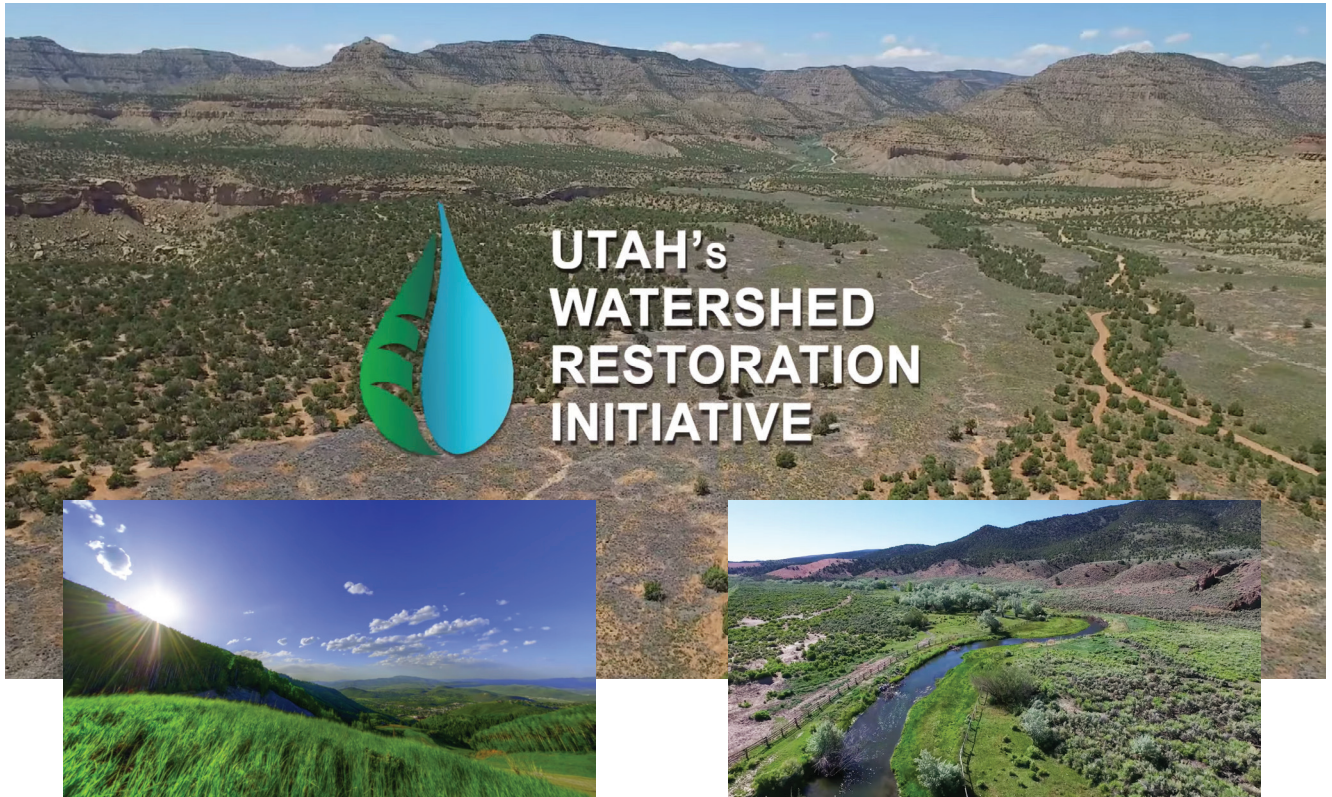


SFW Commits \$882 Thousand for Wildlife Conservation Projects in 2020

SFW thanks the Utah Division of Wildlife, its biologists and staff for the information and images found in this article.



Sportsmen for Fish and Wildlife (SFW) recently committed to spend \$882,056 in 2020 on big game capture and transplant, research studies, habitat and watershed improvement, and other projects that will benefit big game and other huntable species throughout Utah.

SFW's funding of these projects comes from two sources:

1. Utah Conservation Permit funds raised through SFW's live auctions at the Western Hunting and Conservation Expo and its 17 fundraising events held throughout Utah in 2018 and 2019.
2. \$5 Application Revenue from the Western Hunting & Conservation Expo during the 2018 and 2019 Expo events.

Most of the projects receiving SFW funding [outlined below] are identified through Utah's Watershed Restoration Initiative (WRI) while others are targeted based on SFW Fulfillment Committee input that meet SFW Mission-specific guidelines. The SFW Fulfillment Committee consists of SFW Board Members, SFW's 17 chapter chairpersons, and SFW's Management Team.

