

Colorado Department of Natural Resources

Species Conservation Trust Fund

FY 2019-20 and FY 2020-21 Annual Report to the General Assembly

Species Conservation Trust Fund

The Colorado General Assembly created the Species Conservation Trust Fund (SCTF) in 1998 through the passage of HB 98-1006. This legislation provides ongoing funding to implement cooperative agreements, recovery programs, and other programs designed to meet Colorado's obligations under the Endangered Species Act (ESA). The SCTF is also intended to promote practices designed to conserve species currently listed as threatened or endangered under state law, recover or protect candidate species in order to avoid the need to list those species under the state or federal ESA, and improve the scientific understanding governing federal or state species listing and delisting.

Statute (24-33-111 (3), C.R.S.) directs the Executive Director of the Colorado Department of Natural Resources (DNR) to report to the General Assembly on the progress and status of activities undertaken to conserve and recover Colorado's native species. This report covers activity in FY 2019-20 and FY 2020-21 and includes a summary of appropriations, select outcomes, and a full list of project accomplishments that have occurred during these years.

Summary of SCTF FY 2019-20 and FY 2020-21 Appropriations

Each year, the Executive Director of DNR prepares a species conservation eligibility list (SCEL) after consultation with the Colorado Water Conservation Board (CWCB) and its Director, and the Colorado Parks and Wildlife (CPW) Commission and its Director. The SCEL identifies programs (and associated costs) that are eligible for funding from the SCTF. Once finalized with the Board and the Commission, the SCEL is sent to the General Assembly for review and modifications as appropriate prior to the passage of the annual SCTF bill.

In FY 2019-20 and FY 2020-21, CPW was appropriated \$2.2045 million and CWCB was appropriated \$2.8955 million for programs or projects. \$300,000 was also appropriated to the federal endangered species act litigation program. These funds were appropriated under HB19-1259 and Senate Bill 20-201. The funding appropriated to CPW has been allocated to research, monitoring, and habitat improvements for numerous species including: prairie dogs, a variety of native fish species, golden eagles, Canadian lynx, Eastern Black Rail and Black-footed Ferrets. CWCB's funding has been allocated to endangered species programs related to the Platte River Recovery Implementation Program and the Upper Colorado River native fish recovery programs, selenium management, and related projects.

Selected Project Outcomes

Since 1998, the SCTF has funded a wide array of important conservation projects. The following highlights some of the key accomplishments for FY 2019-20 and FY 2020-21, and the following table provides a more comprehensive details of outcomes from SCTF projects during that period.

- Implemented the Platte River Recovery Implementation Program to support the recovery of three threatened and endangered bird species and one endangered fish. The Program protects more than 12,000 acres of species habitat and provides 114,000 acre-feet of water to the associated habitat area. The Program contributed to the U.S. Fish and Wildlife Service's delisting of the endangered interior least tern.
- Implemented the Upper Colorado River Endangered Fish Recovery Program to support the recovery of four endangered fish species. The Program conducted non-native fish management, research and monitoring, endangered fish stocking, and developed habitat. Facilitated increased flows through critical endangered fish habitat in the summers of 2019 and 2020, including voluntary reservoir operations to bypass more than 35,000 acre feet of water in each year to augment the spring peak in the critical endangered fish habitat on the Colorado River. In addition, in 2020 funds were contributed from the Species Conservation Trust Fund for the construction of the Ridgway Reservoir screen to prevent nonnative fish escapement.
- Provided Endangered Species Act compliance for 213 water projects in the North and South Platte River basins through the Platte River Recovery Implementation Program and 1,567 water projects in the Colorado River basin through the Upper Colorado River Endangered Fish Recovery Program and the San Juan River Basin Implementation Program.
- Covid restrictions of 2020 delayed work on projects. Project timelines have been adjusted to compensate for these delays.
- The large wildfires that occurred in northern Colorado in 2020 destroyed several study sites for the Snowshoe hare project. An evaluation will be conducted to determine whether sites need to be replaced. If so, this will extend the timeline for sampling by 2 years in order to clear new sites prior to sampling.
- Hatchery and vertical and horizontal transmission experiments were completed for the Cutthroat Trout Bacterial Kidney Disease project.

