

STATEWIDE HABITAT PLAN **ANNUAL REPORT**

2024



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STATEWIDE HABITAT PLAN MISSION AND GOALS

The Statewide Habitat Plan (SHP) guides the Wyoming Game and Fish Department (WGFD) and its partners in conserving and improving habitat, and managing Game and Fish-owned lands, aligning with its mission of “Conserving Wildlife, Serving People.” Internally, it acts as a roadmap for inter-divisional collaboration on habitat protection and enhancement, with progress tracked by the WGFD Habitat Technical Advisory Group (HTAG) and summarized in Appendix A.

Strategy II of the SHP requires Game and Fish to produce an annual report on its habitat efforts and project results. This report is shared with various stakeholders, including the Governor’s Office, state and federal agencies, private landowners, conservation groups, and the public. The SHP Annual Report details habitat projects, demonstrating how the plan’s goals are being met:

1

Conserve and protect
crucial aquatic and
terrestrial wildlife
habitats.

2

Restore aquatic and
terrestrial wildlife
habitats.

3

Conserve, enhance, and
protect fish and wildlife
migrations.

For additional information, please contact any of the personnel listed at the end of this document. This report can be viewed on the Game and Fish website.





LETTER FROM THE DIRECTOR

At the Wyoming Game and Fish Department, we firmly believe that a healthy habitat is the ultimate foundation of all successful wildlife management. This principle underpins our entire planning process; every strategy, project, and program we develop begins with a holistic consideration of Wyoming's diverse and complex wildlife landscape.

In 2021, Game and Fish allocated more than \$4 million in funds for habitat projects. We also leveraged over \$11 million from the Wyoming Wildlife Natural Resource Trust Fund, additional federal and state government sources, private landowners, and our local conservation partners. These collaborative efforts collectively contributed more than \$15 million toward vital habitat projects across our state. With over 800 species under our management, every contribution is crucial to maximizing our efforts and ensuring every cent is used effectively.

The priorities and scope of our work are carefully planned through the Statewide Habitat Plan, which serves as our guiding blueprint for

conservation efforts. This habitat plan reflects the latest thinking on how to manage and conserve habitats to benefit all wildlife while simultaneously reflecting the Department's current Strategic Plan. This comprehensive document delineates crucial, restoration, and connectivity areas for fish and wildlife, directing the Wyoming Game and Fish Department's efforts in implementing essential habitat projects. Our annual accomplishments under this vital framework are compiled and highlighted in the Statewide Habitat Plan Annual Report.

Our personnel are constantly innovating and developing new ways to better assess wildlife needs and priorities, ensuring the latest science and technology continuously refines our processes. This commitment to cutting-edge approaches allows us to develop the most effective strategies possible in our conservation efforts. These ongoing efforts and accomplishments, powered by the Statewide Habitat Plan and our adaptive strategies, are fully outlined in this 2024 report.

Angi Bruce, Director
Wyoming Game and Fish Department



HABITAT PROGRAM EXPENDITURES

Game and Fish and partners have funded projects focused on SHP goals. The figures below (rounded to the nearest \$1,000) represent the estimated totals expended on these goals during 2024. Additional information can be found in Appendix B, Habitat Program Expenditures.

Funding Source	Amount
Game and Fish funds expended on SHP goals	\$4,127,000
Non—Game and Fish funds expended on SHP goals	\$10,989,000
Total funds for SHP goals	\$15,116,000

THANK YOU PARTNERS!

The following lists major funding partners and approximate amounts (rounded to the nearest dollar) Game and Fish spent in 2024. This is not a complete list, and may not reflect all partner contributions. We apologize for any partners who may have been inadvertently omitted.

Funding Partner	2024 Amount	2024 InKind Donation
Barnum Construction		\$5,000
Bowhunters of Wyoming	\$5,000	
Bureau of Land Management	\$848,000	\$374,000
Central Utah Project	\$51,000	
Ducks Unlimited	\$426,000	
Fremont County Weed and Pest	\$3,000	
Greater Yellowstone Coalition	\$10,000.00	
Jackson Hole One Fly	\$3,000	
Jackson Hole TU	\$45,000	
Jonah Interagency Office	\$234,000	
Knobloch Family Foundation	\$371,000	
Little Snake River Conservation District	\$71,000	
Meeteetse Conservation District	\$10,000	
Mule Deer Foundation	\$73,000	
Muley Fanatic Foundation	\$120,000	
National Fish and Wildlife Foundation	\$687,000	
National Wild Turkey Federation	\$10,000.00	
Natrona County Conservation District		\$5,000
Natural Resource Conservation Service	\$807,000	
Pacificorp	\$21,000	
Pinedale Anticline Project Office	\$64,000	
Platte County Weed and Pest District	\$1,000	
Popo Agie Conservation District	\$6,000	
Private Donor	\$6,000	\$1,000
Private Landowners	\$69,000	\$71,000
Rocky Mountain Elk Foundation	\$152,000	
Rocky Mountain Power Mitigation	\$72,000	
Russell Construction Mitigation Fund	\$17,000	



Funding Partner	2024 Amount	2024 InKind Donation
Saratoga-Encampment-Rawlins Conservation District	\$5,000	
Sheridan County Weed and Pest	\$29,000	
Sheridan Land Trust	\$24,000	
State Allocation Committee	\$10,000	
Sublette County Conservation District	\$10,000	
Teton County Conservation District	\$18,000	
The Wyldlife Fund	\$75,000	
Thunder Basin Grasslands Prairie Ecosystem Association	\$40,000	\$8,000
Thunder Basin Grazing Association	\$21,000	\$1,200
Trout Unlimited	\$380,000	\$7,000
U.S. Department of Agriculture APHIS	\$20,000	
U.S. Fish and Wildlife Service - Fish Passage	\$143,000	
U.S. Fish and Wildlife Service - Great Plains FHP	\$27,000	
U.S. Fish and Wildlife Service - Private Lands Program	\$119,000	
U.S. Forest Service	\$540,000	\$45,000
Volunteer In-Kind	\$5,000	
WY Department of Agriculture Water Quality		\$15,000
Wyoming Association of Conservation District	\$26,000	
Wyoming DEQ 319	\$39,000	
Wyoming Governor's Big Game License Coalition	\$463,000	
Wyoming Landscape Conservation Initiative	\$1,066,000	
Wyoming Office of State Lands and Investments	\$115,000	
Wyoming Sportsmen's Group	\$5,000	
Wyoming State Forestry	\$5,000	\$1,000
Wyoming Water Development Commission	\$552,000	
Wyoming Wild Sheep Foundation	\$70,000	
Wyoming Wildlife and Natural Resources Trust Board	\$3,000,000	
Total	\$10,989,000	\$533,000
Grand Total	\$11,522,000	



PARTNER OF THE YEAR



Game and Fish recognizes the Laramie Rivers Conservation District (LRCD) as the 2024 Partner of the Year. The mission of the LRCD is to provide leadership for the conservation of Albany County’s soil, water and all other natural resources; to preserve and enhance wildlife habitat; to protect the tax base; and to promote the health, safety and general welfare of the citizens of Albany County through responsible conservation ethics. The LRCD contributes substantively to various facets of habitat conservation through direct collaboration with private landowners and partnerships with other agencies and non-governmental organizations. Previous endeavors have included wildlife-friendly fence conversions, juniper thinning, river restoration, Wyoming Toad conservation and wetland habitat creation. Furthermore, the LRCD has assisted with conifer encroachment mastication work in the aspen foothills of the Snowy Range and provided important assistance in managing hundreds of thousands of dollars of partner funds for conifer

mastication and cheatgrass herbicide treatments. The District’s staff has provided expertise in range management practices and vegetation monitoring. Notably, in 2024, the LRCD has assumed a leading role in coordinating with numerous partners in the planning, design and subsequent replacement of two major diversion dams on the Laramie River. The replacement of these diversion dams is necessitated by the need to improve the efficiency and reliability of irrigation water delivery, enhance operational safety of both the diversion and intake structures, reduce maintenance costs and provide fish passage. Upon replacement and modification to accommodate fish passage, over 40 miles of the Laramie River will be open to fish migrations. Both structures are scheduled for replacement in 2025. The completed diversion and fish passage structures will serve as exemplary cases of positive impacts on the wildlife and aquatic resources within Albany County, attributable to the collaborative leadership of the LRCD.

STATEWIDE HABITAT PROGRAM SECTION SUMMARIES

HABITAT PROTECTION PROGRAM

The Habitat Protection Program (HPP) coordinates project proposal and land/resource management plan reviews and recommends appropriate wildlife stipulations and mitigation strategies to protect important fish and wildlife habitats. It also is used to facilitate the implementation of Wyoming’s Greater Sage-Grouse Executive Order 2019-3 (SGEO) and Wyoming’s Mule Deer and Antelope Migration Corridor Executive Order 2020-1 (MCEO). HPP has six permanent, full-time employees consisting of the HPP Supervisor, four staff biologists and an office support specialist. These employees are located in Cheyenne, Laramie, and Pinedale. In 2024, HPP completed 527 Wildlife Environmental Reviews (WERs) for federal, state, local government and private sector proponents. The majority of these reviews were completed for private sector and state agencies (46% and 33%, respectively). HPP completed 216 of these WERs specifically for SGEO and MCEO compliance. The project types most frequently reviewed by HPP were related to roadwork/fences, mining, telecommunications, oil and gas, and renewable energy projects.

Sender	Number of WERs	Percentage of Total
Federal WERs	53	10%
State WERs	175	33%
Local government WERs	58	11%
Private sector WERs	241	46%

AQUATIC HABITAT PROGRAM

The aquatic habitat program works to protect, restore and enhance Wyoming’s water, watersheds and waterways. The program consists of 13 permanent, full-time employees: Seven regional aquatic habitat biologists, a statewide fish passage coordinator, a statewide fish passage biologist, a Wyoming Landscape Conservation Initiative coordinator, an aquatic habitat program manager and assistant manager and a water management instream flow biologist.

In 2024 there were 43 on-going aquatic habitat projects involving significant funding. Tracked annually, this metric has ranged from 34 to 43 the last five years. The relatively high number can be traced back to the status and experience level of aquatic habitat biologists in each of the regions. There is usually a lull for one to three years when new biologists start as they develop relationships and experience to lead new projects. Program wide, the newer biologists in Laramie, Casper, and Jackson regions have now been in their positions long enough to have gained experience and



are leading multiple projects each. In addition, the biologist in Lander, which became a permanent position in 2023, is contributing projects. The overall level of work is expected to remain high as long as these employees continue in their positions.

Assessment, design, restoration, and monitoring occurred on approximately **116 stream miles**. That is less than the 5- year average with the difference due to fewer and shorter watershed assessments (WHAMs) conducted in 2024. A variable number of WHAMs are planned in the next few years so this value will continue to fluctuate.

The amount of newly constructed stream channel or bank enhancement is usually 1-5 miles and 2024 was in range with a value of 4.4 miles. Water temperature monitoring has increased to the point where biologists are keeping a close eye on stream temperatures at 53 sites across the state. Beaver dam analog work remains popular with Game and Fish workers joining partners to install 58 BDAs, similar to 2023 (52). Finally, 2024 had a substantial amount of upstream passage creation with 49.3 stream miles (see Appendix D).

Stream and Riparian Activity	2024 Stream Miles	5-Year Average
BDAs installed	2.7	3.6
Beaver transplanted	15.3	7.3
Fish passage stream miles connected	49.3	73.6
Instream flow segments filed	0.0	5.4
Riparian protection and management	1.0	1.4
Stream restoration assessments	8.3	8.1
Stream restoration or fish passage designs	6.1	4.4
Stream restorations or bank enhancements	4.4	4.1
Stream restoration projects maintained	2.1	1.6
Stream restoration projects monitored	16.6	20.9
Watershed stream assessments	10.5	70.0
Total	116.3	200.4

HABITAT AND ACCESS

The Habitat and Access Branch is responsible for Wyoming Game and Fish Commission (Commission) owned and Wyoming Game and Fish Department (Department) managed lands across the state. The Branch's mission is to manage these lands to be the benchmark for wildlife habitat while providing public access to these resources. In 2024, the Habitat and Access Branch consisted of a Branch Chief; four (4) Regional Supervisors located in Lander, Cody, Pinedale and Laramie; one (1) Statewide Habitat Development Supervisor located in Cheyenne, four (4) Regional Coordinators located in Sheridan, Casper, Green River and Jackson; and twelve (12) biologists located in Pinedale, Dubois, Lander, Yoder, Cody, Lovell, Laramie, and Saratoga; seven (7) twelve-month Specialists located in Cody, Lander, Casper, Sheridan, Pinedale and Laramie; and fourteen (14) seasonal employees stationed across Wyoming.

The Habitat and Access Branch manages approximately 508,730 acres across Wyoming, consisting of 48 Wildlife Habitat Management Areas (WHMAs), 205 Public Access Areas (PAAs), and 22 elk feedgrounds. Within these areas, 95 wetlands, 140 miles of irrigation ditches, 5,100 acres of irrigated meadows, 2,400 acres of farmland, 250 acres of food plots and more than 1,000 miles of fence are managed and maintained to promote and benefit wildlife habitat. In addition to Department managed lands, the Statewide Habitat Development crew completes habitat development and restoration projects throughout the state on and off Commission-owned lands. Each WHMA is managed for specific wildlife habitat purposes which incorporate specific SHP driven strategies and objectives guiding related project implementation. Habitat projects include Mule Deer Initiative projects, aeration, harrowing, sagebrush mowing, meadow improvements, wetland developments, stream restoration, food plots, wildlife friendly fence conversions, noxious weed spraying and riparian enhancement projects.

To assist hunters and fishers accessing wildlife habitat, the Habitat and Access Branch manages and maintains approximately 1,100 miles of road, 395 parking areas, 67 boat ramps, 28 boat docks, 200 outhouses, and more than 10,000 signs across Wyoming.

During 2024, Habitat and Access acquired and developed three new public access areas on the Green River, OCI Bridge, Monument Hill and Alkali Creek, along with the Popo Agie Public Access Area east of Lander. Additionally, the Commission acquired the 2,660 acre Mule Creek WHMA and a 4,000 acre big game hunting access easement on a contiguous parcel.



LANDS ADMINISTRATION

The mission of the Lands Administration Branch is to administer Wyoming Game and Fish Commission property rights and work with federal and state agencies, NGOs, and the public to acquire and manage property rights for the benefit of wildlife conservation and public access. The Lands Administration Branch currently administers over 500,000 acres of property rights including WHMAs, PAAs, conservation easements, and administrative facilities. The Lands Administration Branch consists of a Lands Branch Chief located in Cheyenne, and two Lands Coordinators located in Cheyenne and Lander. The State is divided into two Lands Administration Regions with each Lands Coordinator handling four regions. A significant portion of the Lands Coordinators' time is spent monitoring conservation easements held by the Game and Fish to ensure the terms of the easements are not violated, and processing lease payments for the use of both public and private properties.

The Lands Branch works closely with regional staff and NGO across the state to find worthy projects to pursue and to secure the necessary funding for these projects. The Commission approved several projects in 2024, made possible by the help of conservation stamp access funds and funding from our amazing NGO partners.

STATEWIDE TERRESTRIAL HABITAT PROGRAM

The Statewide Terrestrial Habitat Program works to actively enhance Wyoming's vast array of terrestrial habitats. This Wildlife Division work unit consists of a Terrestrial Habitat Program Manager and Office Manager stationed in Cheyenne, a Big Game Migration Coordinator located in Pinedale and a Migratory Game Bird and Wetland Biologist located in Lander. In addition, the Terrestrial Habitat Program works closely with regional personnel to administer grants, contracts, agreements, and expenditures for all terrestrial habitat projects statewide.

During Calendar year 2024, Terrestrial Habitat Program personnel were heavily involved with on-the-ground implementation, oversight or verification of expenditures on 77 projects concerning Game and Fish trust funds and funds granted to or from the WGFD from sources such as: WWNRT, various conservation organizations, local, county, state, and federal agencies, conservation districts, weed and pest districts, private landowners, and others. These sources provided approximately \$8.5 million towards on-the-ground expenditures for terrestrial projects.

Riparian and Upland Activity	2024 Acres	5-Year Average
Aspen Rapid Habitat Assessment	66	3,089
Aspen, cottonwood, willow browse monitoring	0	1,011
Conservation Easements acquired	4,000	1,651
Conservation Easements in process, coordinated with partners	0	30
Fee title land acquisition	2,660	1,156
Herbicide weed treatments	32,834	80,170
Livestock grazing management plans or wildlife habitat stewardship plan	11,090	117,331
Mechanical shrub treatment	972	1,699
Mechanical tree removal	9,262	5,846
Mowing, chopping, and Lawson aerator treatments	1,066	2,496
Noxious weed control	30	52,053
Post-management prescription monitoring	99,331	95,174
Pre-treatment monitoring	25,848	33,729
Prescribed burns	4,013	1,180
Rangeland Rapid Habitat Assessment	4,293	17,356
Riparian habitat protection, enhancement, management	0	10
Riparian Rapid Habitat Assessment	106	840
Special Rapid Habitat Assessment	500	2,759
Trees or shrubs planted	8	3,060
Upland exclosure developed	1	12
Upland grass, forb and plot seeding	152	260
Upland habitat inventories	0	80,421
Wetland delineations	4	6



Riparian and Upland Activity	2024 Acres	5-Year Average
Wetland development or major renovation	1	176
Game and Fish-managed lands farming contract	58	903
Game and Fish-managed lands food plot	6	193
Game and Fish-managed lands forage reserve	0	7,600
Game and Fish-managed lands grazed	14,037	37,146
Game and Fish-managed lands irrigated	50	840
Game and Fish-managed lands livestock, forage reserve, meadow rejuvenation grazing administered	0	47,787
Game and Fish-managed lands meadow enhancement	40	125
Game and Fish-managed lands meadow mowed/farmed	1178	1,156
Game and Fish-managed lands noxious weed control	44,471	13,046
Game and Fish-managed lands prescribed burn	0	73
Game and Fish property right monitoring	6,028	74,800



STATEWIDE PROJECTS

FOCAL HERD MULE DEER RESEARCH MONITORING

Program: Wildlife Research

Project Leads: Jill Randall, Embere Hall

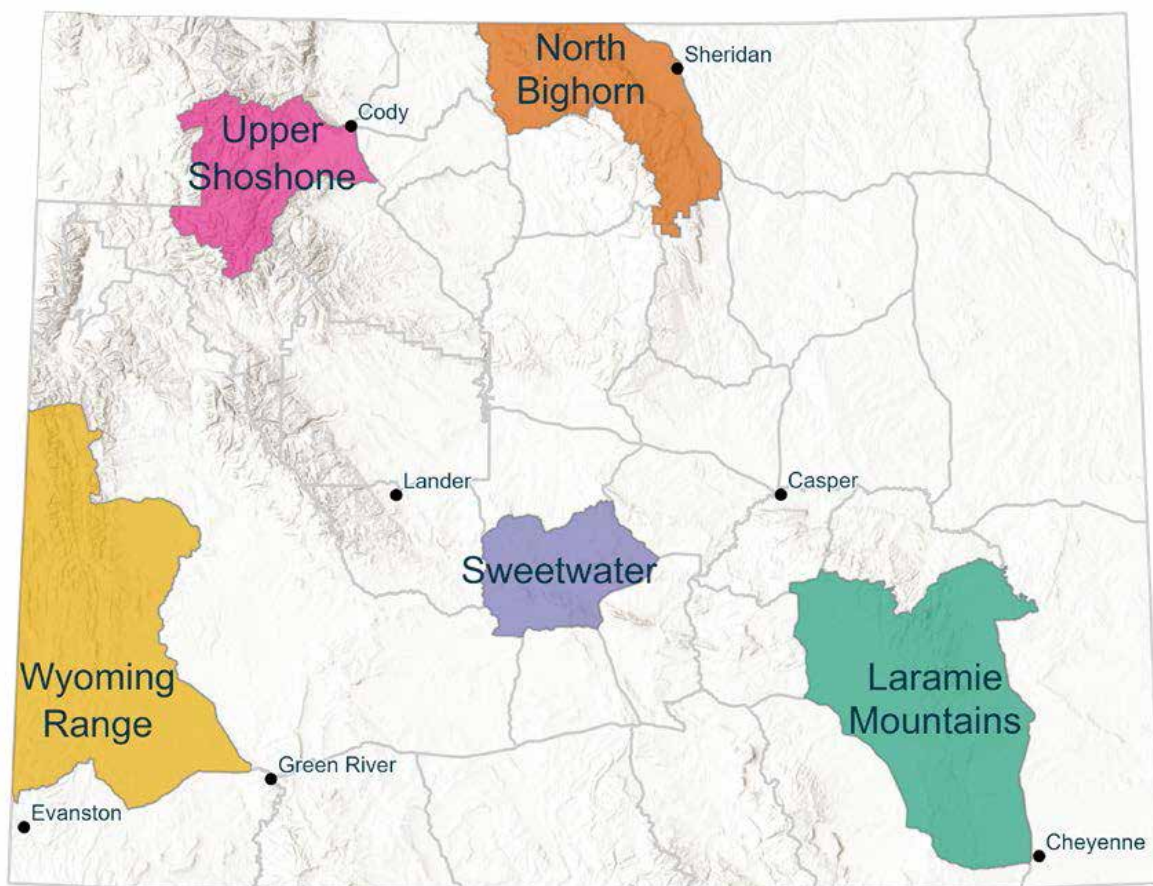
Project Goals: Goal 3

Funding Partner(s): Wyoming Game and Fish Commission

Game and Fish Mule Deer Monitoring Program delivers robust population information, assessments of future harvest opportunities, and an enhanced ability to evaluate the results of management actions. The focal herd component of this effort allows Department personnel to monitor female, male and juvenile survival across five herds using GPS collars. Herds are located in different parts of the state to encompass important variation in habitat, disease and predator communities. In each herd, Department personnel maintain a sample size of 80 does, 30 bucks and 100 juveniles (animals greater than 6 months old). 2,727 mule deer have been tracked through this program since its inception in 2022, resulting in 7.6 million data points. Managers are using the information collected to measure herd performance, assess causes of mortality, site habitat improvement projects, evaluate harvest strategies, update maps of seasonal ranges and more.