"SFW has been a strong supporting partner in Utah's WRI program and remains committed to spending funds on projects that are critical to the health and sustainability of Utah big game and their habitat," said SFW President Troy Justensen. "The WRI

program, coupled with the proven fundraising model of Utah's Conservation Permit Program and the Hunting Expo, is the secret sauce in Utah's enviable wildlife conservation model. SFW will continue partnering with the Utah Division of Wildlife, other state and federal agencies, and private land and livestock operators in identifying and funding these important projects that will protect and ensure healthy wildlife for generations to come."

According to Kevin Norman, SFW Fundraising Director and Vice Chairman of the SFW Fulfillment Committee, "The funding of these important projects is sort of the grand finale of a year's hard work put in by SFW and our chapter volunteers. Starting with the Hunting Expo and continuing through early summer, SFW members work very hard to raise money for Utah wildlife conservation. And it's rewarding for all of us to see specific projects in our own back yards, get funded – projects we know will benefit deer, elk, moose and others."

As the coming months, SFW members might be found installing guzzlers, capturing deer or sheep, and working alongside habitat and big game biologists anywhere these project might call for their assistance.

Total SFW Funding through Utah Conservation Permit Funds: \$750,191			
Amount	Region	Species	Project
\$10,600	Central	Deer, Elk, Moose	*Replacement of Loafer Mountain Wildlife Management Area Guzzlers
\$6,421	Statewide	Multiple	*Utah Wildlife Migration Initiative
\$91,875	Statewide	Bighorn	*Capturing approximately 300 bighorn sheep including potential transplants from Oregon, Nevada, Montana, and New Mexico as well as test efforts on Oak Creek, Potash, and San Rafael units
\$9,249	Statewide	Deer, Elk	*Deer and Elk Neonate Survival Study
\$48,891	Statewide	Deer	*Deer Fawn/Adult Survival and Condition Study
\$43,525	Central	Deer, Elk, Moose	*Strawberry Ridge Aspen Regeneration
\$25,000	Central	Deer, Elk	*Dairy Fork WMA Bullhogging of 500 acres
\$5,000	Central	Deer, Elk	*Six Mile WMA In-House Bullhog Project - Phase 1
\$40,664	Central	Deer, Pronghorn	*Central Region Shrub Restoration (planting sagebrush, bitterbrush, saltbush)
\$15,000	Northeast	Deer, Elk, Bighorn	*Willow Creek WMA Aquatic and Terrestrial Improvement (enclose streams, install beaver dam structures, treat vegetation)
\$10,000	Northeast	Deer, Elk	*Phase 2 South Slope Vegetation Restoration in the Mossby Mountain area





Total SFW Funding through Utah Conservation Permit Funds: \$750,191			
Amount	Region	Species	Project
\$10,000	Northern	Deer	*Home Ranch Bullhogging to expand and improve sagebrush habitat by removing juniper on BLM lands adjacent to Deseret Land and Livestock
\$75,000	Northern	Deer, Elk, Moose, Bighorn	*Burnt-Beaver Summit County Phase 2, prescribed burns and restoration of aspen ecosystems in Uinta-Wasatch-Cache National Forest
\$25,866	Northern	Deer, Elk	*Three Canyons Deer Winter Range Habitat Treatment Phase 2, shrub planting in Green Canyon, Providence Canyon and Logan Dry Canyon, Cache County
\$30,000	Southeastern	Deer, Elk, Turkey	*Miller Creek Watershed Restoration 2.0, restoration of instream, riparian, and upland habitats
\$45,000	Southeastern	Deer, Elk, Turkey	*North End La Sal (Brush Hole) Phase 4, treating 1,250 acres of encroaching pinyon-juniper and dense oak brush on state and private lands to improve forage for wildlife