Species Conservation Trust Fund – Projects In Progress
Colorado Parks and Wildlife
FY 2019-20 and FY 2020-21

Project	Purpose	Outcomes	Year(s) Authorized	Total Appropriated
<i>Native Terrestrial Wildlife Conservation</i>				
Golden Eagle Monitoring	Examine the potential for more rigorous statewide monitoring methods for golden eagles and other high-priority raptors in Colorado, including: using aerial surveys with distance sampling or double observer methods to estimate nest densities; intensive, sample-based ground surveys to estimate nest density and annual productivity; and using eBird and other citizen science data sources to develop distribution models and estimates of abundance.	Reliable estimates of golden eagle breeding distribution, abundance and productivity in study area. Evaluation of the use of Unmanned Aerial Systems to monitor nests. Evaluate use of citizen science data to develop seasonal distribution models and abundance estimates. Produce alternative monitoring approaches, with cost estimates, for CPW decision-makers.	19-20	\$218,500
Snowshoe Hare-Forest Relationships	Canada lynx rely heavily on snowshoe hare for survival. Determine the impacts of timber management to snowshoe hare density through time.	We expect information obtained from this research to benefit managers by indicating the magnitude and direction of the effects of various forest management activities on relative snowshoe hare density in lodgepole and spruce-fir forests. Ultimately, such information could be incorporated into formal and informal planning tools to predict both stand-level	19-20	\$190,000

		and landscape level snowshoe hare densities and juxtaposition given proposed future management options.		
Monitoring & Evaluation of Adaptive Plague Management	Monitor and evaluate adaptive plague management at sites where management is ongoing or planned.	Provide current and critical information to managers about the outcomes of plague management and determine if tools and techniques need to be modified in order to meet desired management goals.	19-20	\$35,000
Eastern Black Rail Distribution & Habitat Assessment	Conduct occupancy sampling and habitat assessments for eastern black rail in eastern Colorado to inform management actions for a secretive and declining marsh bird.	Findings will inform both CPW management as well as the USFWS actions such as a revised Eastern Black Rail Species Status Assessment.	19-20	\$115,500
Plague Management- Soapstone Black-footed Ferret	Evaluate dusting & oral vaccination as tools in adaptive plague management supporting black-footed ferret reintroduction.	Previous approaches for black-footed ferret reintroduction have poor long-term success. Improved plague management will speed federal delisting of this species.	19-20	\$56,500
<i>Native Aquatic Wildlife Conservation</i>				
Cutthroat Bacterial Kidney Disease	Examine how bacterial kidney disease is horizontally and vertically transmitted in hatchery and wild cutthroat trout populations. Determine risk factors for wild fish populations and if there are population-level effects due to infection in native and non-native salmonid	This study will improve our understanding of transmission of bacterial kidney disease in inland salmonids, specifically hatchery-reared and wild populations of native salmonids that are valuable and rare. The results of the lab and field experiments will be used to develop recommendations for	19-20	\$290,000