Mature mule deer buck tested positive for CWD in the Laramie Range.



Five mule deer herds in the Focal Herd research project.



INSTREAM FLOW STUDY REACH RECONNAISSANCE

Program: Aquatic Habitat

Project Leads: Del Lobb, Sydney McAndrews

Project Goals: Goal 1

Instream flow water rights are used to help maintain fish Species of Greatest Conservation Need, like native cutthroat trout, in Wyoming. Game and Fish conducts studies and files for water rights for flows needed to maintain or improve existing fisheries. In 2024, reconnaissance was conducted on reaches in four potential instream flow seg-

ments: Bare Creek, in the upper Green River Basin, and Brown, Deer, and Willow creeks in the Greybull River Basin. Reconnaissance methods included various combinations of visual assessment and GPS referencing of habitat features, photographs from ground-level and an unmanned aerial vehicle, and stream flow measurements.



Measuring 0.3 cfs flow in Willow Creek.



Geo-referencing Deer Creek riffle.

RUBBER BAFFLES FOR FISH PASSAGE

Program: Aquatic Habitat

Project Leads: Nick Scribner

Project Goals: Goal 3

Fish passage inventories have identified numerous road crossings around the state that are negatively impacting fish passage and stream function. Impacts are due to constriction of the channel that commonly results in high velocities and low depths within the structure, perched outlets, sediment aggradation upstream, and severed floodplain connection. While some of these sites have been improved with new structures that mimic natural stream functions and allow fish to move freely, many remain untouched because of other priorities and insufficient funding to address every structure. A solution to address more road crossings with low-tech solutions has been implemented over the past four years with the use of rubber baffles. The L-shaped rubber baffles are 6 inches high and are commonly 2 - 3 feet long and are attached to the culvert bottom with stainless steel fasteners using hand tools. The spacing between baffles is dependent on the slope of the structure. These baffles reduce velocities and increase depths through the structure and can also help retain sediment. This improves hydraulic conditions that allows more fish movements over a greater range of flow conditions. Monitoring pre- and post-installation of several culverts where baffles have been installed has documented velocities decreasing by 24-80% and depths increasing by 32-150%. Fish have also been documented using pools created within the structures after installation. While these baffles do not fully rectify issues with undersized crossing structures they can improve conditions to allow more fish movement until these structures can be replaced.



Baffles slow water and increase depth within a culvert inlet.



LANDS BRANCH PROJECTS

GREEN RIVER BOAT RAMPS - OCI BRIDGE, MONUMENT HILL, AND ALKALI CREEK

The Lands Branch worked with the Rock Springs Grazing Association to acquire easements for three new boat ramps for public access to the Green River, north of the City of Green River in Sweetwater County. The easements are for a 10-year term and will allow for an additional 10 year renewal upon expiration.

The OCI Bridge boat launch is the northernmost location and includes an access road running south and east from the OCI Entrance Road to a 0.70 acre parking lot and boat ramp on the western side of the river. The Monument Hill boat launch is located three miles downstream from the OCI Bridge location, and includes an access road from Old Stauffer Road to a 0.34 acre parking lot and boat ramp. This parking area is located adjacent to the existing county owned and maintained Monument Hill Camping area. The Alkali Creek boat launch is the southernmost location and is located 6.2 miles south of the Monument Hill location. This easement includes an access road from Blue Rim Road down to a 1.16 acre parking area and boat ramp. This location also includes a pedestrian fishing easement on 7,923 feet of the Green River shoreline.

The easements were finalized in May of 2024, and once the improvements have been constructed, will allow improved public access to the Green River for boaters and anglers.



MULE CREEK RANCH ACQUISITION

The Mule Creek Ranch is located in northern Albany County, in the heart of Elk Hunt Area 7. The property is 6,660 acres in size and continued access to this property greatly improves the access to approximately 38,000 acres of State and Federal land surrounding the ranch. Maintaining public access to this property during the hunting season was a major priority for the Department due to the high percentage of private land ownership, which makes it difficult to manage the elk population in the area.

The Rocky Mountain Elk Foundation (RMEF) purchased the entire ranch in 2022 with the intention of ensuring it is conserved and public access is maintained on the property. The Lands Branch worked with RMEF to formulate a public and private partnership to achieve this goal.

The western portion of the property is 2,660 acres in size and includes a parking area and corrals for the public to use to access the entire property during the hunting season. The Lands Branch worked with RMEF to purchase the western portion for a new Wildlife Habitat Management Area for \$2,355,000.

The eastern portion of the property is 4,000 acres in size, and RMEF was able to sell that property to a private conservation minded landowner. Prior to the sale, RMEF was able to place a conservation easement and public access easement on the property, both of which are now held by the Wyoming Game and Fish Commission to protect and ensure public access is maintained. The Lands Branch worked with RMEF to apply for grants of \$845,000 from the Knobloch Family Foundation and \$345,000 from the Wyoming Wildlife Natural Resources Trust to help pay for the \$1,265,000 cost of the conservation easement and public access easement. RMEF donated the remaining balance of \$420,000 for the easements to the Commission, ensuring no addition-



Jerry Cowles, Habitat & Access Supervisor and Garrett Henry who purchased the eastern tract meet on the property.

al funds were required from the Commission.

The Mule Creek Ranch property transactions were a unique opportunity for a public and private partnership to conserve and maintain public access to a very important property. The entire 6,660 acre property is now available to the public forever, and the property will continue to be managed for agricultural production. The Wyoming Game and Fish Commission approved the project in April of 2024, and the property acquisition and easements were finalized in May.



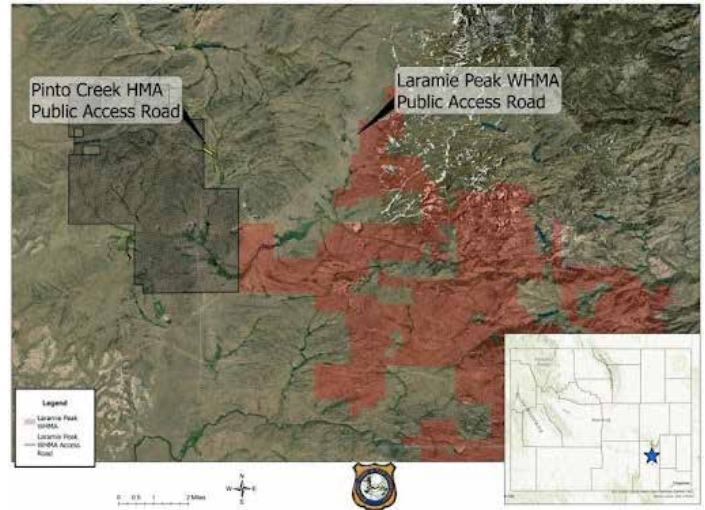
LARAMIE PEAK WHMA AND PINTO CREEK HMA PERMANENT EASEMENTS FOR PUBLIC ACCESS

The Commission acquired two permanent easements for access roads running to the Laramie Peak WHMA and the Pinto Creek HMA in Albany County in November of 2024. These easements were acquired from Hall Ranch, LLC, and will improve the access to both properties permanently.

The access easement to the Laramie Peak WHMA is the main artery for access to the northern portion of the WHMA and facilitates year-round access for activities to include big game hunting, fishing, rock climbing, and dispersed camping. The access point has been used by the public through a verbal agreement with the landowner since 1971.

The access road to the Pinto Creek HMA will ensure a permanent access route to the northern portion of the over 9,000 acre Pinto Creek HMA, also known as the Office of State Lands and Investments owned Moriah Ranch. The access road has been used by the public for a minimal fee since the HMA was created, and this easement ensures the public will have better access to the property permanently, regardless of the ownership of the Hall Ranch property. The access road reduces the distance the public will need to walk in for access to the northern portion of the property by approximately 2 miles.

The Lands Branch and Wyoming Game and Fish regional staff negotiated with the landowner to come to an agreement on the compensa-



tion, and worked with the RMEF to apply for a grant to cover the entire cost of both easements. The Wyoming Game and Fish Commission approved the project in September of 2024.

POPO AGIE SPECIAL USE LEASE

Improving safe public access to the Popo Agie River east of Lander has been a major priority for the Department. Department personnel were approached by the local Trout Unlimited chapter about potentially acquiring a special use lease from the Wyoming Office of State Lands and Investments (OSLI). The Lands Branch worked with regional staff to apply for the lease for an access road and a public parking area along the river. The new public access area will ensure the public has a safe location to access the river and the 260 acre property for hunting and fishing.

The lease was approved by the State Land Board for a 25 year term. The local Popo Agie Angler's Club contributed funds towards the price of the easement, and the OSLI also contributed half of the cost of the construction of the parking area and access road.

The Wyoming Game and Fish Commission approved the project in September of 2024, and the lease was finalized in the beginning of 2025. This project will provide better and safer public access to the river, and is a great example of a partnership between both agencies and the Popo Agie Angler's Club.

Popo Agie River Public Access Road & Parking Easement



CASPER REGION

The Casper Region extends from the plains of the North Platte River along the Laramie Range to the Black Hills, encompassing diverse habitat types. Throughout the region, efforts in terrestrial and aquatic habitat management efforts persistently address various challenges. These include understanding seasonal use and migrations to guide future habitat treatments, tackling landscape permeability issues to minimize wildlife road collisions by adjusting fences to wildlife-friendly specifications, and enhancing wildlife visibility to motorists. Additionally, initiatives involve removing invasive and encroaching species, promoting habitat regeneration, and mitigating erosion. Prior project maintenance remains a priority, alongside the ongoing cultivation of partner relationships to sustain collaborative conservation efforts.

Key projects include:

Converse County Mahogany: The project aims to rejuvenate True Mountain Mahogany stands in Converse County, a crucial winter range for mule deer and elk. Mechanical mowing is used to stimulate new growth. 1,500 acres have been treated since 2018, with 55 acres treated in 2024 and 350 acres remaining.

North Laramie Range Aspen Improvement: This project focuses on removing encroaching conifers and coppice cutting aspen stands to encourage recruitment. Work is done manually to avoid soil issues and wildlife disturbance. Two hundred eighteen acres of cut and pile and 195 acres of jackstraw treatment occurred in 2024.

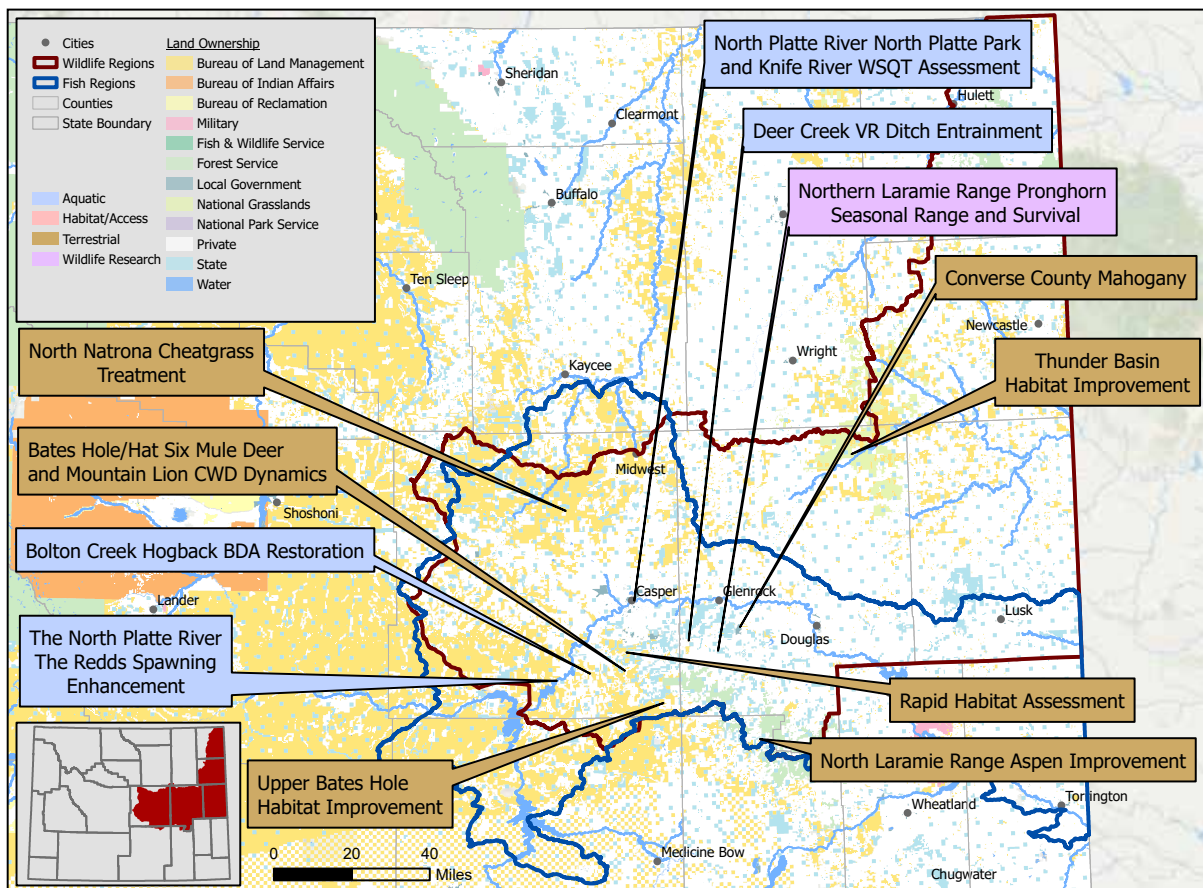
North Platte River - North Platte Park and Knife River WSQT Assessment: A pre-project Wyoming Stream Quantification Tool assessment was conducted for two reaches of the North Platte River. Both reaches were rated as “functioning at risk” with bankfull and floodplain connectivity issues, high bank erosion, and limited riparian vegetation. Restoration

strategies include narrowing channels, improving connectivity, and stabilizing banks.

North Platte River - The Redds Spawning Enhancement: This project aims to enhance rainbow trout spawning habitat in the North Platte River. Objectives include diverting base flows to side channels, adding spawning gravel, stabilizing banks, and creating rearing habitat. Funding is being sought for further planning and designs.

Thunder Basin Habitat Improvement: This collaborative project maintains and enhances sagebrush and grassland habitats. Activities include removing juniper, modifying fences, improving grazing management, and restoring riparian areas. Fifty Zeedyk structures were built, fences were modified, and grazing management was improved in 2024.

Deer Creek VR Ditch Entrainment: An entrainment study found that the VR Ditch traps brown and rainbow trout. Discussions will be held to determine appropriate actions to mitigate this issue.



BATES HOLE/HAT SIX MULE DEER AND MOUNTAIN LION CWD DYNAMICS

Program: Terrestrial Wildlife

Project Leads: Justin Binfet, Brandon Werner

Project Goals: Goal 1



Collared mule deer.

The overarching objective of this project is to examine mountain lion predation and CWD dynamics within the Bates Hole / Hat Six Mule Deer Herd Unit (Casper Region's Mule Deer Initiative herd unit). CWD prevalence has been steadily increasing in this mule deer herd, hovering around 29% in adult bucks over the past five years. Some potential management strategies to combat CWD such as deer density reductions and increased male harvest can be controversial, so managers wanted to better understand the influence of natural predation on CWD. Selective removal of CWD-positive animals may be one of the most promising strategies to reduce density dependent CWD transmission and environmental contamination. While past research projects suggest mountain lions may selectively prey on CWD-positive animals due to increased vulnerability, this has never been empirically measured in a formal research project. In addition, managers need to better understand the dynamics of mountain lion predation in a mule deer population with high CWD prevalence. In such a system, is lion predation an additive or compensatory source of mortality for mule deer, or is it potentially mitigating in terms of CWD transmission via the removal of CWD-positive animals? This research aims to answer this question while collecting valuable information on mountain lion diet selection, mountain lion and mule deer movements, mule deer survival and cause-specific mortality, and CWD dynamics. To date, we have collared 68 adult mule deer with 32 alive to date, we've located 110 newborn fawns from collared mothers (and collared the vast majority of those), and have collared 26 individual lions. The mountain lion portion of field work is now concluded, with data analysis and publications pending. Mule deer collars will remain online until March of 2025. Following collar drop off, additional data analysis will be forthcoming. Better understanding of mule deer movements and seasonal habitat selection will inform future habitat treatment priorities for this herd.

BATES HOLE/HAT SIX MULE DEER INITIATIVE RAPID HABITAT ASSESSMENT

Program: Terrestrial Habitat

Project Leads: Brandon Werner, Willow Bish

Project Goals: Goal 1

Casper Region personnel completed 3 Aspen, 2 Rangeland, and 2 Riparian RHA(s) in the Bates Hole Mule Deer Herd Unit in 2024. The RHA data collected within this herd over a five year period will inform future objective reviews.



Headcut in meadow found while conducting the RHAs.



BOLTON CREEK HOGBACK BDA RESTORATION

Program: Aquatic Habitat

Project Leads: John McCoy

Project Goals: Goal 2

Funding Partner(s): WGBGLC, WWNRT, Game and Fish Trust Fund

Bolton Creek beaver dam analog (BDA) restoration began in 2014 with the installation of 12 “insta-dam” structures at the Easter Site. Structures consisted of shredded tree material packed perpendicular into the stream channel mimicking beaver dams. Goals included reconnecting Bolton Creek’s disconnected floodplain, increasing riparian vegetation, reducing fine sediment inputs from erosion, and increasing perennial flow. While the insta-dams differed from traditional BDA design, a 2023 Wyoming Stream Quantification Tool (WSQT) assessment showed a Bolton Creek Easter Site shift from functioning at risk to functioning with a 79% improvement in large woody debris, floodplain connectivity, lateral migration, riparian vegetation, and bed form diversity. Additional Bolton Creek restoration efforts have included an additional 22 BDAs, 10 gradient control sheet piling structures, watershed-wide salt cedar treatment, riparian plantings, and a ~230 acre riparian enclosure. The Bolton Creek Hogback BDA Restoration started in 2023 and expanded watershed efforts by installing 30 new BDA structures on BLM lands along 3,700 linear feet of stream connecting the upstream Easter Site and downstream riparian enclosure and source population for beaver. Pre-project assessment showed the reach was incised, entrenched, lacked adequate large woody debris, exhibited excessive bank erosion, lacked pools of sufficient depth, and had limited native woody and herbaceous vegetation. The BDA effort will improve these metrics by attenuating sediment to improve floodplain connectivity to aban-



Bolton Creek Hogback BDA.

done terraces. This will allow herbaceous and woody colonization, decrease bank erosion, and increase perennial flow by allowing water to seep to and from the floodplain during times of precipitation and drought. Additionally, the added riparian connectivity may prompt beaver re-colonization to upstream restoration areas, negating the need for maintenance.

