, Natural Resources Conservation Service

Fat-whorled Pondsail

(*Stagnicola bonnevillensis*)



Status: The Fat-whorled Pondsail was a FWS Candidate species and a Tier I species in Utah's Wildlife Action Plan.

Project Description: SWG was used to assemble a technical advisory group and draft a Conservation Agreement and Strategy for the snail. Conservation measures (surveys, monitoring) have been implemented and the species is more widespread than initially thought.

Cost = \$2,000 SWG dollars

Outcome: USFWS determined that actions implemented, in part with SWG funding, warrant the snail be removed from the candidate list.

Partners: Utah Division of Wildlife Resources, U.S. Fish and Wildlife Service, BLM, USDA-Natural Resource Conservation Service, Utah Department of Environmental Quality, ATK Thiokol, Chevron/Texaco

American Pika

(Ochotona princeps)

Status: The pika was petitioned for ESA listing in 2007, but the USFWS found that listing was not warranted in 2010.

Project Description: SWG funding allowed the Utah Division Wildlife Resources (UDWR) to conduct research on pika distribution and the factors affecting presence or absence of the species. With the funding, the UDWR was also able to develop long-term monitoring protocol.

Cost = \$32,458 SWG dollars

Outcome: The pika was found to be abundant in proper habitat. The monitoring protocol will enable managers to detect and ultimately address any changes in their distribution. The information gathered helped the USFWS determine that the pika did not face a high risk of extinction and therefore did not warrant protection under the ESA.

Partners: Utah Division of Wildlife Resources, U.S. Fish and Wildlife Service, U.S. Forest Service

The information gathered helped the USFWS determine that the pika did not face a high risk of extinction and therefore did not warrant protection under the ESA.



Conserving at-risk fish and wildlife in Vermont

Similar safe passage way projects have proven extremely beneficial to the survival rates of migrating and breeding animals. In Monkton, VT, safe passage areas designed and built with SWG funds have reduced the number of vehicle-caused fatalities for thousands of amphibians and other wildlife species.



Blue-spotted Salamander

(Ambystoma laterale)

Spotted Salamander

(Ambystoma maculatum)

Status: Blue-spotted Salamander and Spotted Salamander are species of greatest conservation need (SGCN) in Vermont.

Project Description: SWG was used to construct safe passage ways for amphibians that cross a busy road in Vermont during spring migration to breeding ponds. The Vermont Wildlife Action Plan prioritizes the use of wildlife crossings as a conservation strategy.

**Cost = \$46,429
SWG dollars**

Outcome: Similar safe passage way projects have proven extremely beneficial to the survival rates of migrating and breeding animals. In Monkton, VT, safe passage areas designed and built with SWG funds have reduced the number of vehicle-caused fatalities for thousands of amphibians and other wildlife species. Ensuring the survival of SGCN will likely keep several species from being listed at the state and federal level.

Partners: The Vermont Fish and Wildlife Department, The Town of Monkton, VT, Lewis Creek Association, Vermont Agency of Transportation

Conserving at-risk fish and wildlife in Virginia

Endangered Freshwater Mussels

Status: Eight of the species targeted by this project are federally endangered species.

Project Description: SWG is used to operate a mussel propagation program. Mussels are slow reproducers in the wild and require specific conditions. The controlled and monitored environment at the Aquatic Wildlife Conservation Center ensures that appropriate environmental conditions can be maintained for successful reproduction.

Outcome: Because of the SWG-funded project, 674,000 mussels (11% federally endangered and 26% SGCN) have been released into the wild. As Virginia is home to 81 of the 300 species of freshwater mussels in the country, its contribution to mussel propagation is critical to removing several species from the federally endangered list.

Partners: Virginia Department of Game and Inland Fisheries, USFWS Harrison Lake National Fish Hatchery

Because of the SWG-funded project, 674,000 mussels (11% federally endangered and 26% SGCN) have been released into the wild.



Because of SWG, fishers are now reproducing on the Olympic Peninsula, which reduces the risk of a federal listing and increases the potential for reduced state listing.

Conserving at-risk fish and wildlife in Washington

Fisher

(Martes pennanti)

Status: The Fisher is a state endangered species and a federal species of concern. Historically, it occurred throughout the state, but surveys have found no populations since the 1990s.

Project Description: SWG was used to plan for and reintroduce 90 fishers over three years from British Columbia to the Olympic Peninsula as part of the state recovery plan.

Cost = \$520,016 SWG dollars

Outcome: Because of SWG, fishers are now reproducing on the Olympic Peninsula, which reduces the risk of a federal listing and increases the potential for reduced state listing.

Partners: Washington Department of Fish and Wildlife, U.S. Fish and Wildlife Service, Conservation Northwest, National Park Service, British Columbia Ministry of the Environment, Wildlife Conservation Society, US Forest Service, US Geological Society, Doris Duke Charitable Foundation



Columbian Sharp-tailed Grouse

(Tympanuchus phasianellus)



Greater Sage-grouse

(Centrocercus urophasianus)



Status: The Columbia Sharp-tailed Grouse is a state threatened species and a federal species of concern. The Greater Sage-grouse is a state threatened species and a candidate for federal listing.

Project Description: SWG was used to restore nearly 3,000 acres of former wheat and grain fields to shrub-steppe by planting trees and shrubs and removing fences. Existing fences will be marked to

reduce grouse collision mortalities. SWG was also used to translocate 327 Sharp-tailed Grouse and 179 Greater Sage-grouse.

Cost = \$318,468 SWG dollars

Outcome: Because of SWG, the populations of Columbia Sharp-tailed Grouse and Greater Sage-grouse nearly doubled in population to 1000 and 1100, respectively, since 2004. This upward trend reduces the risk of federal listing.