	species.	managing bacterial kidney disease in hatchery and wild populations.		
Sucker Migration Barriers	Install and operate a resistance board weir and fish trap during sucker spawning seasons in Roubideau Creek for two years to preclude entry of non-native and hybrid suckers to the spawning run, thus increasing the number of native sucker larvae produced in this tributary drainage.	Resistance board weirs deployed on key tributaries throughout bluehead and flannelmouth sucker ranges; genetic integrity survives for perpetuity in key tributary-spawning population components; both sucker species remain unlisted as ESA threatened or endangered.	19-20	\$370,000
Rio Grande Chub and Sucker Database	Support 5 years of annual data updates, data storage and software maintenance and upgrades for a range-wide (multi-state) database for Rio Grande Chub and Rio Grande Sucker. Both species are petitioned for listing as endangered or threatened under the ESA.	Annual database updates by Wyoming Geographic Information Science Center (WYGISC) in collaboration with appropriate state biologists, with ongoing technical maintenance and user support provided as needed by WYGISC, for 5 years.	19-20	\$30,000
Thermal Niche and Temperature Standards for Native Species	In preparation of upcoming temperature standards hearings and using CPW's aquatics database, we will place water temperature loggers at targeted locations to fill in many of the knowledge gaps surrounding the thermal requirements and limitations of native aquatic species.	Species- specific thermal recommendations; development of stand-alone CPW temperature logger placement database and digital data collection application that biologists and researchers can use to track other logger placements, including geographic coordinates, site pictures, deployment dates, serial numbers, maintenance and battery status.	19-20	\$38,000
Water Projects	Develop a web-based decision tool that	Aggregated dataset uploaded to the cloud	19-20	\$38,000

Decision Tool for Stakeholders	will allow water project proponents to locate their project spatially and generate a list of all species expected to be present, as well as key biological information and some suggested Best Management Practices (BMPs) that can be incorporated during planning and construction to mitigate any potential deleterious impacts.	and serves as a basis for decision tool. Secure, fully interactive series of dashboards or selectable spatial layers via the cloud, where consultants and water project proponents can access and query for specific projects. Reduced CPW processing and handling time related to the data requests.		
eDNA for Plains Fishes and Molluscs	Incorporate environmental DNA metabarcoding into CPW's plains sampling protocol to detect threatened and endangered fish and mollusk species, detect aquatic invasive species and guide future sampling efforts.	eDNA metabarcoding database for species of interest	19-20	\$73,000
San Miguel/ Dolores Pit Tagging	The objective of this project is to purchase and install two Biomark pass-by antenna systems on the Dolores and San Miguel Rivers just upstream of their confluence. These antennas will allow CPW to remotely monitor movement of PIT tagged 3-species (bluehead sucker, flannelmouth sucker and roundtail chub) in these river systems to inform future flow, habitat use, and passage related management actions.	This project will allow us to determine to what degree 3-species are moving across the Wines Ditch Diversion Structure and utilizing habitats in the San Miguel and Dolores Basin upstream. This is especially pertinent considering the pending modifications to the Wines Structure and our decision to create an optional barrier (to protect upstream areas from white suckers) or conversely, enhance connectivity for native passage. This project will shed light on the relative importance of the San Miguel and Dolores Rivers in supporting the long-term persistence of these Tier I species. Characterizing the spatial and temporal movement patterns of these species will help to provide protection for critical	20-21	\$262,500

		habitat components and may aid in management decisions related to flow protection/enhancement and fish passage.		
CPW Total				\$1,717,000
<i>Note: This table reflects FY 19-20 and FY 20-21 funding for specific SCTF projects. This table does not include a small subset of projects that are on hold for a variety of factors, such as waiting on outside approval.</i>				

Species Conservation Trust Fund – Programs and Projects In Progress
Colorado Water Conservation Board
FY 2019-20 and FY 2020-21