CONVERSE COUNTY MAHOGANY

Program: Terrestrial Habitat

Project Leads: Willow Bish

Project Goals: Goal 2

Funding Partner(s): Game and Fish Trust Fund, Russell Construction Mitigation Fund

This is the third phase of a Game and Fish initiated and led project that has been implemented across private, state and BLM lands in Converse County since 2018. Approximately 1,500 acres have been treated to date. The goal is to rejuvenate decadent True Mountain Mahogany stands. Most of the True Mountain Mahogany habitat in Converse County is classified as Mule Deer Crucial Winter Range and is located in Game and Fish Laramie Restoration Area. The South Converse Mule Deer herd uses this area extensively. This herd has experienced a significant decline and shows a high prevalence of chronic wasting disease. While the population has shown slight recovery in recent years, fawn produc-



tion has been inadequate to increase the population towards objective. Therefore, high quality habitat which assists with fawn production and recruitment, may help mitigate impacts of this disease on the herd. Elk utilize mahogany stands throughout the year, but use is highest during the winter when shrubs are a higher proportion of elk diets. Bulls are also prevalent in these areas throughout the winter and hunters can often be successful by targeting mahogany stands, especially on late season licenses in Area 7. True mountain mahogany is a re-sprouting shrub. When it experiences a disturbance, such as fire, the root crown remains alive and new shoot growth is initiated. Due to the loss of historic disturbance regimes, such as fire, many of these stands are very decadent. With the inherent costs, risks, and liabilities of conducting a prescribed fire, alternative treatment methodologies are warranted. The use of chemical treatment options, which are much less expensive, were tried but did not meet the objectives. Mechanical mowing will be used to rejuvenate mahogany stands by stimulating new, palatable and nutritious leader growth. Brush saws operated by hand crews are used due to topography and conditions which limit the use of heavy equipment. This treatment method has been highly successful, with highly predictable results. In 2024, approximately 55 acres were cut with about 350 acres remaining for treatment in this phase.



NORTH LARAMIE RANGE ASPEN IMPROVEMENT

Program: Terrestrial Habitat

Project Leads: Willow Bish

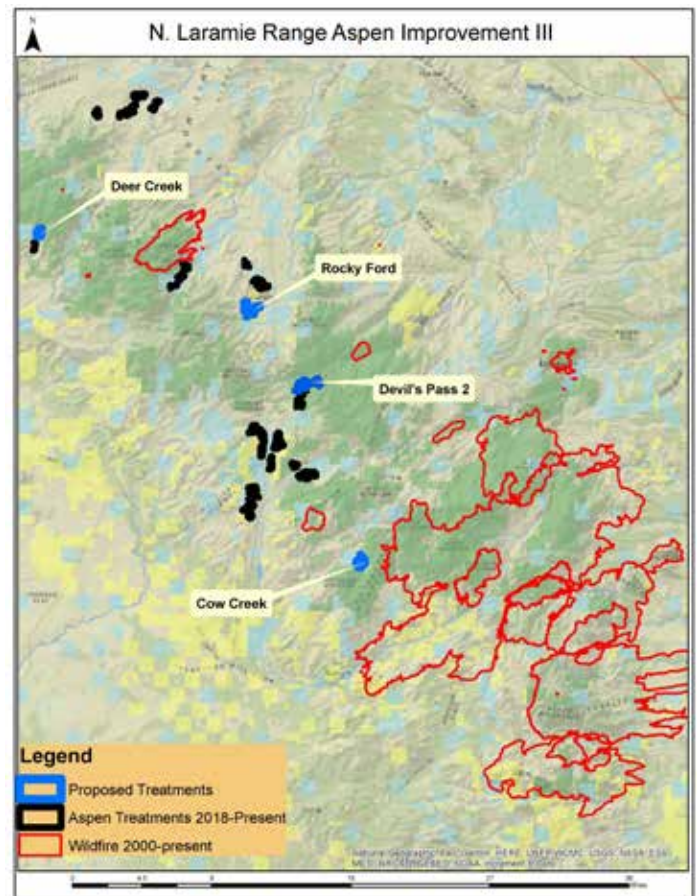
Project Goals: Goal 2

Funding Partner(s): PacifiCorp, RMEF, USFS, WBGGLC, WWNRT, Game and Fish Trust Fund, WY State Forestry

The objective of this project was to mechanically remove encroaching conifers from targeted aspen stands or meadows and to coppice cut specific stands of above-ground aspen to encourage recruitment. Due to terrain and access issues, conifer removal was conducted by hand work only. Select stands of aspen (i.e. older age classes with low recruitment) were coppice cut. Work was conducted in late summer/ early fall to avoid moist soil conditions, hunting seasons, and crucial time frames for big game animals. In 2024, approximately 218 acres of cut and pile and 195 acres of jackstraw treatment occurred. 344 acres were on USFS and 69 acres were on state land.



Aspen recovery 5-years post-treatment.



N. Laramie Range Aspen Treatment and Wildfire Map.

NORTH NATRONA CHEATGRASS TREATMENT

Program: Terrestrial Habitat

Project Leads: Willow Bish

Project Goals: Goal 2

Funding Partner(s): BLM; Game and Fish Invasive Annual Grass

Natrona County Weed and Pest implemented 9,630 acres of cheatgrass treatments in the Natrona Sage-Grouse Core Area in partnership with Game and Fish and BLM across a variety of land ownerships. This treatment is targeting improved conditions for sage grouse, pronghorn, mule deer and non game species.



Sagebrush habitat in core with reduced fire risk from cheatgrass treatments.



NORTH PLATTE RIVER RESTORATION NORTH PLATTE PARK AND KNIFE RIVER

Program: Aquatic Habitat

Project Leads: John McCoy

Project Goals: Goal 2

In 2012, the City of Casper hired Stantec to compile a North Platte River restoration Master Plan assessing 13.5 miles of river through town. Stantec's "Master Plan" highlighted 7 restoration reaches which exhibited over widened channels, poor floodplain connectivity, eroding river banks, and limited native riparian vegetation. To date, the City has restored the Morad Park, Wyoming Boulevard, Water Treatment, and First Street reaches by narrowing over widened channels, decreasing bank erosion by installing toewood with bankfull benches and diverting sheer stress with rock vanes, and improving floodplain connectivity with those same bankfull benches. Aiding the City, Game and Fish organized, completed, and reported the Morad Park, Wyoming Boulevard, and Water Treatment Plant monitoring efforts. Additionally, the Department has been a financial partner throughout the restoration. The North Platte Park and Knife River reaches are the final two restoration areas covered in the Master Plan. Game and Fish provided a pre-project Wyoming Stream Quantification Tool (WSQT) assessment for both reaches spanning a total of 17,569 linear feet. The WSQT assessment generates a category designation of functioning, functioning at risk, or not functioning and a score in the form of functional feet (FF) that indicates habitat quality and aids in developing project goals and objectives. The assessment can also be used to determine whether goals and objectives are met

during monitoring. The North Platte Park and Knife River reaches both exhibited functioning at risk reach runoff parameter designations due to surrounding urban land use and number of storm water discharge outflows. North Platte Park was functioning at risk in both bankfull and floodplain connectivity parameters while Knife River was not functioning in the bankfull parameter and functioning at risk in floodplain connectivity. The designations highlight both reaches' incised and over widened channel form. Lateral migration parameters were designated functioning at risk for both reaches indicating high levels of bank erosion coupled with riverbank armoring. Riparian vegetation parameters were designated not functioning for both reaches due to limited woody vegetation and invasive species. The assessment also showed functioning bed form diversity parameters with pools of adequate depth and sufficient riffle lengths. Additionally, large woody debris parameters were functioning in both reaches; however, most pieces were free floating in backwater areas. Assessment results reinforced the Master Plan's overarching strategy of narrowing over widened channels, improving floodplain connectivity, stabilizing eroding banks, removing bank armoring, and re-establishing native woody and herbaceous riparian vegetation. The baseline data will be compared to post-project SQT measurements to fully communicate restoration gains.



North Platte River North Platte Park eroding bank.



THE NORTH PLATTE RIVER THE REDDS SPAWNING ENHANCEMENT

Program: Aquatic Habitat

Project Leads: John McCoy

Project Goals: Goal 2

The North Platte River below Gray Reef Dam is a world renowned blue ribbon trout fishery. In 2012, Gray Reef recorded a peak of 8,000+ trout per river mile; likely the result of two unusually high flow years which activated productive side channels providing spawning and rearing habitats for rainbow trout. Since then the North Platte River's trout population has declined below Game and Fish objectives of <3,600 trout per river mile following unfavorable spring reservoir releases, angler pressure and hook scarring, and habitat deficiencies. The North Platte River "The Redds" spawning area consists of three channels with the main southern channel receiving all base flow (500 cfs) and ~250,000 ft² of potential spawning habitat. As flow increases to ~700 cfs the middle and northern channels are engaged opening an additional ~159,000 ft² of potential spawning habitat. A flow analysis showed that these side channels are available to spring spawning rainbow trout roughly half of the season and not available to fall rainbow and brown trout. The Bureau of Reclamation assists the Department annually providing gravel cleaning flushing flows of ~4,000 cfs for a week prior to the spring spawn. While this has greatly improved spawning conditions it has also likely pushed smaller favorable gravels out of spawning areas leading to overly coarse riffle and glide substrate. Additionally, an assessment of the middle channel showed an over widened and incised form decreasing the areas ability to buffer dynamic flow regimes during the spawning season. The middle side channel did show good bed form diversity and hosted 14 redds at the time of the assessment. To ameliorate these deficiencies, Game and Fish is pursuing a spawning enhancement. Objectives include diverting base flows from the main channel to the middle channel taking advantage of an additional ~112,000 ft² of potential spawning habitat, buffering middle channel flows using the northern channel as "relief" while adding an additional ~47,000 ft² of potential

spawning habitat, adding favorable spawning gravels to riffle and glide habitats, incorporating favorable spawning hydraulics including glide-like features, stabilizing nearby eroding banks decreasing fine sediment inputs, and allowing adjacent oxbow-like low lying wetland areas to be used by young of year trout as rearing habitat. These areas will be constructed to hold water year round additionally serving as refuge for waterfowl and amphibians. Currently, the Department and other partners are seeking funding to further planning and designs.



North Platte River The Redds Spawning Enhancement side channel

NORTHERN LARAMIE RANGE PRONGHORN SEASONAL RANGE AND SURVIVAL

Program: Wildlife Research

Project Leads: Brandon Werner

Project Goals: Goal 3

Funding Partner(s): Knobloch Family Foundation, WGBGLC

In November 2024, 50 pronghorn were captured and collared. Of those 50, 20 were out of Hunt Area (HA) 31 and 30 out of HA 30. The collars will stay on for 2.5 years. The goal of this project is to identify seasonal ranges and migration routes. The pronghorn in these HAs migrate from high elevations in the Laramie range to lower elevations, but we do not know what routes they take. Currently, these hunt areas are part of the Medicine Bow Pronghorn Herd. There is a possibility that this collar data could indicate that these hunt areas and possibly the adjoining Dwyer Herd Unit may be part of their own herd and not part of the Medicine Bow Herd. Findings from this study will facilitate more informed wildlife management. Lastly, there is an existing wind farm in HA 30 and more are being proposed in both hunt areas. The updated seasonal range and migration routes will help us determine mitigation techniques in wind development areas.



Pronghorn capture.



THUNDER BASIN HABITAT IMPROVEMENT

Program: Wildlife Research

Project Leads: Willow Bish

Project Goals: Goal 2

Funding Partner(s): NFWF, Sage-Grouse Local Working Group; Game and Fish Trust Fund, Thunder Basin Grazing Association, Thunder Basin Grasslands Prairie Ecosystem Association

The Thunder Basin Habitat project maintains and enhances sagebrush and grassland habitats for the benefit of focal bird and other wildlife species reliant on those habitats. This is a collaboration involving the Thunder Basin Grasslands Prairie Ecosystem Association (TBGPEA), Wyoming Game and Fish Department, and the Thunder Basin Grazing Association (TBGA), among others. Habitat needs of greater sage-grouse, mule deer, pronghorn, and many non-game bird species will be addressed by removing encroaching juniper, modifying fences to wildlife friendly specifications, improving grazing management on important sagebrush-grassland habitat, developing and implementing emerging technologies for adaptive precision livestock grazing management, enhancing green areas in ephemeral and upland habitats, and restoring critical riparian/mesic areas. These projects have been developed in collaboration with other management entities and they contribute to several high-priority conservation needs. This proposal also builds upon a substantial amount of conservation work already completed. In 2024, 50 Zeedyk structures were constructed on 2 sites; a 2-day Zeedyk workshop was hosted with a total of 35 people attending, representing 16 local and regional entities, about 5,500' of fence was converted to wildlife friendly specifications, and grazing management was improved on 11,000 acres across 5 pastures.



Workshop attendees learning about mesic restoration techniques.

UPPER BATES HOLE HABITAT IMPROVEMENT

Program: Wildlife Research

Project Leads: Willow Bish

Project Goals: Goal 2

Funding Partner(s): WWNRT

This project builds upon decades of work by Game and Fish and partners and compliments on-going efforts within and adjacent to this landscape. The Department is working to improve habitat for sage-grouse, mule deer, and pronghorn in southern Natrona County and northern Carbon County through the implementation of 1) sagebrush habitat improvement, 2) conifer removal, 3) invasive annual grass treatments, 4) restoration, protection, and maintenance of riparian, mesic, and green area habitats, 5) fence modification and marking. In 2024, approximately 2,350 acres of juniper were hand cut from riparian areas, sagebrush/grasslands in sage-grouse core. Over 8 miles of fence were to reduce

Pre-treatment juniper removal.



sage-grouse fence collisions. Approximately 30 miles of fence were converted to wildlife-friendly specifications. Engineering designs were developed for the restoration of Lone Tree Creek and plans for mesic area improvement using Zeedyk structures are underway. Lastly, approximately 200 acres of mountain big sagebrush were selectively mowed to encourage a balance of forbs, grasses, and shrub age class diversity in the sagebrush stands. This project is on-going and will focus on cheatgrass treatments and implementation of the riparian and mesic habitat improvements in 2025. Several components are supported by sage-grouse mitigation funding from Rocky Mountain Power.

Post-treatment juniper removal.



DEER CREEK VR DITCH ENTRAINMENT

Program: Aquatic Habitat

Project Leads: John McCoy

Project Goals: Goal 2

The VR Ditch is located at the mouth of Deer Creek Canyon within the Deer Creek PAA. This section of creek is a popular fishing access area that was designated a blue ribbon fishery after 2022 population monitoring. The VR Ditch diversion has long been thought to be a source of entrainment in the watershed due to its location in the thalweg of a long deep pool. In 2023, the Casper AHAB conducted an entrainment study by setting up a net across the ditch 100 yards downstream of the diversion for ~34 hours/week for the duration of the irrigation season. A total of 41 brown trout were estimated to have been entrained in the ditch

annually. In 2024, a follow up assessment was conducted. After a slightly longer irrigation season that began and ended roughly a month earlier, survey results estimated a total of 58 brown trout and 12 rainbow trout to have been entrained annually. Additionally, 110 trout fry were estimated to have been entrained compared to none the previous year. While these numbers are higher than the previous season's, results don't beckon immediate action. Discussions will be held with regional fisheries management, fish passage personnel, and the landowner to determine what, if any, action is warranted.

VR Ditch diversion.



CODY REGION

The Cody Region lies in the foothills of the Absaroka Mountains stretching from the Montana state line south to the Owl Creek Mountains, flanked to the east by the Bighorn Mountains and by Yellowstone National Park to the west.

While diverse efforts to manage and enhance wildlife habitats and improve Game and Fish Commission-owned lands in the Cody Region continue to have a common thread, they are collaborative efforts involving diverse partners including sportspersons, conservation partners, private landowners and land management agencies.

In 2024, habitat enhancement efforts within the region focused on preventing entrainment of fish and facilitating fish passage, enhancing riparian areas in the Big Horn Basin through translocation of beavers and aspen enhancement efforts.

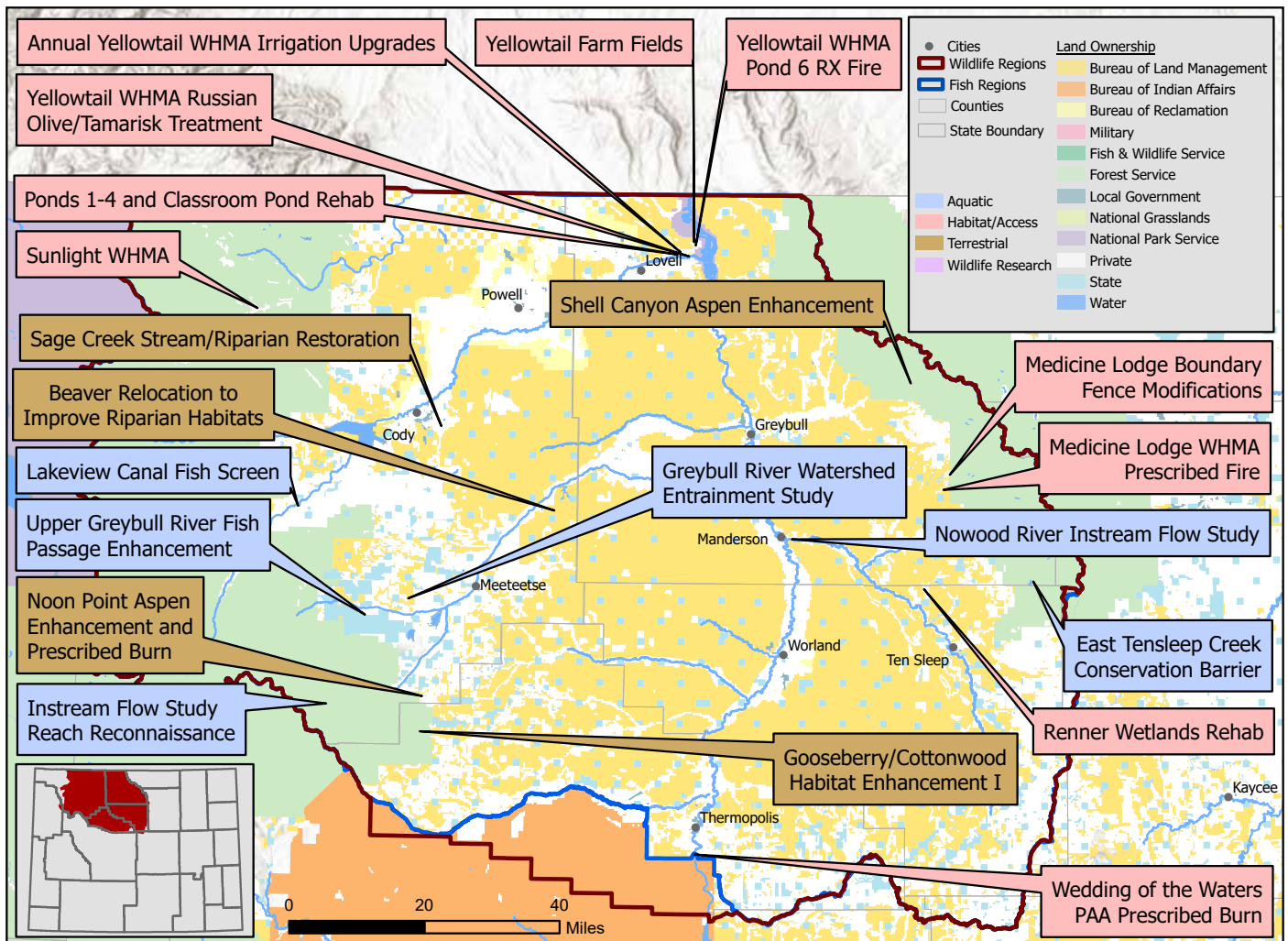
Of note was the completion of a fish screen south of Cody. The passive corrugated metal fish screen is the second largest screen in Wyoming, and is of special note because of the diverse partners that worked together to accomplish the project.

Efforts related to aquatic habitat and fish passage focused on gathering data to assess need, planning and designing structures, or evaluating

the effectiveness of projects that prevent entrainment of fish or facilitate fish passage. In 2024, work continues in the Greybull River drainage to enhance connectivity for Yellowstone cutthroat trout. An additional project to benefit this species is underway on East Ten Sleep Creek in the Bighorn Mountains. Plans are currently being designed to construct a barrier to block the migration of non-native trout, protecting a genetically pure Yellowstone cutthroat trout population that is confined to the upper two miles of East Tensleep Creek.