Total SFW Funding through Utah Conservation Permit Funds: \$750,191

Amount	Region	Species	Project
\$15,000	Southeastern	Deer, Elk, Bighorn	*South Bookcliffs Phase 7 (Nash), improving winter range vegetation and primary habitat using bullhog to remove 437 acres and hand crews to remove 136 acres of encroaching pinyon/juniper and applying a seed mixture
\$10,000	Southeastern	Deer, Elk, Turkey	*Shingle Mill Phase 1, San Juan County, a multi-year project to improve vegetation and watershed conditions across a 10,676 acre USFS tract of land and adjacent surrounding private properties
\$20,000	Southeastern	Deer, Elk, Turkey	*La Sal/Abajo Prescribed Burns
\$10,000	Southeastern	Deer, Elk	*Mahogany Point Sage Grouse Habitat Improvement, approximately 5 miles northwest of Ferron, Utah on the Manti-La Sal National Forest
\$10,000	Southern	Deer, Elk, Turkey	*Monroe Mountain Aspen Ecosystems Restoration Project Phase 4
\$10,000	Southern	Deer, Elk, Pronghorns	*Powell District Mud Springs, Phase 2 - 6,000 acres of lop and scatter of pinyon/juniper
\$10,000	Southern	Deer, Elk, Turkey	*Pine Canyon to Koosharem Creek/Bell Rock Wildlife Habitat Improvement Project - Phase 3
\$20,000	Southern	Deer, Elk	*Indian Peaks WMA Mule Deer Habitat Improvement Project



Total SFW Funding through Utah Conservation Permit Funds: \$750,191			
Amount	Region	Species	Project
\$10,000	Southern	Deer, Elk, Turkey	*Red Canyon Habitat Restoration Project Phase I, chaining 1,223 acres of phase III pinyon/juniper to remove trees and re-establish the native sagebrush communities
\$20,000	Southern	Deer, Elk, Turkey, Pronghorn	*Skutumpah Terrace Chalk Ridge, removal of pinyon/juniper in the Upper Kanab Creek area along the Skutumpah Terrace
\$20,000	Southern	Deer, Elk, Turkey	*Center Creek Chaining Project Phase 2, within Plateau Bolder WMU, remove pinyon/juniper through chaining, and aerial seeding
\$40,000	Southern	Deer, Elk, Turkey	*Parowan Front Braffits Creek, enhance winter range habitat primarily for mule deer, reducing hazardous fuels, and seeding
\$33,000	Northern	Deer, Elk, Pronghorns	*Northern Region WMA Browse and Water Enhancements, creating valuable winter range habitat on northern region Wildlife Management Areas via scalping in Bitterbrush, Sage Brush and forbs [Henefer, Brigham Face, Millville, Woodruff WMAs]





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Amount	Region	Species	Project
\$6,475	Southern	Deer, Elk	*Mytoge-Tidwell Sage Grouse Habitat Improvement Phase 3, treat conifer encroachment and lop and scatter of sagebrush-capable landscapes within the Parker Mountain-Emery Sage Grouse Management Area
\$20,000	Southeastern	Deer, Elk, Turkey	*Dry Wash Units 4, 5, 9 - reduce pinyon/juniper density in sagebrush and shrub land openings, restore winter and transition range habitat
\$3,625	Southern	Deer	*Mule Deer Winter Range Bitterbrush Enhancement, planting the seed in critical mule deer wintering areas throughout the Southern Region



**Total SFW Funding through Western Hunting & Conservation Expo
\$5 Application Funds: \$131,865**

Amount	Region	Species	Project
\$5,365	Northern	Deer, Elk	*UWC FS North Zone Juniper Lop and Scatter, approximately 1289 acres near Hardware Ranch and near South Fork Campground (South Fork Ogden River)
\$10,000	Southeastern	Deer, Elk, Moose, Turkey	*Cold Springs WMA Conifer Removal Aspen Regeneration Phase VI, approx. 12 miles northeast of Sunnyside, UT
\$10,000	Southern	Deer, Elk, Turkey	*Cedar Mtn. (Mormon Peak Phase I) Habitat Protection, protect and enhance sagebrush habitat that is crucial fawning, and crucial elk winter range habitats within the Monroe Mountain unit
\$10,000	Southern	Deer, Elk, Turkey, Pronghorn	*Cedar Mountain (Durfee), remove trees to enhance critical winter range habitat primarily for mule deer
\$17,500	Southern	Deer, Elk	*Sevy Bench Habitat Improvement Project, 3 miles northeast of Todd's Junction East of Highway 89, remove pinyon/juniper on 4,320 acres of sage brush/bitter brush plant communities, harrow and seed 382 acres of sage brush to increase forbs and insects for brood rearing habitat
\$9,250	Northern	Waterfowl	**Willard Spur Waterfowl Management Area
\$23,625	Northern	Waterfowl	**Salt Creek Channel Cleaning Island Restoration
\$5,000	Northern	Upland Game	**Upland Habitat Enhancement and Vegetation Management Salt Creek WMA, Restoration, enhancement and development of habitat on Salt Creek and Public Shooting Grounds
\$5,000	Northern	Waterfowl	**Phragmites and Invasive Weed Control on northern Utah Waterfowl Management Areas and along roadsides, ditches, and other waterways in Cache, Box Elder, and Weber Counties
\$6,875	Northern	Waterfowl	**Ogden Bay WMA upland/wetland enhancement project
\$20,000	Northern	Waterfowl	**Harold Crane WMA South Pond Project Phase 2, extending a dike and cleaning a channel along the dike to improve water holding capacity in the pond
\$6,000	Northeastern	Deer, Elk	**Howard Slough WMA secondary road gravel project, pre-commercial thinning of lodgepole pine, clearcutting of lodgepole pine, and restoration of an alpine wet meadow
\$3,250	Statewide	CA Quail	**CA Quail Trap and Transplant, Trap California quail from urban settings along the Wasatch Front and transplant them into suitable habitat statewide for the purpose of establishing additional huntable populations