Project	Purpose	Outcomes	Year(s) Authorized	Total Appropriated
Platte River Recovery Implementation Program	To provide Colorado’s contribution to the Program’s operations and to operate the Tamarack State Wildlife Area project and similar water re-timing projects in accordance with Colorado’s commitments. The goal of the Program is to enhance, restore, and protect habitat for the whooping crane, piping plover, and pallid sturgeon. The existence of the Program allows water use and development to continue in the Front Range and throughout northern Colorado.	<p>Colorado water users in the South Platte and North Platte River basins have benefited from 213 streamlined Endangered Species Act Section 7 consultations since the inception of the Program in 2007.</p> <p>Colorado meets its water-specific obligations to the Program through operation of the Tamarack State Wildlife Area project and similar groundwater recharge projects on the lower South Platte River near the state line. Water is retimed at the Tamarack State Wildlife Area to meet Colorado’s commitment to reduce target flow shortages by 10,000 acre feet per year as well as future depletions.</p> <p>Recovery efforts for the species are successful: The Program contributed to the U.S. Fish and Wildlife Service’s delisting of the endangered interior least tern; the Program has contributed to the doubling of the whooping crane population since 2007 in the central Platte.</p>	<p>FY 2019-20</p> <p>FY 2020-21</p>	<p>\$1,940,000</p> <p>\$670,000</p>
Colorado River basin native fish recovery programs	The Colorado Water Conservation Board actively participates in the Upper Colorado River Endangered Fish Recovery Program and the San Juan River Basin Recovery Implementation Program to support recovery of four endangered fish species: the humpback chub, razorback sucker, Colorado pikeminnow, and bonytail. In	Since 1988, the Program has provided Colorado water users with expedited Endangered Species Act Section 7 Consultations for 1,567 projects for an estimated 2.35 million acre-feet of existing and future depletions.	FY 2019-20	\$205,500

	<p>addition to benefiting species, the Program allows Colorado to maximize beneficial use of its compact apportionments while complying with the Endangered Species Act.</p> <p>Funds support conservation measures for the endangered fish through the two recovery programs. Projects include non-native fish control, development of the White River Management Plan, habitat restoration, and other conservations measures.</p>	<p>Water was released from reservoirs in FY 2019-20 and FY 2020-21 during the summer low-flow period, improving local streamflow conditions downstream, increasing water available for hydropower production, and ultimately increasing streamflows in endangered species critical habitat.</p> <p>In 2019 and 2020, reservoir operators voluntarily coordinated the bypass of water to augment the spring peak in endangered species habitat.</p> <p>Nonnative fish management was conducted at Ridgway and Elkhead reservoirs to reduce risk of nonnative fish escapement, predation and competition with native fish downstream. The Elkhead Reservoir fish escapement prevention net, funded by the Species Conservation Trust Fund, is operating well.</p> <p>The Colorado Water Conservation Board and the Recovery Program partners have made significant progress on the White River Management Plan to assist with Endangered Species Act compliance for water users in that river basin, similar to work completed for other west slope basins.</p>		
Selenium Management, Research, Monitoring, Evaluation, and Control	<p>The Gunnison Basin Selenium Management Program is a required conservation measure identified in the Programmatic Biological Opinion, issued by USFWS Dec. 4, 2009, as part of the Aspinall Unit Final Environmental Impact Statement (2012).</p> <p>The Program aims to improve fish habitat by reducing selenium loading from irrigation runoff in the Gunnison Basin. By meeting the targets set in the Program, basin water users maintain Endangered</p>	<p>The Selenium Science Plan describes and identifies gaps in monitoring and research efforts to better understand selenium occurrence and mitigation in the lower Gunnison and Colorado River basins. Funding continues to support a real-time surface and groundwater quality monitoring network, investigation of selenium loading, research of best management practice effectiveness, and support for local conservation district staff. Analysis indicates a continuing downward trend in dissolved selenium at the Gunnison River near Grand Junction.</p>	FY 2020-21	\$80,000

	<p>Species Act compliance and have regulatory certainty in continuing historical water uses.</p> <p>Funding provides for selenium monitoring of water, sediment, and fish tissue; updating of statistical models to identify selenium loading sources; and evaluation of selenium reduction methods such as further lining of canals and piping of laterals. In FY 2019-20 and FU2020-21, funds were authorized to support selenium management efforts in the Colorado River Basin to better understand selenium loading impacts on endangered fish species in the mainstem of the Colorado River.</p>			
CWCB TOTAL				FY2019-20: \$2,145,500 FY2020-21: \$750,000