Game and Fish manages five WHMAs within the Big Horn Basin that provide crucial habitat for wildlife and 49 PAAs. Improvements and maintenance to infrastructure and habitats on these areas and other Commission owned lands continues to be a strong focus. In 2024, Game and Fish replaced boundary fences, used prescribed burns, upgraded irrigation infrastructure and implemented farming and grazing on WHMAs to improve wildlife habitat.

One of the most notable projects is the restoration of Ponds 1-4 and the Classroom Pond on Yellowtail WHMA near Lovell. The restoration was accomplished primarily by replacing water control structures, and constructing dikes and ditches to improve the ability of Game and Fish to control water in each pond, improving the function of the wetland.



BEAVER TRANSLOCATION FOR STREAM AND RIPARIAN RESTORATION

Program: Terrestrial Habitat

Project Leads: Jerry Altermatt, Sam Stephens, Ashleigh Rhea

Project Goals: Goal 2

Between April 23 and October 20, 2024, a total of 30 beavers were trapped and relocated within the Cody Region (See translocation log below). The purpose of the translocations was to enhance stream and riparian habitats. Beavers were trapped using Hancock and Comstock traps by Department personnel from eight locations where they were causing problems on private or Department managed lands. Beavers were translocated to eight locations in the Cody Region and one location in the Sheridan Region for the purpose of stream/riparian restoration. Twenty three of these beavers were held in the holding facility at the Cody Regional Office until the time of release, and seven beavers were transported and released without holding. Most beavers were weighed to determine an approximate age.

- Muddy Creek (tributary of Clarks Fork): On September 21, two adults were released into Muddy Creek. The Shoshone National Forest mule pack string packed the beavers into the release site. One new dam was observed near the release site in November. This was the third translocation in Muddy Creek. Three beavers released in 2021 built a dam and successfully over-wintered, but moved from the area after record flooding washed out the dam in June 2022. Two beavers were released in 2023, but did not persist.
- Porcupine Creek (tributary of Bighorn River): On August 29, one adult was released on a tributary of Porcupine Creek on Bighorn National Forest. This release was to supplement translocations in previous years.
- Buffalo Creek (tributary of Nowood Creek). Between October 13 and October 20, a family of 2 adults, one yearling and two kits were trapped and immediately released in Buffalo Creek on the Renner Wildlife Habitat Management Area. Two new dams were discovered in November.

Beaver in the Cody beaver holding facility.



- Enos Creek (tributary of Gooseberry Creek): On May 2, two yearling were released in Enos Creek on private lands in a site that had beaver dam analogs installed in 2022. This release was to supplement translocations in previous years.
- Gwinn Fork (tributary of Wood River): On September 30, an adult and yearling were released in Gwinn Fork on the Shoshone National Forest. At the time of this report, a site visit had not been made to document activity following the release.
- Trout Creek (tributary of North Fork Shoshone River): On September 30, a family of one adult, two yearlings and one kit were released on private lands in Trout Creek. At the time of this report, a site visit had not been made to document activity following the release.
- Lake Creek (tributary of Tensleep Creek) : On October 1, a family of two adults, three yearlings and two kits were released in Lake Creek on the Bighorn National Forest. One new dam was observed later in October. South Fork Shoshone River: On October 14, two unrelated adults were released into a private pond adjacent to the South Fork. The site had previously been occupied by beavers up until 2019.
- Brokenback Creek (tributary of Nowood River): On October 2 and October 9, two adult beavers were trapped and immediately released into Brokenback Creek. At the time of this report, a site visit had not been made to document activity following the release. Poison Creek (tributary of Crazy Woman Creek): On October 12, Sheridan Region habitat personnel released into Poison Creek a family of two adult beaver and one kit that were trapped in the Cody Region. At the time of this report, a site visit had not been made to document activity following the release.

Beaver being brought into Cody holding facility.



CODY REGION NOXIOUS WEED CONTROL

Program: Habitat and Access

Project Leads: Brad Sorensen, Craig Swanson, Eric Shorma

Project Goals: Goal 1

Annually around 2,000 acres of invasive plants are treated by Cody Region Habitat and Access Personnel and local Weed and Pest Districts on the 5 WHMAs within the Cody Region. These invasive are treated using

Treating noxious weeds at Renner WHMA.

chemical, mechanical, and biological methods to stress the plants. Controlling these noxious plants will enhance habitat while allowing native plants to thrive.



CODY REGION PUBLIC ACCESS AREA MAINTENANCE AND UPGRADES

Program: Habitat and Access

Project Leads: Brad Sorensen, Craig Swanson, Eric Shorma

Project Goals: Goal 1

The Cody region has 49 PAAs. These PAAs serve as critical recreational areas for the general public and sportsmen alike. These areas are used for hunting and fishing access. Yearly maintenance and upgrades are necessary to preserve these habitats and accesses. Yearly upgrades in

2024 included treating noxious weeds, adding approximately 400 yds of gravel, blading roads, installing new cattle guards, replacing dilapidated fences, and replacing signs.

CODY REGION WHMA GRAZING

Program: Habitat and Access

Project Leads: Brad Sorensen, Craig Swanson, Eric Shorma

Project Goals: Goal 1

The Cody region had grazing agreements on three WHMAs. Renner, Sunlight, and Sunshine WHMAs were grazed with cattle in the spring and summer months. Cattle were grazed in a rotational pattern to reduce litter and stimulate new growth on Sunshine and Renner WHMAs. The Sunlight WHMA utilized a high intensity short duration grazing

schedule to stimulate regrowth for wintering wildlife. Stocking rates on Renner were 383 AUMs, Sunlight 612 AUMs, and Sunshine 960 AUMs. In exchange for grazing the permittees complete area improvement projects that include fencing, water developments and noxious weed control.



WHMA MAINTENANCE AND UPGRADES

Program: Habitat and Access

Project Leads: Brad Sorensen, Craig Swanson, Eric Shorma

Project Goals: Goal 1

Annual maintenance and improvements continued on the five WHMAs in the Cody Region in 2024. The Sunlight, Yellowtail, and Medicine Lodge WHMAs received annual fence maintenance on a total of 70 miles to reduce trespass livestock. Nearly a mile of fence was removed and replaced with wildlife friendly fencing on the Medicine Lodge WHMA. The Sunshine and Renner WHMAs received annual fence main-

tenance on a total of 45 miles of stock fence by lessee. 1,486 acres of irrigation water rights were spread on the Yellowtail, Renner, Medicine Lodge, and Sunlight WHMAs. Annual parking lot and road maintenance was performed. Over 57,000 acres of Commission managed property rights were monitored. Approximately 2,000 acres of noxious weeds were treated by Game and Fish personnel and contract applicators.

EAST TENSLEEP CREEK CONSERVATION BARRIER

Program: Aquatic Habitat

Project Leads: Erin Leonetti

Project Goals: Goal 1, Goal 3

Funding Partner(s): Game and Fish Trust Fund

Yellowstone Cutthroat Trout (YSC) have declined due to habitat loss, hybridization, and competition with non-native species. Once found in over 17,000 miles of riverine habitat, their range has shrunk to 7,500 miles, with only 3,000 miles supporting genetically pure populations. In Wyoming, YSC are listed as a Species of Greatest Conservation Need. One of the last genetically pure YSC populations is confined to the upper two miles of East Tensleep Creek on the Big-horn National Forest, approximately 18 miles northeast of Ten Sleep, WY. Non-native Brown and Brook trout outcompete and prey upon YSC, pushing them toward extirpation. This project aligns with prior-

ities set through stakeholder collaboration, including a 176-member working group. Based on site assessments by Game and Fish, the USFS, and the National Stream and Aquatic Ecology Center, securing the East Tensleep Creek YSC population was a top recommendation. To protect YSC, a 5-foot barrier will be installed 1,100 feet upstream from Meadowlark Lake, blocking non-native trout migration. WWC Engineering was hired in 2024 to finalize designs by the spring of 2025, with construction planned for fall 2026. Afterward, non-native trout will be removed via chemical treatment, restoring 31 miles of prime YSC habitat.

East Tensleep Creel Conservation Barrier.



UPPER GREYBULL RIVER FISH PASSAGE ENHANCEMENT

Program: Aquatic Habitat

Project Leads: Laura Burckhardt

Project Goals: Goal 3

Funding Partner(s): WWNRT, Meeteetse Conservation District, TU, USFS, Water Development Commission, Western Native Trout Initiative, Wildlife Federation, Pitchfork Ranch, WGBGLC

The Greybull River drainage supports the second largest genetically pure Yellowstone Cutthroat Trout population in Wyoming and is home to the largest population in the Bighorn/Wind River Basin. Enhancing connectivity in the Greybull River drainage is a priority for Game and Fish, Meeteetse Conservation District, Greybull Valley Irrigation District, TU, USFS, WWNRT, and private landowners. The Pitchfork Ranch has partnered with Game and Fish to restore upstream passage and prevent the loss of fish into irrigation ditches across the Ranch. The Pitchfork Ranch contains four tributaries to the Greybull River that together contain over 46 miles of high quality spawning, rearing, and overwintering habitat for native fish. However, for many decades, five active diversions, four abandoned diversions, and thirteen road crossings in the drainage have impeded upstream passage and entrained

thousands of fish each year. Game and Fish and partners are in the design and fundraising phase to remove passage barriers and to screen diversions to prevent the loss of fish into irrigation diversions. In 2024, designs were finalized and the first phase of construction was put out for bid. Construction started on one stock water tank. When implemented, this project will restore upstream passage to over 46 miles of critical habitats within a large and key watershed for native fish. Screening of the diversions will restore downstream passage to over 21 miles of habitat and prevent the loss of up to 60,000 Yellowstone Cutthroat Trout per year. These conservation efforts will yield a great deal of resilience to Yellowstone Cutthroat Trout populations in the face of natural and manmade disturbances such as drought, climate change, floods and wildfire.

Timber Creek is a Greybull River tributary where partners are removing fish passage barriers and screening diversions.



COTTONWOOD CREEK ASPEN ENHANCEMENT

Program: Terrestrial Habitat
Project Leads: Jerry Altermatt
Project Goals: Goal 2
Funding Partner(s): USFS

Aspen are a sub-climax species that require natural or man-made disturbance to persist. Along the Absaroka Front, a lack of fire has led to conifer encroachment. As a result, aspen have declined in spatial extent and/or have been totally lost. To achieve the objective of setting back succession and maintaining aspen on the landscape, conifers were removed from 42 acres of aspen communities on Shoshone National Forest lands in the Cottonwood Creek drainage. The treatment was conducted by Summitt Forestry, a private contractor from Oregon, in September 2024. All conifers up to 13 inch DBH were cut with chainsaws, lopped and scattered.



GREYBULL RIVER WATERSHED ENTRAINMENT STUDY

Program: Aquatic Habitat
Project Leads: Erin Leonetti
Project Goals: Goal 3

The Greybull River watershed supports the second-largest genetically pure Yellowstone Cutthroat Trout (YSC) population in Wyoming and contains the largest population within the Bighorn/Wind River Basin, with seven core populations. Located in northwest Wyoming near Meeteetse, this watershed is crucial for YSC conservation, along with other species such as mountain sucker and mountain whitefish. Agricultural irrigation is a common practice in this region, making fish entrainment a significant concern. Estimating entrainment rates provides essential data on species loss and total numbers, informing decisions on whether irrigation ditches should be screened to mitigate fish loss. In 2024, an entrainment study was finalized across six irrigation ditches—four on the Greybull River and two on its tributaries, Rose and Timber Creek. These tributaries provide high-quality spawning, rearing, and feeding habitat for YSC. The irrigation season runs from May through October,

and trap nets with 3/16-inch mesh were deployed weekly from May to October for 24-hour intervals. Over the course of the study, nets were checked frequently to maintain water flow and minimize fish mortality. During the 2024 irrigation season, a total of 2,700 sampling hours were conducted, revealing an estimated loss of 70,800 fish across six ditches. Yellowstone cutthroat trout, a species of concern, suffered an estimated loss of 20,000 individuals, ranging in size from 1 to 11 inches. The highest YSC entrainment occurred in the Timber Creek and Butte ditches, with estimated losses of 18,000 and 1,000 fish, respectively. In comparison, the estimated entrainment loss for Timber Creek in 2023 was only 3,000 fish. Overall, five years of studying fish entrainment across nine irrigation ditches in the Greybull River watershed have led to the screening of five ditches, helping to mitigate fish loss and support YSC conservation efforts.

Trap net set up in the Timber Creek ditch to study the amount of fish loss and species.



LAKEVIEW CANAL FISH SCREEN

Program: Aquatic Habitat

Project Leads: Laura Burckhardt

Project Goals: Goal 3

Funding Partner(s): TU, Wyoming Water Development Commission, WWNRT, Game and Fish Trust Fund, Wyoming Association of Conservation Districts, NRCS, Lakeview Irrigation District. Could abbreviate WWDC, WACD

Game and Fish in partnership with the Lakeview Irrigation District (LID), NRCS, Cody Conservation District, WWNRT, TU, Wyoming Water Development Office and Wyoming Association of Conservation Districts are constructing a 250 cfs fish screen on the Lakeview Canal southwest of Cody. The fish screen will be installed in conjunction with the rehabilitation of the District's Mower Creek Structure. This will be the

second largest fish screen in Wyoming. The passive corrugated metal fish screen will return an estimated 37,800 native fish and 14,767 trout annually to the South Fork Shoshone River. This is an example of diverse stakeholders working together to act upon conservation opportunities while improving irrigation efficiencies and replacing aging irrigation infrastructure.

Lakeview Fish Screen structure.



MEDICINE LODGE BOUNDARY FENCE MODIFICATIONS

Program: Habitat and Access

Project Leads: Brad Sorensen, Craig Swanson, Eric Shorma

Project Goals: Goal 1

Funding Partner(s): BLM, MDF

In 2024 approximately 1 mile of dilapidated buck and pole fence was removed and replaced with wildlife friendly fence to keep the neighboring cattle off the WHMA. Game and Fish personnel, BLM personnel, and Big Horn Fence Initiative volunteers assisted in the removal and installation of the boundary fence. The new fence will be up when cattle are on the forest and removed during the winter months for migrating wildlife to move freely between the forest and the WHMA.



Cody Region Habitat & Access personnel removing buck and rail fence at Medicine Lodge WHMA.



MEDICINE LODGE WHMA PRESCRIBED FIRE

Program: Habitat and Access

Project Leads: Brad Sorensen, Eric Shorma

Project Goals: Goal 2

Approximately 500 acres were treated using prescribed fire in February 2024. The purpose of the Medicine Lodge Prescribed Fire Treatment is to create a mosaic of burned and unburned vegetation, by burning approximately 30% to 60% of three treatment areas that total 3000 acres, and by targeting sagebrush, juniper and aspen clones. Much of the project area consists of sagebrush and encroaching juniper. This fuel type has bene-

Pre Ignition Briefing.



Fire line management, Medicine Lodge WHMA.



fitted in the past from prescribed fire by improving elk and other wildlife habitat conditions. The project will reduce hazardous fuel concentrations in large sagebrush stands. Some of the area includes decadent aspen stands. Previous treatments have included aspen stands which have benefitted from prescribed fire by reducing competition from mixed conifer and invigorated aspen suckering.

Fire line management, Medicine Lodge WHMA.



NOON POINT ASPEN ENHANCEMENT

Program: Terrestrial Habitat

Project Leads: Jerry Altermatt

Project Goals: Goal 2

Funding Partner(s): BLM, RMEF, WGBGLC, Game and Fish Mule Deer Initiative

Aspen are a sub-climax species that require natural or man-made disturbance to persist. Along the Absaroka Front, a lack of fire has led to conifer encroachment. As a result, aspen have declined in spatial extent and/or have been totally lost. To achieve the objective of setting back succession and maintaining aspen on the landscape, conifers were removed from 248 acres of aspen communities on BLM, state lands and Antlers Ranch in the Gooseberry Creek drainage. The treatment was conducted by Summitt Forest, a private contractor from Oregon, in September 2024. All conifers up to 13 inch DBH were cut with chainsaws, lopped and scattered.



Sawyer lopping and scattering conifers.

NOWOOD RIVER INSTREAM FLOW STUDY

Program: Aquatic Habitat

Project Leads: Del Lobb, Sydney McAndrews

Project Goals: Goal 3

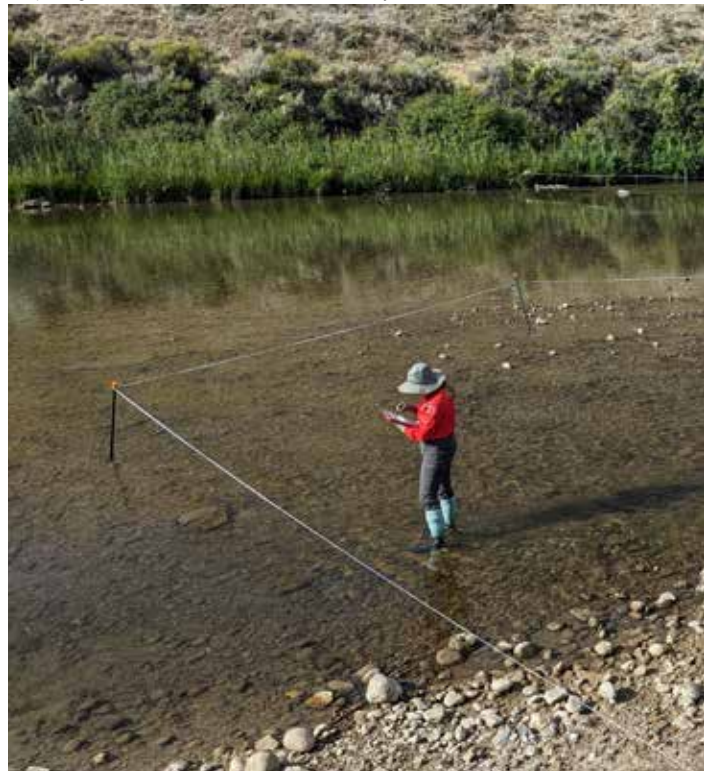
Proposed construction of Alkali Reservoir in the lower Nowood River Basin raised concerns about decreased flows in the Nowood River limiting passage of Sauger back into the Bighorn River during late spring and summer. Depth, velocity, and water surface elevation data will be collected at various stream flows in a reach on Nowood River near the confluence with the Bighorn River in Manderso. Model results will be used to develop seasonal flow recommendations and,

Surveying the Nowood River Habitat Retention Method transect.



if the reservoir is permitted, an instream flow water right application for a segment of Nowood River will be submitted. In 2024, multiple riffles were visited and depth, velocity, and water surface elevation data collected at various stream flows. Data will be used to calibrate a model and develop seasonal flow recommendations and potentially an instream flow water right application for a segment of the Nowood River.

Preparing to collect data for Critical Riffle Analysis.



YELLOWTAIL WHMA PONDS 1-4 AND CLASSROOM POND REHAB

Program: Habitat and Access

Project Leads: Brad Sorensen, Eric Shorma

Project Goals: Goal 1, Goal 2

Funding Partner(s): DU, Game and Fish Trust Fund

The purpose of this project is to increase aquatic function and values of wetland and riparian habitats within Game and Fish's Yellowtail Wildlife Habitat Management Area (WHMA). Aquatic function and values would be increased by creating new seasonal wetlands, restoring hydrology to riparian and wetland areas, enhancing existing wetlands, and improving conveyance of surface water through the larger wetland and riparian system. Activities included the extension/build-up of five existing earthen embankments, construction of nine ditches/waterways, replacement of

Wetland enhancement, Yellowtail WHMA.



four water control structures, installation of one new water control structure; relocation of an existing water control structure, placement of one rock check structure and slide gate, and installation of a culvert. To do this, approximately 23,069 cubic yards (CY) of material were excavated along with the placement of 3,853 CY of redistributed earthen material and imported rock riprap to construct features. The project will result in the permanent loss of 0.99 acre of wetland and 1.63 acres of wetland creation for a net gain of 0.64 acre of new wetland.

Wetland enhancement, Yellowtail WHMA.