* WRI Project
** SFW Mission-specific Project

More About Utah's WRI

The Watershed Restoration Initiative (WRI) is a partnership-based program in Utah to improve high priority watersheds throughout the state. WRI is sponsored by the Utah Partners for Conservation and Development and is in its 12th year. The Watershed Program focuses on improving three ecosystem values:

- 1) watershed health and biological diversity,
- 2) water quality and yield, and
- 3) opportunities for sustainable uses of natural resources.

WRI is a bottom-up initiative where project planning, review, and ranking occur at a local level. Five regional teams elect their own leaders, establish focus areas, review, score and rank project proposals using a comprehensive project prioritization score sheet, and assist their members in implementing projects.

**SFW's Total Funding of WRI and Other Projects:
\$882,056!**

Book Cliffs Deer and Elk Neonatal Study

Update provided by Daniel Sallee, Masters Student at Brigham Young University



Justin Shannon UDWR Chief of Wildlife with an Elk Calf During the Neonatal Study



SFW is partially funding and providing much needed member volunteers on this important deer and elk study being conducted by the Utah Division of Wildlife. “The objectives of this project are to determine factors that are influencing population dynamics of deer and elk during the neonate [fawn and calf] stage of life,” according to Daniel Sallee, Masters Student at Brigham Young University. “Factors we are examining include rates of pregnancy, survival and cause specific mortality of fawns and calves, and potential effects of competition among domestic, feral, and native ungulates. During this summer we captured 48 newborn mule deer fawns and 22 newborn elk calves and fitted them with radiocollars.”

Spring 2019 Capture Efforts

Deer:

We were able to capture a total of 50 deer this time around. We caught 49 females and 1 cactus buck. The pregnancy rate was 95.9% [47/49]. Of the two non-pregnant deer, one was a yearling and the other was a 9.5yr old [second oldest] with an ingesta-free body fat measure [IFBF] of 2.96 [worst condition we measured]. We put out 42 vaginal implant transmitters [VITs] in these deer. Our VIT retention rate has been great, none have been expelled early. We had two does die, leaving 40 VITs still functioning. One noteworthy piece of data we gathered from this capture was that the average IFBF was 4.61%, the second lowest ever recorded in Utah thus far.

Elk:

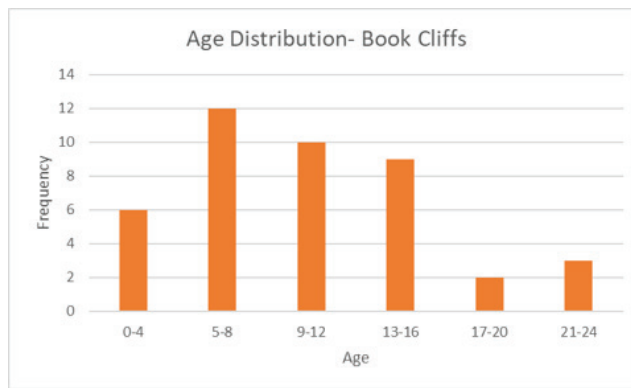
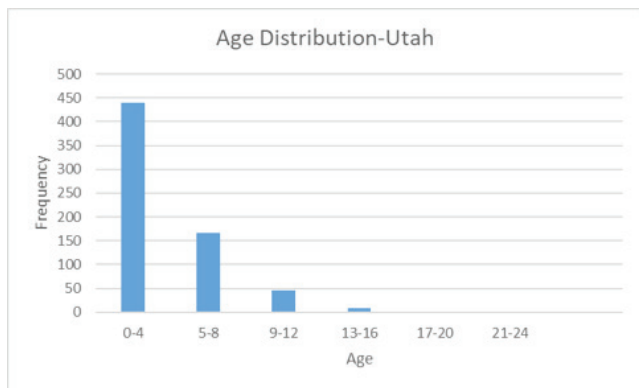
We were able to capture 42 elk this season, all of which were female. It was much more difficult than we were expecting to check pregnancy with the ultrasound, so we are relying on the blood samples to get our pregnancy data. Of the elk we captured, we had enough blood from 34 to send in for processing. Annette was also able to confirm pregnancy for a few elk during the south Book Cliffs captures using palpation, giving us 38 elk that we can confidently classify pregnancy for. Our pregnancy rate was