Partners: Washington Department of Fish and Wildlife, Bureau of Land Management, Oregon Department of Fish and Wildlife, Utah Division of Wildlife, Idaho Department of Fish and Game, British Columbia Ministry of Natural Resources Operations, Washington State University, Lincoln County Conservation District, Inland Northwest Wildlife, Spokane Audubon, Wenatchee Sportsmen

Oregon Spotted Frogs (*Rana pretiosa*)

Status: The Oregon Spotted Frog is a candidate species for federal listing. Project Description: SWG was used to fund a successful translocation project to establish a self-sustaining population of the frog.

Outcome: Due to SWG-funded projects, the frog population was increased, helping to keep the species off the federal list.

Partners: Washington Department of Fish and Wildlife



Due to SWG-funded projects, the frog population was increased, helping to keep the species off the federal list.

Conserving at-risk fish and wildlife in West Virginia

More than 38,000 mussels of three species were raised and released in degraded habitats. Seven long-term stations were established on five rivers.



Freshwater Mussels

Status: West Virginia supports as many as 69 mussel species, six of which are endangered. Restoring freshwater mussels is an important conservation action in West Virginia's wildlife action plan.

Project Description: SWG was used to rescue and relocate nearly 8,000 mussels from areas threatened by development. More than 38,000 mussels of three species were raised and released in degraded habitats. Seven long-term stations were established on five rivers.

Outcome: Due to SWG-funded projects, the mussels will be conserved for the long term, eliminating the need to add more mussel species to the federal list.

Partners: West Virginia Division of Natural Resources



Conserving at-risk fish and wildlife in Wisconsin

Northern Cricket Frog

(*Acris crepitans*)

Status: The Northern Cricket Frog is a state threatened species and a species of greatest conservation need in Wisconsin's Wildlife Action Plan.

Project Description: SWG was used to survey and monitor the frog, and also leveraged additional funding from other sources to conduct overwintering and spring dispersal studies.

Cost = \$50,000 SWG dollars

Outcome: The SWG projects resulted in the documentation of more than ten previously unknown breeding sites and led to follow-up studies on overwintering and spring dispersal, which will directly influence management guidelines for this species.

Partners: Wisconsin Department of Natural Resources, University of Wisconsin-Platteville, Edgewater College, Elon University, Trout Unlimited, Natural Resources Conservation Service



The SWG projects resulted in the documentation of more than ten previously unknown breeding sites and led to follow-up studies on overwintering and spring dispersal, which will directly influence management guidelines for this species.

Conserving at-risk fish and wildlife in Wyoming

SWG funds supported field surveys that refined maps of range and distribution, and more finely outlined the species' habitat needs, leading to the development of conservation recommendations to enable energy development to proceed with minimum impacts to the gopher populations.

Wyoming Pocket Gopher

(Thomomys clusius)

Status: The Wyoming Pocket Gopher was petitioned for listing under the Endangered Species Act in 2007, but was denied such status in 2010. It is currently designated "Sensitive" by the Wyoming State Office of the Bureau of Land Management, and is listed as a "Species of Greatest Conservation Need" in the Wyoming Wildlife Action Plan. It is the only mammal species completely restricted to the state of Wyoming.

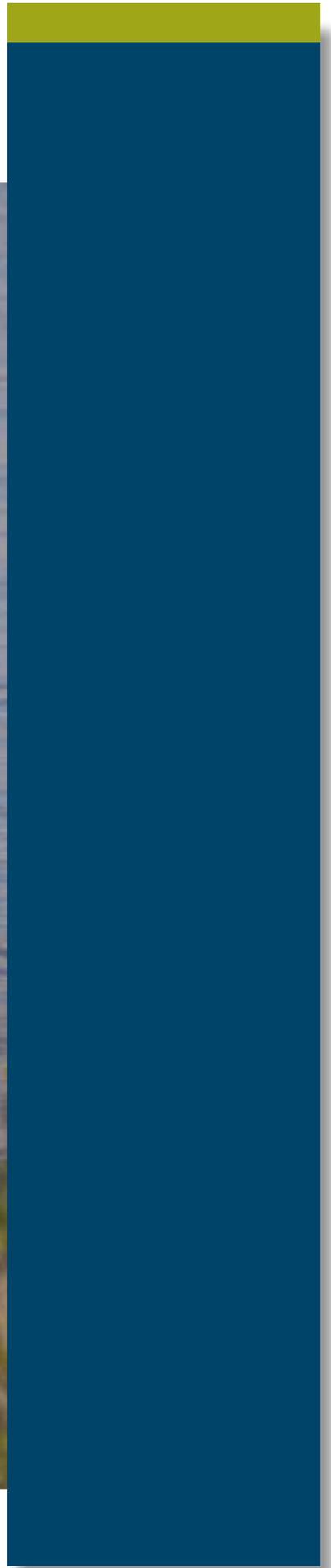
Project Description: In 2007 little was known about its distribution and preferred habitat, although it was clear that it inhabited areas with very high potential for energy development including natural gas, wind, oil, and uranium. SWG funds supported field surveys that refined maps of range and distribution, and more finely outlined the species' habitat needs, leading to the development of conservation recommendations to enable energy development to proceed with minimum impacts to the gopher populations.



Cost = \$68,736 SWG dollars

Outcome: Although it received a positive 90-day finding to list under the Endangered Species Act, the Wyoming Pocket Gopher eventually received a negative ("not warranted") 12-month finding in 2010. All information from the SWG-funded research was submitted to the USFWS for use in the 12-month decision.

Partners: Wyoming Game and Fish Department, Wyoming Natural Diversity Database (University of Wyoming)





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*Partial funding for this report
was provided by the Doris
Duke Charitable Foundation.*