RENNER WHMA WETLANDS REHAB

Program: Habitat and Access

Project Leads: Brad Sorensen

Project Goals: Goal 1, Goal 2

Funding Partner(s): DU, Game and Fish Trust Fund

The wetland restoration was accomplished through the removal and replacement of old dilapidated water control structures as well as improving conveyance of water throughout the system. One of the main components is turning this wetland system from a flow through system, to a system where water can be put into the wetlands at desirable times of the year. Currently all water from Buffalo Creek must pass through the project site year-round. One additional wetland cell was created to expand the complex. Water levels in all the impoundments on the

project tract will be regulated using Agri Drain stoplog in-line control structures. These will be used to move water between basins and to control water levels within basins. We also propose to add water conveyance ditches within the basins to ensure efficient movement of water throughout the system. These improvements will allow managers to flood and drawdown wetlands in a manner conducive to the growth of targeted wetland plants. All of these actions will result in higher quality wetland habitat and more efficient use of water supplies.



SAGE CREEK STREAM/RIPARIAN RESTORATION

Program: Terrestrial Habitat

Project Leads: Jerry Altermatt, Laura Burckhardt

Project Goals: Goal 2

Funding Partner(s): WWNRT, Game and Fish Mule Deer Initiative

Russian olive trees were removed from 30 acres on private lands within the riparian area and adjacent wetlands associated with Sage Creek south of Cody. A mini-excavator was used to extract the trees and pile for burning in 2027. Where trees were inaccessible to the excavator, chainsaws were used and stumps were immediately treated with herbicide.



Sage Creek after removal of Russian olives.

Russian olive sprouts will be sprayed with herbicide in fall 2025. In 2026, native woody riparian vegetation will be planted. The treatment was part of a larger effort to restore stream and riparian functions on Sage Creek. The effort includes noxious weed control, woody plantings, fencing and beaver dam analogs.



Sage Creek prior to removal of Russian Olives.

SHELL CANYON ASPEN ENHANCEMENT

Program: Terrestrial Habitat

Project Leads: Jerry Altermatt

Project Goals: Goal 2

Funding Partner(s): RMEF, USFS, WGBGLC, Game and Fish Mule Deer Initiative

In the Bighorn Mountains, aspen are a sub-climax species that require natural or man-made disturbance to persist. Owing to effective fire suppression, periodic natural disturbance in aspen stands has been reduced. As a result, most aspen stands in the Bighorn Mountains are remnants that are severely encroached by conifers. Aspen is intolerant of shade, and it reproduces through root suckering that is inhibited by shade. To achieve the objective of setting back succession and maintaining aspen on the landscape, conifers were removed from 155 acres of aspen communities on the Bighorn National Forest in the Shell Creek drainage. The treatment was conducted by Summitt Forestry, a private contractor from Oregon, in September 2024. All conifers were jackstrawed to protect the treatment area from browsing.



Aspen community after jackstraw treatment.



SUNLIGHT WHMA SEEDING

Program: Habitat and Access

Project Leads: Brad Sorensen, Craig Swanson

Project Goals: Goal 2

Sunlight WHMA has approximately 200 acres of irrigated winter range for elk. Trial seedings are being conducted to determine what seeds will germinate and which of these forage components will be selected by wintering wildlife. Approximately 40 acres of irrigated land were re-seeded in 2024. This mixture consisted of Falcata Alfalfa, Sainfoin, Small Burnet, Meadow Brome, Timothy, Sandberg Blue Grass, Ladak Alfalfa, Survivor plus Alfalfa, Alsike Clover, Cicer Milkvetch, and Meadow Fescue. This seed mixture was well received by the moose on the unit and should provide winter nutrients for the wintering elk.

Moose on newly seeded meadow.



Sunlight seeding 2024.

WEDDING OF THE WATERS PAA PRESCRIBED BURN

Program: Habitat and Access

Project Leads: Brad Sorensen

Project Goals: Goal 2

Wedding of the Waters PAA is located outside of Thermopolis and is a very popular PAA that has invasive phragmites growing on it and affecting the habitat and access to the river. Invasive phragmites is an aggressive plant that spreads quickly and outcompetes native species for water and nutrients. Biochemicals are released from its roots into the soil to hinder the growth of surrounding plants. Identifying this invasive can be difficult due to the existence of native subspecies. Invasive phragmites generally reaches heights of up to 5 meters and has stems that are tan in color with



Prescribed burn used to control invasive phragmites, Wedding of the Waters PAA, near Thermopolis.

blue-green leaves and large, dense seed heads. It can grow so densely that it crowds out other species, while native phragmites is typically not as dense and doesn't impede biodiversity. In the late winter of 2024 approximately 3 acres of Phragmites were burned to reduce the biomass and open public access to the waters edge. In the spring of 2024 the same acreage was chemically treated to keep the Phragmites at bay. This will be a 5 year approach with fall burning and spring chemical treatments to eliminate the noxious vegetation and allow native plants to grow.



YELLOWTAIL WHMA FARMING

Program: Habitat and Access

Project Leads: Brad Sorensen, Eric Shorma

Project Goals: Goal 2

On Yellowtail WHMA approximately 137 acres of farm fields are farmed and irrigated for permanent cover. A variety of grains were planted for food plots. These food plots benefit waterfowl, pheasants, wild turkeys, and deer by providing cover and a food source. These fields also provide hunting and wildlife viewing opportunities for the large number of recreationalists that utilize the WHMA. In 2024 approximately 100 acres of farm fields were farmed and reseeded with Spring Wheat, Oats, Milo, and Millet. These food plots benefit many species that utilize the WHMA during the summer, fall and winter months.



Food plots, Yellowtail WHMA.



Permanent cover management, Yellowtail WHMA.

YELLOWTAIL WHMA FARMING LEASE

Program: Habitat and Access

Project Leads: Brad Sorensen, Eric Shorma

Project Goals: Goal 1

The Yellowtail WHMA has approximately 1200 acres of farm fields and permanent cover fields. Two farming leases are utilized to irrigate, plant, and harvest these crops. Approximately 120 acres of these crops are left standing for wildlife to utilize in the fall and winter months. On Yellowtail WHMA a Farming lease is utilized to provide food plots and permanent cover for wildlife on 1200 acres within the Yellowtail WHMA. These leases are responsible for planting cereal grains and alfalfa as well as irrigation, farming, seeding, and harvesting of the crops of these fields. 10% of each field is left standing for wildlife to utilize into the fall and winter months. In 2024 corn, alfalfa, sorghum, and sugan grass were planted. Approximately 120 acres were left throughout the fall and winter for wildlife to utilize.



ANNUAL YELLOWTAIL WHMA IRRIGATION UPGRADES

Program: Habitat and Access

Project Leads: Brad Sorensen, Eric Shorma

Project Goals: Goal 1

Irrigation is a critical part of maintaining and improving wildlife habitat on the Yellowtail WHMA. Yearly maintenance and upgrades are necessary to facilitate the most efficient use of irrigation water. In 2024 a new headgate and check structure was installed to facilitate water delivery to ponds 1-4. A diversion box was also installed to improve water delivery to the north games field which was converted to gated pipe from an open ditch to improve irrigation.



Improvements on Yellowtail WHMA Ponds 1-4.

YELLOWTAIL WHMA POND 6 RX FIRE

Program: Habitat and Access

Project Leads: Brad Sorensen, Eric Shorma

Project Goals: Goal 2

Yellowtail WHMA is an important stop-over point for waterfowl during spring and fall migration. Increasing open water will provide important loafing areas for migrating waterfowl. The prescribed fire will burn cattails to increase open water for the benefit of migrating waterfowl. Prescribed fire was used to increase site wetland plant species diver-

Cattail mitigation using prescribed fire, Yellowtail WHMA.



sity and open water areas by reducing existing cattails and allowing opportunities for more desirable marsh and grass species to become established. Approximately 90 acres of dense narrow leaf cattails were burned to create open water to be used as loafing areas for migrating waterfowl during the spring and fall months.

Cattail mitigation using prescribed fire, Yellowtail WHMA.



GREEN RIVER REGION

The Green River region of southwest Wyoming continued a wide range of terrestrial and aquatic habitat work in 2024. Projects included fish passage work in numerous watersheds, sagebrush and juniper treatments in critical mule deer range, and included partnerships with TU, BLM, local conservation districts, and other stakeholders.

- Terrestrial invasive species treatments for noxious weeds, Russian olive, tamarisk and cheatgrass
- Aspen restoration
- Fish passage diversions and improvements
- Green River urban restoration
- Habitat assessments and monitoring
- Public access area maintenance
- Fence modifications

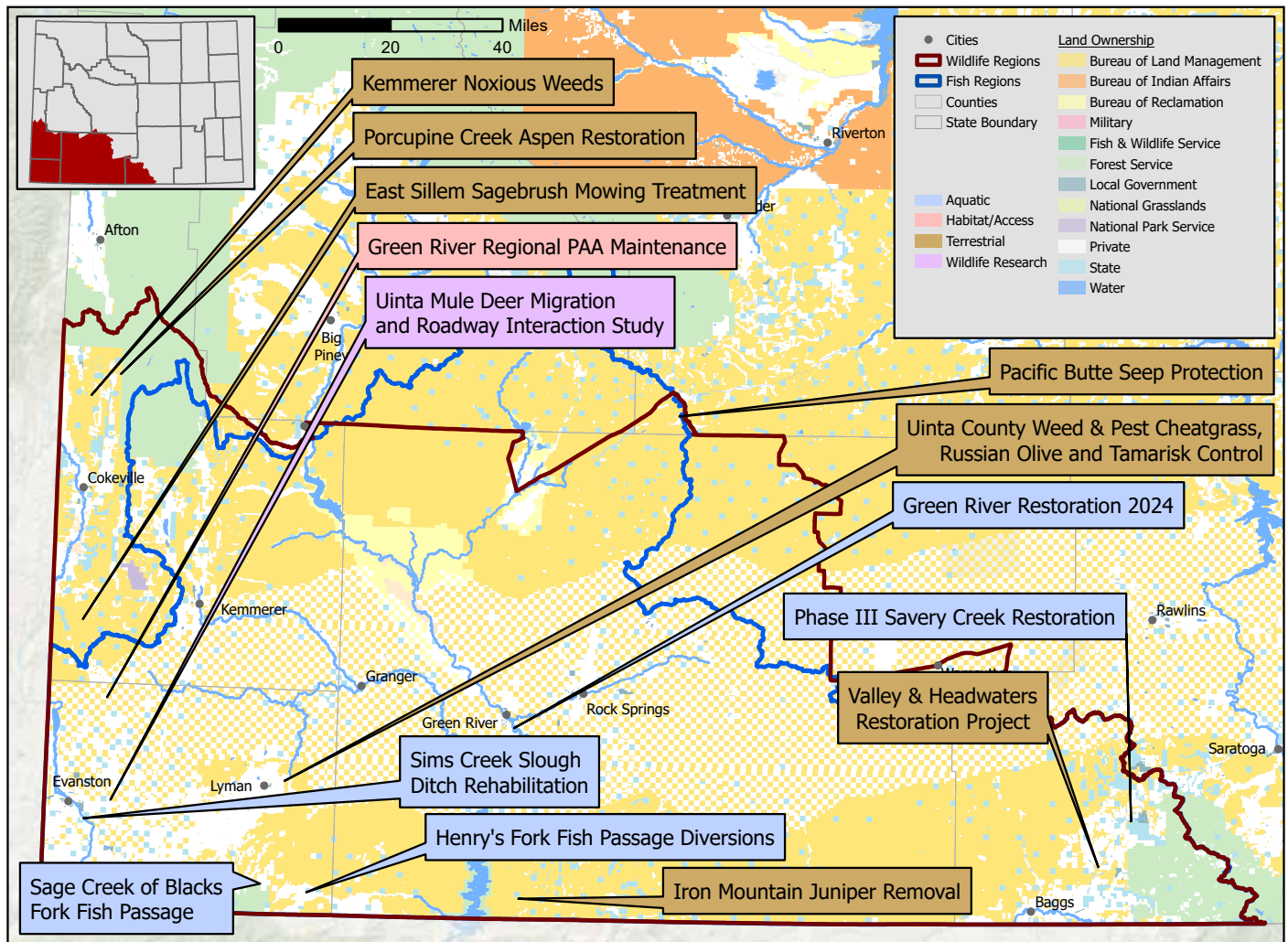
Phase III of the “Valleys and Headwaters Joint Chiefs” conservation program to implement vegetation treatments around Baggs. The project has been ongoing since 2009 and includes collaboration with the Little

Snake River Conservation District to improve habitat conditions for wildlife and livestock.

Invasive species control projects targeted tamarisk, cheatgrass, Russian Olive and other invasive species to preserve riparian habitat. Cheatgrass control was conducted in Sweetwater and Lincoln counties to reduce the threat to native ecosystems. Uinta County Weed and Pest partnered with Game and Fish to treat over 550 acres of private and public lands for noxious weeds and other terrestrial invasives.

TU worked with the department to implement erosion control on the Green River near Scott’s Bottom in Green River. The project resloped and stabilized the riverbank, deepened and narrowed the river channel underneath the bridge and reseeded the area with native vegetation.

Efforts to improve safety for humans and wildlife included fence modifications near Cokeville and progress for the South Kemmerer wildlife crossing, which could break ground as early as fall 2025.



COKEVILLE WILDLIFE FRIENDLIER FENCES

Program: Terrestrial Habitat

Project Leads: Kevin Spence

Project Goals: Goal 3

Funding Partner(s): BLM, MDI, NFWF, WWNRT, NRCS

Collaboration continued with Lincoln Conservation District (LCD), NRCS, WWNRT, and four private landowners in the Cokeville area to replace 11.8 miles of 5-wire and woven wire stock fence with new 4-wire fence constructed to wildlife friendly specifications. Most of these fences were a perpendicular impediment to significant numbers of mule deer migrating between summer and crucial winter range. The remaining fence replacement locations were areas where mule deer move frequently throughout the year. Newly constructed fences are designed to be more permeable for mule deer passage, and will also facilitate movements of pronghorn, moose and elk between seasonal ranges. More than half of each fence project was funded with the NRCS Big Game Conservation Partnership Program and Regional Conservation Partnership Program via EQIP contracts with private landowners. Additional cost share funding was provided by MDI, NFWF, and WWNRT.



Replacing netwire with wildlife friendlier fences for migrating mule deer and other big game near Cokeville.

EAST SILLEM SAGEBRUSH MOWING TREATMENT

Program: Terrestrial Habitat

Project Leads: Kevin Spence

Project Goals: Goal 2

Funding Partner(s): NFWF, WWNRT, NRCS, Game and Fish Mule Deer Initiative

Collaborative BLM and Game and Fish sagebrush treatments continued during 2024 across the southern Wyoming Range landscape. Personnel from the Statewide Habitat and Access Crew including Rick Harmelink, Todd Grosskopf, Tyler Westlake and Sam Lockwood completed sagebrush mowing treatments on 1,908 acres in the east Sillem Ridge area. Dense big sagebrush stands in treatment areas exhibited monotypic older shrubs lacking vigor and recruitment of younger age classes. A portion of treated sites supported both older age classes of sagebrush and mixed mountain shrub species of antelope bitterbrush, serviceberry, and snowberry. A fine scale mosaic of mowed and un-mowed sagebrush was created where an average of 24% or 458 acres were actually manipulated within the total 1,908 acre project perimeters. These mowed areas are also scheduled for aerial herbicide treatment during 2025 to reduce the threat of cheatgrass establishment and maintain native herbaceous vegetation. Benefits of creating sagebrush age class diversity across this segment of mule deer crucial winter range may not be fully realized for the next 20-40 years when sagebrush plants have re-established with enhanced vigor and nutritional browse. More immediate benefits are expected with increased grass and forb productivity in mowed areas for meeting needed nutritional demands for mule deer when leaving winter ranges during the early spring migration. Those areas mowed with mountain shrub species mixed into the shrub community are expected to re-sprout in 2025 with vigorous leader growth and more palatable browse available for mule deer and other big game. This treatment is expected to enhance the long term ecological condition of these sagebrush and mixed mountain shrub sites, thereby providing quality habitat for several wildlife species.



Sillem Ridge mowing treatment to enhance sagebrush and mountain shrub habitat for mule deer.



One year vegetative response of a similar mowing one year post treatment near Round Mountain.



GREEN RIVER REGION PAA ANNUAL MAINTENANCE

Program: Habitat and Access

Project Leads: Jerry Cowles, Kyle Berg, Sam Lockwood

Project Goals: Goal 1

PAA's in the Green River Region provide recreational opportunities, including hunting, fishing, birding, and camping. H&A crews conduct annual maintenance to preserve habitat, mitigate impacts, and promote safe and responsible public recreation. Three miles of boundary and interior fencing were maintained in 2024 to manage livestock, reduce off-road vehicle use, and clearly delineate public access. Directional, regulatory, and informational signage is installed and updated as needed to enhance public awareness. Additionally, maintenance was provided on 15 miles of roadways and 13 associated parking areas. Cattle guards are regularly inspected to minimize conflicts with neighboring livestock operations, ensuring smooth coexistence. The region also oversees con-

Woodruff Narrows road repairs.

tracts for comfort stations, litter removal, and public use data collection. To maintain habitat health, noxious weed control is conducted using a combination of herbicide applications, mechanical removal, grazing, revegetation, and biological control. Weed locations are documented to track the effectiveness of control efforts and refine future strategies. Water access and safety improvements include clearing silt and debris from boat ramps, adjusting boat docks to seasonal water levels, and repairing boat docks to ensure safe and accessible recreation. Green River PAA's include Bear River Divide, Blacks Fork, four Green River boat launches, three Hams Fork access sites, Raymond Mountain, Viva Naughton Reservoir, and Woodruff Narrows Reservoir.



GREEN RIVER RESTORATION

Program: Aquatic Habitat

Project Leads: Jim Wasseen

Project Goals: Goal 2

Funding Partner(s): WLCI

TU completed 2,000 feet of river restoration on the Green River in 2023. This project reduces erosion and protects the City of Green River's amenities, including the archery range and the nature trail system within Scot's Bottom. In 2024, TU planted 18 cottonwood trees and 200 willow stakes to enhance river bank stabilization. The entire 2.2-acre project area was irrigated to optimize survival of the newly planted vegetation.



Ball and burlap cottonwood trees and willows planted on the Green River.



HENRY'S FORK IRRIGATION DIVERSIONS

Program: Aquatic Habitat

Project Leads: Jim Wasseen

Project Goals: Goal 3

Funding Partner(s): TU, WLCI, WWNRT

TU is actively addressing barriers to fish migration in the Henry's Fork River by collaborating with landowners to replace outdated "push-up" style irrigation diversions with more ecologically sound natural channel designs. "Push-up" diversions, constructed with in-stream materials, impede the movement of native fish species like Colorado River Cutthroat Trout, hindering their ability to complete their life cycles. TU's approach

incorporates vanes to divert water into irrigation ditches while simultaneously allowing unimpeded fish passage. In 2024, TU successfully completed improvements to five irrigation diversions, demonstrating tangible progress in restoring fish connectivity within the Henry's Fork watershed. These five improved diversions allow fish and other aquatic organisms 13.7 miles of passage to complete their life cycle needs.



Natural channel design, fish friendly irrigation diversion at the Block diversion.



Block "Push-Up dam" irrigation diversion prior to construction.

IRON MOUNTAIN JUNIPER REMOVAL

Program: Terrestrial Habitat

Project Leads: Kevin Spence

Project Goals: Goal 2

Funding Partner(s): BLM, MFF

The Iron Mountain Juniper Removal is located in the Iron Mountain portion of the Little Mountain Ecosystem within the South Rock Springs Mule Deer Herd Unit. It was a collaborative effort between the BLM, Muley Fanatic Foundation (MFF), WWNRT, and the Department. The project aims to maintain the integrity and value of sagebrush-grassland and mixed mountain shrub habitats for mule deer and other wildlife by removing encroaching juniper trees. Treatment results are expected to maintain a blend of quality deer feeding areas in proximity to bedding, thermal, and security cover provided by established juniper woodlands. Project implementation involved contracted crews hand cutting and piling juniper trees on 695 acres of encroached shrub habitat. These piled trees will be allowed time to adequately dry, and fire crews will then conduct prescribed slash pile burns during winter months to complete the project. MFF utilized \$90,300 of funds generated for their 2024 Mule Deer Days event to complete contracted juniper cut and pile on 430 acres, and BLM contributed \$85,000 for contractors to finish the remaining 265 acres.



Removing juniper in the Little Mountain area to improve habitat for mule deer.