52.6% [20/38], which seems extremely low. We have had three elk die so far and one has shed the VIT early. This leaves 20 VITs out that we will have an opportunity to capture calves from. The average IFBF for elk on the Book Cliffs was 6.15%. We haven't run the numbers on the statewide data yet, but based on a visual comparison of BCS scores, this might be a little low.

One very noteworthy piece of data is the age structure of the Book Cliffs elk compared to the statewide data. The Book Cliffs have a much older age distribution compared to the rest of the state, which is provided graphically below:

The Book Cliffs population has a much older age structure. There was some concern over capture bias because the pilot said he was targeting larger elk. However, the body lengths of the Book Cliffs elk was not different from the rest of the state [T-test, $p=0.29$]. Also, we ran a regression analysis trying to predict age based on body length and there was no significant relationship [$p=0.68$]. Based on this analysis, it appears there is not a capture bias.

We also ran some generalized linear models to see what influenced the pregnancy status for an elk. We ran models with IFBF, age, body length, and combinations of those variables. Our



top model included IFBF and age. Within this model, IFBF had a positive relationship that was significant ($p=0.002$) and age had a negative relationship that was approaching significant ($p=0.09$). This suggests that elk in good condition were more likely to be pregnant and younger elk were slightly more likely to be pregnant.

In contrast to deer, survival of elk calves has remained relatively high at 86% [19 alive, 3 dead]. All three mortalities have been due to predation; 2 calves were killed by mountain lions and one was killed by a bear. Interestingly, we have not had an elk calf die in the past three months - since the first few days of life in early June.

Summer Study Efforts

This summer, teams attempted to capture 40 neonate elk and 50 neonate deer. Due to the difficulty in getting VITs in pregnant elk, we will have to try to catch some the old fashioned way. We have looked through the older literature to see how it has been done in the past. Other researchers have used searches of known calving areas or have followed groups of elk to find newborns. It has also been noted that elk move away from the herd and become solitary for a few days immediately following parturition. Based on this information, I think we can pick up some calves by glassing up cows that appear to be solitary and acting like they have a calf [defending an area, nursing, etc.] You all have a much better idea of the terrain and elk habits than I do, so I would love some input on the feasibility of this. For the deer, we should be able get all 50 fawns from the VITs we have out. This all depends on our retention rates and movement of deer, so we can also catch fawns opportunistically if needed.

As part of this project we have set up a camera trap array of about 200 cameras to document densities and resource use of feral horses and cattle on the Book Cliffs. This should provide some really valuable additional data.

Initial Findings

Apparent survival of mule deer fawns is at 46% [22 alive, 26 dead].

Causes of mortality are:

- Mountain lion [11 or 42%]
- Bear [8 or 31%]
- Coyote [1 or 4%]
- Bobcat [1 or 4%]
- Sick/Starved [1 or 4%]
- Unknown predation [4 or 15%].

These mortalities have been spread throughout the summer, but during the past month [August], all but one mortality were due to mountain lion predation.

Moving Forward

We will begin classifying the data we obtained from the camera trap portion of the study. We have obtained photos from around 100 trail cameras spread throughout the summer habitat during the past three months. We hope to use this data to create resource selection models for horses and cattle during the birthing period. This, paired with the data from the GPS collars on deer and elk, will allow us to look into spatial relationships of domestic, feral, and native ungulates during the birthing period. We will also be looking into habitat characteristics associated with predation events.

“This has been a huge effort and an important project,” Sallee concluded. “Many thanks to all who have funded, supported and volunteered to make it a success.”



SFW President, Troy Justensen with a Mule Deer Fawn During the Neonatal Study