KEMMERER NOXIOUS WEEDS

Program: Terrestrial Habitat
Project Leads: Jim Wasseen
Project Goals: Goal 2
Funding Partner(s): WLCI

The Lincoln County Weed and Pest District (LCWP), with partial funding from the Wyoming Landscape Conservation Initiative (WLCI), successfully completed a BLM noxious weed control project in 2024. Three distinct treatment approaches were employed: LCWP Personnel: LCWP personnel utilized UTVs and herbicides to treat noxious weeds along all known roadsides and two-track roads within the BLM Kemmerer Field Office. This effort resulted in the treatment of 144.3 acres and the inventory of an



Treating Noxious weeds by helicopter along the Raymond Mountain Front.

additional 10,000 acres. Horseback: A contractor was engaged to treat noxious weeds within the remote and challenging terrain of the Raymond Mountain Wilderness Study Area. Horseback was the most effective means of access for treatment in these areas. The contractor successfully treated 46.44 acres and inventoried an estimated 7,000 acres. Aerial: Dyer's Woad on Raymond Mountain, characterized by its steep and rugged terrain, was effectively treated via aerial application, covering 360 acres.



Treating noxious weeds with the aid of horses on Raymond Mountain.

PACIFIC BUTTE SEEP PROTECTION

Program: Terrestrial Habitat
Project Leads: Kevin Spence
Project Goals: Goal 2
Funding Partner(s): Sage-Grouse Local Working Group

The Red Desert Springs Project has been an ongoing effort since 2019 to maintain the integrity and function of springs, seeps, and pocket aspen stands which are vitally important for many wildlife species present in this xeric landscape. This landscape is home to one of the largest desert elk herds in addition to serving as the corridor for the historical Red Desert to Hoback mule deer migration. It also provides habitat for Greater sage grouse, pronghorn, raptors, and a host of other non-game mammal, bird, and herptile species. Scattered across this xeric landscape are isolated seeps and springs supporting riparian vegetation. These oases are heavily used by ungulates, resulting in severely degraded conditions and threatening sustainable aspen and riparian vegetation at these locations. Several steel jack fenced exclosures have been erected at key spring/seep and pocket aspen sites in the northern Red Desert since 2019 to maintain the integrity and function of these essential habitat features. The BLM Rock Springs Field Office, BOW, and Game and Fish collaborated to construct the final steel jack fence exclosure associated with the Red Desert Springs Project. Partners erected 1,100 ft of 6.5 ft high steel jack fence around a headwaters seep on the White Horse Creek drainage

near Pacific Butte. The exclosure is expected to promote riparian vegetative recovery and re-saturate soils, thereby encouraging greater surface water and wet meadow restoration further down the drainage away from the fenced area. Previous funding for fabrication of the steel jack fence was provided by BOW, MFF, MDI, RMEF, WFW, JIO-PAPO. The Southwest Sage Grouse Working Group and WWF provided an additional \$5,500 to fabricate "mud feet" attachments to prevent this steel jack fence from sinking into saturated soils.



Steel jack fence exclosure to improve degraded seep in the northern Red Desert.



PORCUPINE CREEK ASPEN RESTORATION

Program: Terrestrial Habitat
Project Leads: Kevin Spence
Project Goals: Goal 2
Funding Partner(s): BLM

BLM and Game and Fish completed the first phase of a 2-phased effort to restore aspen habitat on BLM lands between Porcupine Creek and Hobble Creek in the Southern Wyoming Range. A contracted crew hand cut 209 acres of encroaching subalpine fir and lodgepole pine from mixed conifer aspen stands, and lopped and scattered it to prepare a fuel bed for a follow-up prescribed burn during a later second phase treatment. Prescribed burning is expected to stimulate vigorous aspen suckering that will eventually grow into mature trees to sustain healthy aspen habitat. Mule deer migrating between winter and summer ranges are expected to benefit from the resulting nutritious aspen understory vegetation. BLM Good Neighbor Authority funds granted to Game and Fish for the Southern Wyoming Range Mule Deer Habitat Project were used to complete the initial treatment phase.



Initial mechanical treatment to restore aspen habitat between Hobble and Porcupine creeks in the Southern Wyoming Range.

RED RIM GRIZZLY WHMA FENCE CONVERSIONS

Program: Habitat and Access
Project Leads: Mark Cufaude
Project Goals: Goal 3
Funding Partner(s): RMEF, WGBGLC, WWNRT

The Red Rim - Grizzly WHMA located 38 miles south of Rawlins, WY consists of 38,000 acres and is jointly managed between the Commission and BLM. The area transitions fluidly from riparian meadows in the bottoms, to sprawling sagebrush uplands, and on up the hillsides, to tangles of mountain shrubs and lush shaded aspen stands. The WHMA is home to mule deer, elk, and antelope who will spend the spring, summer, and fall months using the area to raise their fawns and calves along with restoring fat reserves for winter. Black bears frequent the thick serviceberry stands, readying for winter, while sage grouse meander through the riparian meadows and neighboring sagebrush throughout the summer and early fall brooding and rearing their chicks. In the streams, Colorado Cutthroat trout and native non-game fish reside. There are approximately eighty eight miles of fence surrounding and within the unit as part of active grazing management. Of these eighty eight miles roughly sixteen

Wildlife friendly fence conversion, Red Rim Grizzly WHMA.



miles remain in a non-wildlife friendly condition of six strand or woven wire sheep fence. These fencing styles create hazards and restricts wildlife movement across the landscape to access critical seasonal and life stage habitats. Conversion of fences also assists in implementation of the grazing management plan on the unit by keeping livestock in appropriate pastures during the grazing season. Game and Fish along with its partners actively strive to convert two to five miles of fence a year through contracts, grazing cooperator agreements, volunteers, and employees. All fences are converted to a four strand three barbed one smooth wildlife friendly livestock containment specification unless terrain or other factors dictate otherwise, then another wildlife friendly option will be used. In 2024, 14.5 miles of fence conversions were completed. 11.75 miles were completed by contractors and 2.75 miles were completed by Game and Fish personnel and volunteers.

Wildlife friendly fence conversion, Red Rim Grizzly WHMA.



RHAs AND HABITAT MONITORING

Program: Terrestrial Habitat

Project Leads: Kevin Spence, Catrina Johnson

Project Goals: Goal 2

RHAs are conducted annually in MDI herds across Wyoming to evaluate conditions of mule deer seasonal habitats. Seven additional RHA assessments totaling 157 acres were completed for the Southern Wyoming Range within transitional and summer crucial winter ranges, including four rangeland habitat assessments, two aspen assessments, and one riparian assessment. RHA survey information will be used for mule deer herd unit objective reviews, annual Job Completion Reports, and assist in determining locations of future habitat improvements. Several line point intercept transects were also surveyed in the Southern Wyoming Range, Little Mountain area, and mule deer winter range north of Rock Springs to evaluate pre and post herbicide treatments to control cheatgrass. This monitoring establishes a pre-treatment baseline for the percent composition of cheatgrass in the plant community, which is surveyed again during post treatment to evaluate results in reducing cheatgrass. Because cheatgrass control requires periodic re-treatment efforts, follow-up surveys are continued annually or every other year to determine when cheatgrass has reestablished to levels that warrant re-treatment.



Cheatgrass monitoring in the Richard's Mountain burn area.

SAGE CREEK OF BLACKS FORK FISH PASSAGE

Program: Aquatic Habitat

Project Leads: Nick Scribner

Project Goals: Goal 2 , Goal 3

Funding Partner(s): Game and Fish Trust Fund

Sage Creek of the Blacks Fork River was historically Colorado River cutthroat trout habitat, but has been dewatered over the years, which has resulted in degraded conditions throughout the system. Recently, new landowners approached TU and Game and Fish about restoring the fishery in the lower reaches of the ranch and on BLM lands. Project partners (TU, USFWS, BLM and Game and Fish) completed three projects in 2024 to improve habitat quality and connectivity, and increase riparian habitat. Two seasonal barriers were removed that restore access to seven miles of habitat that included one diversion improvement and a culvert replacement that will allow year-round passage

and maintain natural stream function. Nearly one mile of the historical Sage Creek channel was reactivated with the installation of a channel plug that blocks off the degraded and eroding channel that had been the primary channel. Seven additional earth plugs were installed in the eroding channel that will reduce erosion and provide additional wetland habitat. The channel reactivation work was completed in July 2024 and by September there were over 0.3 acres of new wetland areas. Two more diversions will be addressed in 2025 that will further improve habitat and connect all of Sage Creek upstream of Highway 414.



Diversion prior to construction.



Diversion after channel improvements.



PHASE III SAVERY CREEK RESTORATION

Program: Aquatic Habitat

Project Leads: Jim Wasseen

Project Goals: Goal 2

Funding Partner(s): WLCI, BLM

The Savery Creek restoration is a collaborative effort involving the BLM, the Little Snake River Conservation District (LSRCD), TU, Game and Fish, and the Wyoming Water Development Commission (WWDC). This project aims to improve aquatic habitat conditions below the High Savery Reservoir, which was constructed in the early 2000s. The release of sediment hungry water from the reservoir has led to increased erosion, particularly along the vertically incised banks, resulting in accelerated lateral channel migration and degraded aquatic habitat. This multi-phased restoration project focuses on stabilizing 18,000 feet of Savery Creek tailwaters on both state and BLM lands. The first two phases successfully completed 5,150 feet while the third phase completed an additional 2,000 feet in fall 2024. TU hired WURX to complete the construction on reaches four and six. The project employs Natural Channel Design principles, utilizing techniques such as rock barbs and vanes, toe wood, bankfull benches, channel shaping, and realignment. These measures will result in a channel with appropriate dimensions for stable banks and balanced sediment transport, creating pools with optimal spacing and depths. The creation of bankfull bench features provides ideal locations for riparian shrubs to establish and mature, enhancing elevated water tables and improving riparian habitat for various terrestrial wildlife species. These improvements will benefit all life stages of trout, promoting a productive recreational sport fishery and enhancing public angling opportunities.

SIMS CREEK SLOUGH DITCH REHABILITATION

Program: Aquatic Habitat

Project Leads: Nick Scribner

Project Goals: Goal 2, Goal 3

Funding Partner(s): Game and Fish Trust Fund

The rehabilitation of Sims Creek Slough diversion was completed in 2024 with installation of an armored riffle to replace a large push-up dam. This irrigation diversion was historically maintained using gravel, cobble and concrete in the river in a manner that impeded fish passage and exacerbated stream channel instability below the dam. Now, the diversion will be self maintaining, allow fish passage at all flows, and maintain sediment transport processes that will help keep channel dimensions stable. Additional channel grading and streambank stabilization work on over 2,000ft of channel was also implemented, primarily downstream of the diversion. Another 4,200 ft of channel restoration



Completed bankfull bench and rock vanes to reduce erosion to the stream banks.



Sims Slough diversion before construction.



Sims Slough diversion after construction.



SOUTH KEMMERER US-189 WILDLIFE CROSSING

Program: Terrestrial Habitat
Project Leads: Jill Randall, Jeff Short
Project Goals: Goal 3

The South Kemmerer wildlife crossing project is fully funded and will likely consist of five underpasses, one overpass and fencing improvements along a 30 mile stretch between Kemmerer and Interstate 80. This will provide motorists with a safer means of travel while ensuring wildlife can continue to migrate between seasonal ranges. Along U.S. 189, an average of 80 deer-vehicle collisions are reported annually — although this number is likely underreported. Traffic is expected to increase on this stretch of road in the coming years as a nuclear power facility will be constructed near Kemmerer. Once completed, this work is anticipated to eliminate 80-90% of wildlife-vehicle collisions. The Kemmerer project will benefit the Wyoming Range and Uinta deer herds, as well as the Carter Lease pronghorn herd. The plans are for WYDOT to put the project out for bid in 2025 and there is potential work will start in the fall of 2025, but likely require two additional years to complete.



Evaluation of existing structures in the S. Kemmerer project area.

UINTA COUNTY WEED & PEST CHEATGRASS, RUSSIAN OLIVE AND TAMARISK CONTROL

Program: Terrestrial Habitat
Project Leads: Jim Wasseen
Project Goals: Goal 2
Funding Partner(s): WLCI, WWNRT

The Uinta County Weed & Pest District (UCWP) has been actively engaged in the control of various non-native vegetation, including cheatgrass, Russian olive, and tamarisk, on both public and private lands. 544.6 acres were treated for cheatgrass using a combination of indaziflam and imazapic. Treatment efforts concentrated on roads within and around the Bear River Divide Conservation Management Area (CWMA) where cheatgrass infestations were prevalent, as well as on some private lands. A tour was conducted to showcase the effectiveness of cheatgrass con-

trol efforts within the Carter Lease allotment, generating valuable discussions on the comparative efficacy of indaziflam and imazapic. 25.4 acres of Russian olive and tamarisk were treated along Muddy Creek, an area that had been previously inaccessible and untreated for eight years. Treatments also extended to areas along the Blacks Fork River and Smiths Fork River. Access to many sites was challenging due to limited river crossings, necessitating the use of UTVs and backpack sprayers for treatment operations.

Tamarisk infestation found along Muddy Creek.



UINTA MULE DEER MIGRATION AND ROADWAY INTERACTION STUDY

Program: Wildlife Research

Project Leads: Jill Randall, Kevin Spence, Jeff Short

Project Goals: Goal 3

Game and Fish used 336 migration sequences (173 spring and 163 fall) of 97 unique individuals to estimate the population level migration corridor for the Uinta Mule Deer Herd. Most migratory animals move north, west, and south from Evanston, Wyoming. Animals that moved north of Evanston migrated into the Wyoming Range mountains with one doe moving into the Caribou National Forest in Idaho. Animals that moved west of Evanston migrated into Utah while animals that migrated south of Evanston went into the foothills of the Uinta Mountain Range in north eastern Utah. The distance of migrations ranged from approximately 4 miles to 109 miles with a mean of 22 miles. I-80 is a known barrier to animal movement and recently WYDOT has identified Hwy 189 as an area slated for animal crossing structures. Mule deer in our collaring study did cross both I-80 and Hwy 189. While it is difficult to determine how and where animals crossed the roads based on our GPS fix rate of 2 hours (e.g., road crossing or underpass use), mule deer are interacting with I-80 and major highways in the study area. We monitored crossing structures (e.g., span bridge, vehicle underpass) to gain an understanding of use by ungulates. Interstates, major highways, railroads, and wind farms existed within the distribution of the collared mule deer we monitored. Data we collected and analyzed will help WYDOT, Game and Fish, and other agency partners manage and conserve mule deer in the Tri-state region. Movement and crossing structure data should contribute to the understanding of mule deer/vehicle collisions and the development of mitigation strategies to reduce these.



Mule deer use of a crossing structure was captured with a trail camera.

VALLEY & HEADWATERS PHASE III

Program: Terrestrial Habitat

Project Leads: Jim Wasseen, Britt Burdett

Project Goals: Goal 2

Funding Partner(s): BLM, Little Snake River Conservation District, MFF, RMEF, WGBGLC, WLCI, WY OS LI, WVNRT, Game and Fish Mule Deer Initiative, NRCS, WYIdlife Fund

The Little Snake River Conservation District (LSRCD) and its partners have been actively engaged in a 16-year-long restoration effort within the Baggs area, focusing on improving habitat conditions for both wildlife and livestock. To achieve this, the LSRCD has employed a range of techniques, including:

- Juniper Mastication: 1,683 acres
- Mixed Mountain Shrub Mastication: 441 acres
- Aspen Mastication: 380 acres
- Combined Mixed Mountain Shrub and Aspen Mastication: 160 acres
- Sagebrush Canopy Reduction: 30% reduction across 546 acres using a Lawson aerator.

These restoration efforts have been implemented across both public and private lands.



Heavy Equipment grinding a juniper near Savery.



Mixed shrub mastication.



JACKSON REGION

The Jackson Region, located in the far western part of Wyoming, is bordered by Idaho to the west and Yellowstone National Park to the north. Its eastern boundary follows the Continental Divide southward to the divide of the Wyoming Range and Salt Pass.

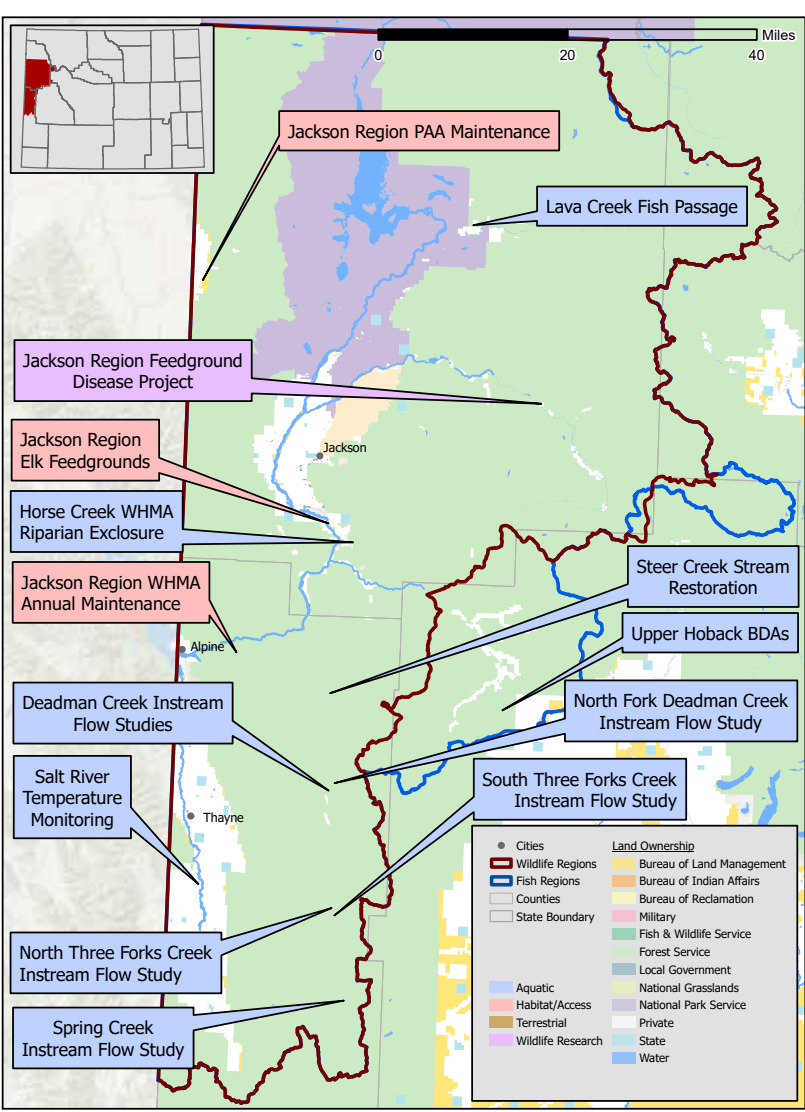
The Snake River and its tributaries, including the Buffalo Fork, Gros Ventre, Hoback, Grey's, and Salt rivers, provide water and offer world-class fishing opportunities throughout the area. Iconic lakes in the Tetons, such as Jackson, Jenny, Bradley, Taggart, and Phelps, along with Slide Lake in the Gros Ventre and Palisades Reservoir on the Idaho border, are also found in this region.

In 2024, habitat enhancement efforts focused on conserving and protecting crucial aquatic and terrestrial wildlife habitats, restoring these habitats, and conserving, enhancing, and protecting fish and wildlife migrations. Projects in the region were undertaken to achieve these goals in collaboration with various organizations, agencies, local landowners, and volunteers.

Habitat restoration efforts in the Jackson region encompassed a variety of projects. These included riparian enclosure work, improving fish passage on Lava Creek by removing diversions and installing a hardened riffle, and utilizing beaver dam analogs in Muddy and Steer Creeks to study their impact on stream conditions and fish populations, alongside willow planting and stream monitoring on Steer Creek. Data collection efforts involved instream flow monitoring in the Bridger Teton National Forest and long-term water temperature monitoring on the Salt River. Furthermore, planning is in progress for bank stabilization and habitat enhancement designs on the Salt River.

The region continues to focus on monitoring big game animals, with several ongoing research projects. Wildlife biologists are closely monitoring moose, elk, and bighorn sheep populations in the region to better understand their seasonal movements, survival rates, and distribution.

In addition to a range of targeted projects, the Jackson Region continued to maintain its seven WHMAs, 10 elk feedgrounds, and 19 PAAs.



DEADMAN CREEK INSTREAM FLOW STUDIES

Program: Aquatic Habitat

Project Leads: Del Lobb, Sydney McAndrews

Project Goals: Goal 1

Data for instream flow analysis were collected from two reaches of Deadman Creek in the Bridger Teton National Forest during summer 2024. One reach is downstream of the confluence with North Fork Deadman Creek and the other is upstream of the confluence. Depth, velocity, substrate, cover, water temperature, nitrate-nitrogen, macroinvertebrate, stream stage, stream bed elevation, and water surface elevation data were collected. Measured flows in the lower study reach during late June, mid-July,

and early September were 19 cfs, 8.9 cfs, and 4.5 cfs, and maximum summer water temperature was 66.1 F on July 24. Stream flow in the upper study reach was 1.5 cfs in early September, and maximum water temperatures at an upper and lower site were 60.3 F (July 24) and 64.1 F (July 24 and August 6). Collected data will be used with habitat modeling and hydrologic analysis to identify appropriate flows for Snake River Cutthroat Trout spawning, late summer habitat, overwintering, and passage.



Upper Deadman Creek R2Cross and stream flow transects.



Lower Deadman Creek physical habitat simulation transects at 4.5 cfs.

HORSE CREEK WHMA RIPARIAN EXCLOSURE

Program: Aquatic Habitat

Project Leads: Holden Reinert

Project Goals: Goal 2

Steel jack fencing was constructed in 2019 around the riparian area of Horse Creek on Game and Fish WHMA adjacent to the property boundary fence line. Fencing was constructed to encourage willow and cottonwood establishment, promote stream stability and reduce property boundary fence maintenance. In 2024, the existing enclosure was extended 693

feet (280 stream feet) protecting an additional 1.3 acres of riparian habitat. Another enclosure was installed upstream on the Bridger-Teton National Forest to protect woody riparian vegetation and encourage the recruitment of narrowleaf cottonwood to sustain the existing cottonwood gallery. The steel jack enclosure protects an additional 3.3 acres of riparian area.

Steel jack fencing limits riparian browsing along Horse Creek.



JACKSON BIGHORN SHEEP NUTRITION, DISEASE, AND REPRODUCTION PROJECT

Program: Wildlife Research

Project Leads: Aly Courtemanch

Project Goals: Goal 3

Funding Partner(s): WGBGLC, WyWSF

This project is led by the Monteith Shop at UW's Haub School of Environment and Natural Resources, in collaboration with Game and Fish. The goals are to: 1) understand how ecological factors, including habitat quality, pathogens, and social dynamics influence the effect of pneumonia on bighorn sheep populations, and 2) evaluate management strategies aimed at mitigating the effects of pneumonia on populations. With GPS collars, disease assessment, and intensive field studies, we study individual bighorn sheep through time to track pathogen presence, nutritional condition, adult and lamb survival, causes of mortality, and forage availability. Recent results show that pneumonia negatively affects both bighorn sheep mothers and their lambs. When bighorn sheep are infected with pneumonia pathogens, they gain less fat over the summer and lose more fat over the winter. Bighorn sheep require fat to survive and raise lambs, so less fat may mean that they can't meet their energetic needs. Not only do pathogens mean mothers have less fat to help them raise

lambs, the pathogens can cause disease and mortality for the lambs. The Jackson Herd has increased beyond Game and Fish's population objective in recent years, surpassing the habitat's carrying capacity. Only 50% of the sheep we caught in March 2023 were pregnant; pregnancy rates are typically above 95%. The sheep were also the skinniest we have seen since beginning the project in 2015, indicating the population was above its carrying capacity. Game and Fish started ewe hunting seasons in this herd in 2022 in response to the herd being above its population objective to avoid another pneumonia outbreak and die-off. Ewe hunting and a severe winter in 2022/2023 brought this population back down to its objective and as a result, bighorn sheep were in significantly better body condition, had higher pregnancy rates, and lower pneumonia infection rates in winter 2023-24. We aim to continue this research while ewe hunting takes place in order to monitor its effectiveness at maintaining the population at its objective and avoiding another pneumonia die-off.

JACKSON REGION FEEDGROUND MAINTENANCE

Program: Habitat and Access

Project Leads: Derek Lemon, Miles Anderson, Kyle Berg, Jacob West

Project Goals: Goal 1

Annual maintenance, repairs and improvements were conducted to 10 Game and Fish managed feedgrounds in the Jackson region. Annual maintenance work by Habitat and Access personnel included, feedground structures and hayshed repairs, repairs to corrals, stackyard fences, stock fences, elk migration fences, and harrowing of some feeding areas to improve habitat. Access roads were

maintained and improved at various feedgrounds with resurfacing of the access road at McNeel feedground. A new 150' steel hayshed with stackyard enlargement was constructed at the Alpine-Greys River Feedground. The haysheds were removed at the Alkali feedground and grounds reclaimed and seeded as outlined in the permitting requirements.



New 150' metal hayshed at the Alpine Feedground.



Road repairs and maintenance at the McNeel feedground 2024.



JACKSON MOOSE MOVEMENTS AND ROADWAYS - PHASE 2

Program: Wildlife Research

Project Leads: Aly Courtemanch

Project Goals: Goal 3

Funding Partner(s): Teton County Conservation District, WGBGLC, Greater Yellowstone Coalition

Phase 1 of this project occurred from 2019-2024 with initial funding from WYDOT for Game and Fish to collar adult moose in the vicinity of the Highway 22/390 intersection, located west of Jackson. The aim was to gather information about moose movements and road crossing patterns in the Snake River Bridge Replacement Project area, which informed the quantity and locations of wildlife underpasses and exclusionary fencing for the road project. In total, 30 cow moose were collared. Results showed that approximately 50% of the collared moose that spend the winter in residential areas near the Snake River are migratory and 50% are resident. One of the primary objectives of this study was to learn where, when, and how frequently moose were crossing Highway 22 and Highway 390 within the Snake River Bridge Replacement project. Collared moose crossed roads in the project area a total of 670 times. On average, individual collared moose crossed major roads in Teton County 125 times while they were

collared (over 2.5 years). This is an average of 50 times each year for each individual. Interestingly, none of the collared moose were killed in vehicle collisions. Phase 1 funders included WYDOT, Teton County, Teton Conservation District, WGBGLC, U.S. Geological Survey, and Veterinary Initiative for Endangered Wildlife. Phase 2 of this project began in winter 2024-25 with additional moose collaring to monitor how moose are adapting to the three new underpasses and fencing that have been completed on the west side of the Snake River Bridge. One additional underpass and fencing on the east side of the bridge are expected to be completed in 2025. We are aiming to collar up to 8 moose in Phase 2 to analyze post-construction movements. We are also collaborating with WYDOT to install game cameras in the underpasses; Game and Fish will analyze the images and summarize data. Funders for Phase 2 include WYDOT, Teton Conservation District, and Greater Yellowstone Coalition.

JACKSON REGION FEEDGROUND DISEASE PROJECT

Program: Wildlife Research

Project Leads: Benjamin Wise

Project Goals: Goal 3

Funding Partner(s): US Department of Agriculture APHIS

This is an ongoing project involving capture and collaring of elk in the Jackson Region. The goals are to: 1) inform local managers of movements, distribution and seasonal ranges of elk that utilize supplemental feedgrounds as well as native winter ranges in the Jackson Region, 2) collect biological, disease and survival data on marked elk, 3) provide data on feedground utilization attendance and implementation of

feedground management, and 4) provide information to local livestock producers about disease transmission risk and ways to prevent transmission events. This project was initiated in the early 2000s and currently includes 18 collared cow elk. Elk are captured via corral traps, chemical immobilization and helicopter capture. The data collected from this ongoing project has been used in more than 30 publications to date.

Elk trap.



JACKSON REGION PAAS

Program: Habitat and Access

Project Leads: Derek Lemon, Miles Anderson, Kyle Berg

Project Goals: Goal 1

Jackson region personnel performed annual maintenance on 19 PAAs. These PAAs provide access for hunting and fishing. This maintenance included all the PAAs on the Salt River, Von Gontard's Landing and Coco Belle. PAA maintenance activities included replacing signs, repairing fences, spraying noxious weeds and painting comfort stations. The Department used 450 tons of gravel to fill holes and improve the roads on the middle portion of the Salt River PAAs.



PAA maintenance.

JACKSON REGION WHMA ANNUAL MAINTENANCE

Program: Habitat and Access

Project Leads: Derek Lemon, Miles Anderson, Kyle Berg

Project Goals: Goal 1, Goal 2

Annual maintenance and improvements continued on the seven WHMAs in the Jackson Region in 2024. The Horse Creek, South Park and Grey's River WHMAs received annual fence maintenance to reduce trespass livestock and comingling of elk and livestock in the winter. 100 acres of irrigation water rights were spread on Horse Creek and 5 acres on South Park WHMAs. Horse Creek and

Haying operations supporting winter feed ground programs, South Park and Horse Creek WHMAs.

South Park were hayed to feed elk in the winter and promote new growth for fall and spring forage; 166 tons were produced between the two WHMAs. Annual parking lot and road maintenance was performed on South Park and Horse Creek WHMAs. Noxious weeds were treated by Game and Fish personnel and contract applicators on all Jackson WHMAs.

Haying operations supporting winter feed ground programs, South Park and Horse Creek WHMAs.



LAVA CREEK FISH PASSAGE

Program: Aquatic Habitat

Project Leads: Nick Scribner, Holden Reinert

Project Goals: Goal 3

Funding Partner(s): Private landowners, Teton County Conservation District, USFS, Wyoming Water Development Commission, WWNRT, Jackson Hole TU

Lava Creek is a tributary to the Buffalo Fork River that flows north to south and joins the Buffalo Fork River east of Moran. Lava Creek and the Buffalo Fork River provide habitat for Snake River Cutthroat Trout, Mountain Whitefish, Bluehead Sucker, and other native species. Inventories completed in 2020 identified two concrete irrigation diversions on Lava Creek roughly 1.25 miles upstream of the Buffalo Fork River confluence that are passage barriers. These have been in place for over 50 years and provide water to the Pinto Ranch to irrigate pasture and hay meadow for horses and cattle on much of their 1,200 acre ranch. Each diversion is made of channel spanning concrete with stanchions that allow boards to be placed across the concrete weir to raise water levels during low water. Nearly 10 miles of perennial water lie upstream of these diversions on Bridger-Teton National Forest and even more habitat during spring runoff. Improving passage of these two di-

Lower Lava Creek diversion before construction.



versions would reconnect the entire Lava Creek drainage to the Buffalo Fork River. Biota completed field surveys in fall 2022. Project partners and Pinto Ranch ultimately decided complete removal of the existing concrete weir and apron and replacement with a hardened riffle was the best solution long-term. Headgate inverts were lowered from existing elevations along with graded sections of the ditch to create a uniform slope to reduce sediment deposition in the ditch. The lower diversion that had two headgates was consolidated into one headgate and ditch until it approaches Hwy 26 where it will be split back into two separate ditches. Final designs were delivered and permits were secured in spring 2024. Construction was completed in November 2024. Project partners include: WWNRT, Jackson Hole TU, Wyoming Water Development Commission, Teton County Conservation District, and Bridger-Teton National Forest.

Lower Lava Creek diversion during construction.



MOOSE DEVELOPMENT OF MIGRATION AND CALF SURVIVAL

Program: Wildlife Research

Project Leads: Aly Courtemanch

Project Goals: Goal 3

Funding Partner(s): WGBGLC

This project began in 2023 and is being led by the Wyoming Cooperative Fish and Wildlife Research Unit at the University of Wyoming, in collaboration with Game and Fish. The goals are to: 1) learn how moose develop their migration patterns from the time they are a calf to an adult, 2) collect data on moose survival and causes of death during the first three years of life, and 3) collect data on moose seasonal habitat use and movements. To accomplish these goals, we are capturing and collaring cow and calf moose pairs during winter. Collars will remain on the calves until they are approximately three years old to learn how their migration patterns are similar or different from their mother's. Measuring survival during the first few years of life and causes of death will also provide valuable information on why this moose herd is not increasing, despite relatively high calf to cow ratios in the winter. In 2023, five moose cow/calf pairs were captured and collared in the Jackson area to assess calf collar design

and fit. In 2024, 12 cow/calf pairs (including one set of twins) and 3 single cows were captured in the Buffalo Valley and Gros Ventre drainage winter ranges. Additional collaring is planned for 2025. We plan to capture additional pairs as well as new calves from previously collared cows. Thus far, 6 calves (33%), 1 yearling, and 4 cows (20%) have died. Calf mortalities mostly occurred in late winter/early spring and included wolf predation (n=3), grizzly bear predation (n=1), and unknown cause (n=2). A moose that was collared as a calf died as a yearling from a vehicle collision. Cow moose have died from wolf predation (n=2), mountain lion predation (n=1), and injury/systemic infection (n=1). All of the collared moose are migratory. Many of the moose captured in the Gros Ventre drainage spend the summer in areas that were impacted in summer and fall 2025 by the Pack Trail Fire (~90,000 acres burned). We will monitor how the fire impacts summer habitat selection and migration timing for these moose.



MUDDY CREEK - COYOTE GULCH MONITORING

Program: Aquatic Habitat

Project Leads: Holden Reinert

Project Goals: Goal 2

The Roosevelt Fire burned over 50,000 acres across the headwaters of the Hoback River drainage in 2018, and contained many locations of high-intensity burns. In this steep and highly erosive landscape, denuded slopes were expected to create localized landslides and other mass wasting events and generally elevated sediment transport across the watershed. In addition, historical overuse by livestock and, in some cases, artificially elevated wildlife populations led to deteriorated upslope and riparian conditions, and localized channel incision. Muddy Creek and its tributary to Coyote Gulch near the Hoback Rim are streams that display these impairments. Historically, beaver would have had a strong mediating effect on these riparian systems by constructing dams that slowed flood flows, vertically stabilized stream beds, and inundated floodplains to support vigorous vegetation that resisted erosion. However, with the loss of many beaver populations over the last two centuries, stream systems have suffered. The goal of this project was to emulate the positive aspects of beaver ecology by constructing BDAs on private lands of Muddy Creek, and to compare conditions in Muddy Creek to those in Coyote Gulch that were not treated with BDAs. Conditions monitored included fish assemblages/populations, riparian vegetation, channel morphology, and stream temperature. In 2020 and 2021, crews constructed 20 BDAs in Muddy Creek along approximately 0.5 miles of the Muddy Creek floodplain (~1 mile of stream channel)



Muddy Creek and Coyote Gulch provide an opportunity to compare BDAs and beaver dams.

and collected pre construction data on both the control (Coyote Gulch) and treatment reaches (Muddy Creek) to evaluate changes in upcoming years. The study reach was revisited annually. Longitudinal profiles and cross sections were resurveyed, and 2020 BDAs were maintained. Some beaver colonization of BDAs was noted. On Coyote Gulch, beavers moved into the control reach and provided the opportunity to compare BDAs to naturally occurring beaver dams. In 2024, stream surveys continued with the addition of electrofishing efforts to track the fisheries response to BDA installation and beaver colonization. Partners include USFWS Partners Program, Bridger-Teton National Forest, and the Rolling Thunder Ranch.



North Fork Deadman Creek at 4.7 cfs.

NORTH FORK DEADMAN CREEK INSTREAM FLOW STUDY

Program: Aquatic Habitat

Project Leads: Del Lobb, Sydney McAndrews

Project Goals: Goal 1

Data for instream flow analysis were collected from North Fork Deadman Creek in the Bridger National Forest during summer 2024. Depth, velocity, substrate, cover, water temperature, nitrate-nitrogen, macro-invertebrate, stream stage, stream bed elevation, and water surface elevation data were collected in a study reach near the confluence with Deadman Creek. In addition, discharge and temperature were measured near an unnamed tributary about 1.1 stream miles from the confluence. Measured flows in the study reach during early June, late June, July, and August were 13 cfs, 7.1 cfs, 4.7 cfs, and 2.7 cfs, and maximum summer water temperature was 61.3 F on August 6. Measured flows just upstream and downstream of the unnamed tributary were 3.2 cfs and 4.6 cfs on July 14. Maximum water temperatures just downstream of the tributary was 54.2 F on August 18. Collected data will be used with habitat modeling and hydrologic analysis to identify appropriate flows for Snake River Cutthroat Trout spawning, late summer habitats, overwintering, and passage.



NORTH THREE FORKS CREEK INSTREAM FLOW STUDY

Program: Aquatic Habitat

Project Leads: Del Lobb, Sydney McAndrews

Project Goals: Goal 1

Data for instream flow analysis were collected from North Three Forks Creek in the Bridger Teton National Forest during summer 2024. Depth, velocity, substrate, cover, water temperature, nitrate-nitrogen, macroinvertebrate, stream stage, stream bed elevation, and water surface elevation data were collected. Measured flows in the study reach during late June, mid-July, and early September were 8.4 cfs, 4.1 cfs, and 2.3 cfs, and maximum summer water temperature was 55.9 F on July 24. Maximum summer water temperature of 61.4 F about a mile downstream, near the confluence with South Three Forks Creek, also occurred on July 24. Collected data will be used with habitat modeling and hydrologic analysis to identify appropriate flows for Snake River Cutthroat Trout spawning, late summer habitats, overwintering, and passage.



Surveying North Three Forks Creek stream bed elevations.

NOWLIN CREEK HABITAT ENHANCEMENT

Program: Aquatic Habitat

Project Leads: Holden Reinert

Project Goals: Goal 2

Nowlin Creek is a tributary to Flat Creek that flows from Forest Service land, through private land and the National Elk Refuge (NER). The reach on the NER has experienced direct and indirect alteration to stream form and function as the result of changes in hydrology, sediment inputs and proximate land management activities. The lower reaches of Nowlin Creek are hydrologically disconnected from its headwaters; the hydrograph is largely spring influenced below the refuge road to the confluence with Flat Creek. The watershed is identified as an Aquatic Crucial Area for wetlands and Aquatic Restoration Area for riparian and stream restoration in the Statewide Habitat Plan, as well as be-

ing a regionally important fishery for Snake River cutthroat trout. Large numbers of elk winter adjacent to Nowlin Creek. Willow abundance is significantly diminished (5% of historical distribution), and woody riparian vegetation is heavily browsed and stunted. An altered riparian corridor and hydrograph have led to decreased ecosystem function and diminished fisheries value. A request for proposals will be sent out in July 2025. Grants from the Game and Fish Trust Fund and Teton County Conservation District will fund restoration designs. Consultants will incorporate natural channel design principles to restore form and function on Nowlin Creek.

Nowlan Creek on the National Elk Refuge.



SALT RIVER NARROWS BANK STABILIZATION

Program: Aquatic Habitat

Project Leads: Holden Reinert

Project Goals: Goal 1, Goal 2

Funding Partner(s): TU, Game and Fish Trust Fund

The Salt River is a blue ribbon trout fishery and is an aquatic crucial and restoration priority area for Game and Fish. Bank hardening, flood protection, channelizing, diversions, pasture management, riparian grazing, and loss of riparian habitats and beaver compared to historic levels have resulted in a degraded and unstable stream channel. This site was brought to Game and Fish's attention when landowners reached out for help addressing excessive stream bank erosion and a recent avulsion. The project is in the Narrows, a natural constriction in the valley that is approximately midway through the Salt River watershed. It is one of the most productive and heavily used stretches of the river by anglers for both wade fishing and floating opportunities. The project reach has grown to include three upstream landowners, the BLM, and the USFS, and covers about 9,600 feet of stream channel from the Highway 89

bridge to Game and Fish PAA. Historic imagery and surveys reveal loss of over a mile of stream length, resulting in an increase of slope by 50%. During summer 2023, Game and Fish assessed conditions using the Stream Quantification Tool. Results show an overly steep stream with low pool depths, little woody debris, and high rates of bank erosion. The downstream reach of the Narrows has seen extensive lateral erosion and pasture loss due to land use and removal of riparian vegetation. Habitat improvements like bank stabilization, increasing channel length and woody debris recruitment would likely produce favorable conditions and enhance the fishery even more. Partners selected a consultant to produce restoration designs in spring 2024, and 30% designs are currently developed. Project partners include: TU, USFWS, BLM, irrigators and landowners.

Aerial view of the Salt River.



SALT RIVER TEMPERATURE MONITORING

Program: Aquatic Habitat

Project Leads: Holden Reinert

Project Goals: Goal 1, Goal 2

The Salt River is a blue ribbon fishery hosting excellent habitats for all life stages of native cutthroat trout. Channel manipulation and riparian vegetation conversions due to land use practices impact the drainage in addition to potential ongoing temperature shifts associated with a changing climate. Long-term monitoring at this site will help identify and prioritize management actions in this basin. Two temperature loggers were deployed in the lower Salt River drainage in August 2020 and are downloaded annually to establish long-term water temperature monitoring sites. One logger was deployed at the Clark's Barn public access area near Afton and the other at the Miller public access area near Etna. A third temperature logger was deployed on the upper Salt River near Smoot, in July 2024.



SOUTH THREE FORKS CREEK INSTREAM FLOW STUDY

Program: Aquatic Habitat

Project Leads: Del Lobb, Sydney McAndrews

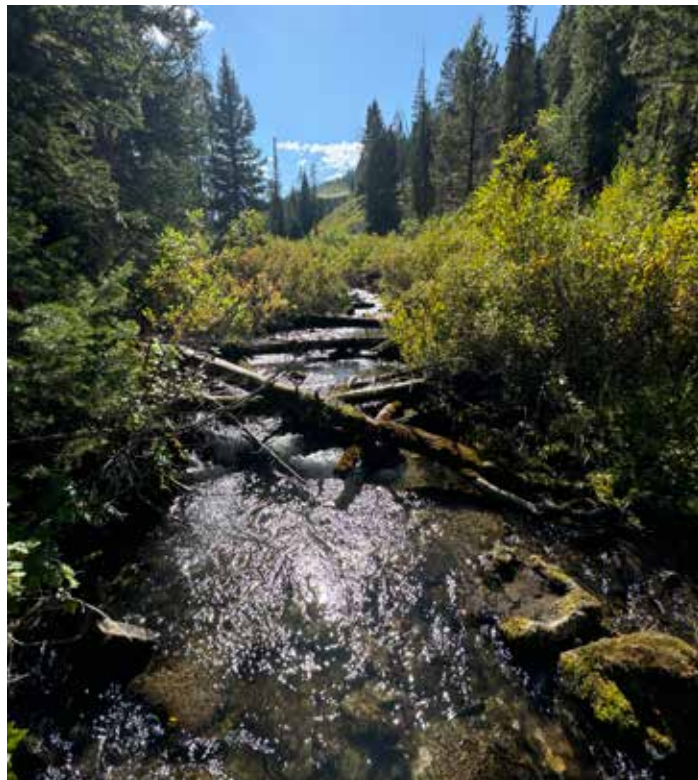
Project Goals: Goal 1

Data for instream flow analysis were collected from South Three Forks Creek in the Bridger Teton National Forest during summer 2024. Depth, velocity, substrate, cover, water temperature, nitrate-nitrogen, macroinvertebrate, stream stage, stream bed elevation, and water surface elevation data were collected. Study reach stream flows were measured during late June (11 cfs and 10 cfs), mid-July (5.7 cfs and 5.2 cfs), and early September (2.3 cfs and 2.4 cfs). Also in early September, a stream

flow of 2.2 cfs was measured about 1.5 miles upstream of the study reach. Maximum summer water temperatures were 59.6 F in the study reach and 59.4 F about 0.5 miles downstream, near the confluence with North Three Forks Creek, on July 24. Collected data will be used with habitat modeling and hydrologic analysis to identify appropriate flows for Snake River Cutthroat Trout spawning, late summer habitat, overwintering, and passage.



Measuring South Three Forks Creek stream bed elevations.



South Three Forks Creek at 2.1 cfs.

SPRING CREEK INSTREAM FLOW STUDY

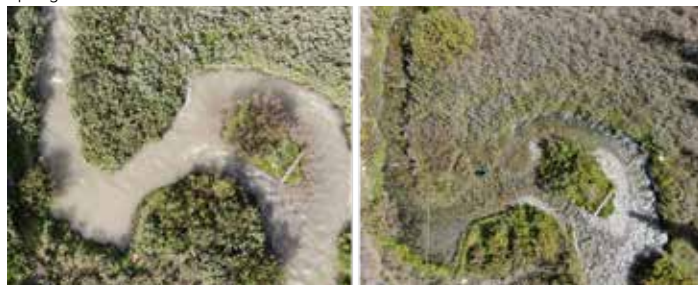
Program: Aquatic Habitat

Project Leads: Del Lobb, Sydney McAndrews

Project Goals: Goal 1

Data for instream flow analysis were collected from Spring Creek in the Bridger Teton National Forest during summer 2024. Depth, velocity, substrate, cover, water temperature, nitrate-nitrogen, macroinvertebrate, stream stage, stream bed elevation, and water surface elevation data were collected. Study reach stream flows were measured in late June (38 cfs and 46 cfs), mid-July (16 cfs), and early September (11 cfs), and maximum summer water temperature was 61.8 F on July 19. Collected data will be used with habitat modeling and hydrologic analysis to identify appropriate flows for Snake River Cutthroat Trout spawning, late summer habitat, overwintering, and passage.

Spring Creek meander bend at 46 cfs and 11 cfs.



STEER CREEK STREAM RESTORATION

Program: Aquatic Habitat

Project Leads: Holden Reinert

Project Goals: Goal 1, Goal 2

Funding Partner(s): TU, USFS

Steer Creek is a tributary to the Little Greys River that is important for Snake River cutthroat trout spawning. Redd count declines in Steer Creek have been observed in recent years. From McCain Cabin on Meadow Creek to the Little Greys River confluence, a distance of approximately three miles was assessed. Spawning habitat in lower reaches is limited due to increased sediment loads from Meadow Creek and compacted gravel from cattle crossings. The Meadow Creek reach features incised, shallow, homogenous habitat, with excessive sedimentation and limited woody vegetation recruitment. Project partners agreed to use BDAs in the upper reaches to capture sediment, increase surface and groundwater elevations, and encourage willow recruitment. Permits were obtained September 2023. Materials were gathered by Game and Fish, TU and Bridger-Teton National Forest. Posts were installed with a hydraulic post pounder, and construction of 20 BDAs occurred early October 2023. Structures were maintained and monitored, and willow stakes were planted in May 2024 to increase woody riparian vegetation throughout the reach. Additionally, longitudinal profiles, cross section surveys and pebble counts were conducted on two reaches of Steer Creek below the confluence of Meadow and Steer Creeks. Stream morphology was monitored to identify differences in suitable and non-suitable spawning habitat for Snake River Cutthroat trout. Over-widened channels in the lower reach resulted in decreased habitat complexity and higher fine sediment deposition. Game and Fish is working with project partners like TU and Bridger Teton National Forest to restore natural channel dimensions suitable for Snake River Cutthroat trout to Steer Creek. Project partners include TU and Bridger-Teton National Forest.

Steer Creek has a lot of potential for improved Snake River Cutthroat Trout spawning habitat.



LANDER REGION

The Lander Region covers a stretch of central Wyoming from the peaks of the Wind River Mountains east to Boysen Reservoir, from Dubois to Rawlins, and points between. Region habitat management projects focus on several key goals, including conserving and protecting habitats, restoring aquatic and terrestrial environments, and enhancing fish and wildlife migrations. While the region tackled many important habitat projects, below are a few highlights.

Chain Lakes: This area utilizes winter sheep grazing as a management tool to remove old vegetation and promote new growth. This grazing also benefits plant reseeding through sheep hoof action and natural fertilization. An Area Improvement Project Agreement with the grazing lessee allows them to complete habitat improvement projects (like fence conversions and water well development) in lieu of paying grazing fees. This has led to wildlife-friendly fence conversions, the installation of a north boundary fence, and the rejuvenation of water wells with solar pumps, which improves wildlife utilization of forage.

East Fork Wind River Watershed Streamflow Monitoring: Streamflow at Bear Creek is monitored to balance irrigation needs with instream flow rights for Yellowstone cutthroat trout. A new stage-discharge rating curve was developed to accurately estimate flow rates, and pressure transducers were deployed to collect additional data.

Popo Agie River Restoration: Collaboration with the Popo Agie Conservation District aims to restore river and riparian conditions, focusing on areas with degraded habitat due to land use activities, dewatering,

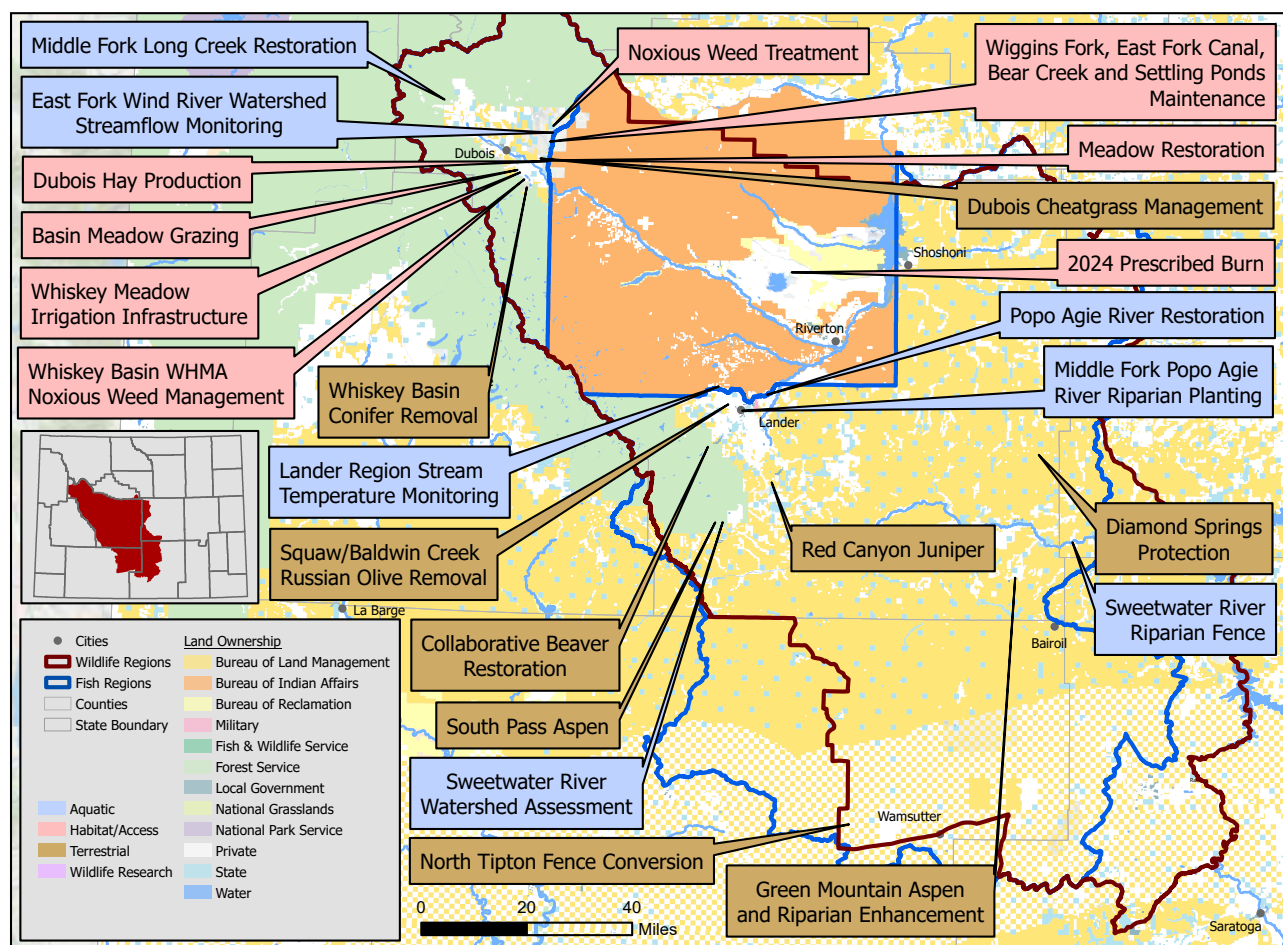
and channelization. A grant application is being prepared to fund a comprehensive assessment and design report.

AFT Diamond Springs Protection: New, low-maintenance fencing was installed at West Diamond Spring to protect it from livestock and feral horses. Future fencing projects are planned for other springs in the complex.

North Tipton Fence Conversion: Woven wire fencing was replaced with wildlife-friendly fencing to improve pronghorn migration. This project was made possible through multiple partnerships and funding sources.

Whiskey Mountain Bighorn Sheep Habitat Enhancement: Conifers are being removed to open up movement corridors for bighorn sheep, based on collar data that shows sheep reluctance to use areas with dense conifer cover.

Upper Wind River Mule Deer Migration Corridor: Collar data is used to delineate the migration corridor and stopover areas. A Threat Evaluation was developed and presented to the Commission, formally identifying the corridor for conservation actions.



CHAIN LAKES WHMA WINTER GRAZING

Program: Habitat and Access

Project Leads: Brian Parker, Matthew Pollock

Project Goals: Goal 1

Chain Lakes WHMA is grazed annually in the winter with sheep to remove decadent herbaceous material without adversely impacting overall wildlife habitat conditions. This grazing improves plant vigor and vegetative growth by removing old decadent herbaceous material, and reducing plant competition. The winter grazing also improves plant regrowth and reseeding through the hoof action of the sheep and fertilization through the animal's elimination processes. The lessee enters into an Area Improvement Project Agreement (AIPA) with the Department. The AIPA allows the lessee to complete projects in lieu of cash payments for the right to graze the WHMA. The AIPA allows us to complete many

projects on the WHMA without tying up staff time and budgets. Over the years, we have completed many fence conversions to wildlife-friendly specifications, completed the north boundary fence, and rejuvenated many defunct water wells with solar pumps. Since water is the limiting factor for carrying capacity on the WHMA, developing water resources on the WHMA has been a very favorable development to allow for better wildlife utilization of the existing forage resources. Completion of the boundary fence and converting parts of it to wildlife-friendly specifications allows for easy wildlife passage while keeping out feral horses and other livestock, thus saving the forage resources for wildlife use.

HORSE GRAZING ON WHISKEY BASIN WHMA MEADOW

Program: Habitat and Access

Project Leads: Brian Parker, Miles Proctor, Kevin Howard

Project Goals: Goal 1

The Department entered into a long term grazing agreement with CM Ranch to allow 37.5 Horse AUMs to be grazed annually from November through December on the Whiskey Basin meadow. In exchange for the grazing the Department received a permanent administrative access easement to sheep ridge on Whiskey Basin WHMA. Without this easement, there would be no road access for the Department to Sheep Ridge.



Whiskey Basin WHMA meadow.

COLLABORATIVE BEAVER RESTORATION

Program: Terrestrial Habitat

Project Leads: Amy Anderson

Project Goals: Goal 2

The Collaborative Beaver Restoration Program had a slow year in 2024. Despite efforts to trap and relocate 2 different families from two drainages in the Lander Area, only one beaver from each colony were captured. Both beavers were relocated to a recently breached beaver dam in the Sinks Canyon area on the Middle Fork of the Popo Agie River. One of the beavers rapidly made its way back to the location from which it was trapped in the same drainage. Trail cams located near the lodge structure did not confirm the other beaver remained at the relocation site. Shoshone National Forest and Game and Fish personnel conducted several Beaver Release Score Card investigations in 2024 to attempt to find more areas where beaver can be used to actively restore headwater stream systems.



Beaver released to its now home in Sinks Canyon State Park.



DIAMOND SPRINGS PROTECTION

Program: Terrestrial Habitat

Project Leads: Amy Anderson

Project Goals: Goal 2

Funding Partner(s): Sage-grouse Local Working Group

In 2024, the first spring in the Diamond Springs Complex was protected using 3 rail continuous panel pipe fencing. Previously, West Diamond Spring had been fenced with a mixture of buck and rail and barbed wire fencing, but all of it was broken down and no longer providing any protection for this prolific spring. The old fencing was removed from the site, replaced with a fence that should require very little maintenance, virtually eliminates the risk of entanglement, is extremely visible to wildlife wishing to access the spring, but keeps livestock and feral horses out. There are 3 other springs in the Diamond Springs Complex. Two of them will be fenced similarly in subsequent years, while the third, Big Diamond Spring, has a barbed wire fence that is still mostly intact. A volunteer day will be planned to make repairs to the Big Diamond Spring fence in 2025.



3-rail continuous panel pipe fencing protecting West Diamond Spring in the Diamond Springs Complex near Beaver Rim, north of Jeffrey City.



Rejuvra herbicide application to cheatgrass on the slope between Duncan Bench and the East Fork of the Wind River.

DUBOIS CHEATGRASS MANAGEMENT

Program: Terrestrial Habitat

Project Leads: Amy Anderson

Project Goals: Goal 2

Funding Partner(s): WGBGLC, Game and Fish Invasive Annual Grass

In 2024, 1,200 acres of cheatgrass was treated in the Dubois area. Hammond Helicopters applied Rejuvra herbicide on Torrey Rim and the slope between the East Fork Road and the East Fork of the Wind River. These two areas totaled nearly 1,000 acres. Fremont County Weed and Pest applied Imazapic herbicide to the road rights of way throughout Whiskey Basin WHMA, Inberg-Roy WHMA, and Spence-Moriarity WMA. Imazapic is used on the road sides due to annual disturbance by road graders, which would disrupt any control that Rejuvra would typically provide. This also explains why the roadside treatments are implemented annually, because Imazapic doesn't provide the longer term control that Rejuvra typically ensures.



DUBOIS HAY PRODUCTION

Program: Habitat and Access

Project Leads: Brian Parker, Miles Proctor, Kevin Howard

Project Goals: Goal 1

The Dubois haying operation allows the Department to generate hay for use at the Department managed 21 elk feedgrounds, while simultaneously providing supplemental winter forage for elk in the Dubois area. In 2024 Department personnel put up 1,094 tons (2538 bales) of weed free hay on Spence and Moriarty WMA and Whiskey Basin WHMA for use on the elk feedgrounds.



Haying operations on Dubois area WMA/WHMAs provide a significant percentage of feedground hay, Bain Meadow, Spence & Moriarity WMA.

DUBOIS WHMA PRODUCTION & UTILIZATION

Program: Terrestrial Habitat

Project Leads: Amy Anderson, Zach Gregory

Project Goals: Goal 1

After a banner year for production in 2023, this year the lack of precipitation severely limited production on the Dubois Wildlife Habitat Management Areas. Forage production on Inberg/Roy WHMA and Whiskey WHMA was half of what it was in 2023, and on Spence/Moriarity WMA forage production was 30% of the previous year. These are among the lowest forage production numbers ever recorded for these Habitat Areas in Dubois. Also of concern, on the East Fork Units (Spence/Moriarity and Inberg/Roy), is the level of utilization by elk the last several years. Utiliza-

tion has reached nearly 80% on average across all of the fourteen clipping locations. This level of utilization over time can cause forage production to decline, and increase the chance for invasive species to move into these areas. Across all of the Dubois WHMAs/WMA, there has been a marked increase in off-road travel by ATV's and UTV's, which can also cause declines in the amount of forage available to wildlife through the winter. Even a single vehicle driving across the dry, brittle forage can lay it down flat on the ground rendering it mostly unavailable to foraging ungulates.



Calculating forage production on Dubois WHMAs.



Off-road ATV/UTV tracks.



EAST FORK WIND RIVER WATERSHED STREAMFLOW MONITORING

Program: Aquatic Habitat

Project Leads: Carli Baum

Project Goals: Goal 1

Discharge measurements and cantilever staff gage readings at Bear Creek are regularly recorded to balance instream flow rights and Game and Fish irrigation uses. However, in 2023, it was determined that the current stage-discharge rating curve that was often used to estimate CFS was no longer correct, likely due to shifting channel characteristics from a prior high flow event. A new stage-discharge rating curve was needed to more precisely estimate CFS from the cantilever staff gage in order to inform Game and Fish personnel when to cease irrigating to protect flow rights for Yellowstone Cutthroat Trout (YSC). In 2024, the Lander AHAB collected five discharge measurements and cantilever staff gage readings at various flow periods from early summer through late fall. When flow was measured below 20 CFS, irrigators were promptly informed and water use was reduced to maintain base flow for YSC in Bear Creek. The collected discharge data was paired with staff gage readings to create an updated stage-discharge rating curve that reflects the current channel conditions. Additionally, two new pressure transducers were deployed at the Bear Creek flow site to record air and water pressures, which will contribute more flow data to better inform the newly constructed stage-discharge rating curve.



Streamflow measurements at Bear Creek in May 2024.

GREEN MOUNTAIN ASPEN AND RIPARIAN ENHANCEMENT

Program: Terrestrial Habitat

Project Leads: Amy Anderson

Project Goals: Goal 2

Funding Partner(s): BLM, RMEF, WGBGLC, Game and Fish Mule Deer Initiative

Treatments on Green Mountain in 2024 centered on the Cottonwood Creek drainage on the north side of the mountain and included both BLM and private lands (149 acres on BLM, and 104 acres on private). A total of

253 acres of encroached limber pine, lodgepole pine, and juniper were cut out of aspen and riparian habitats. These treatments are designed to improve summer and transition habitat for mule deer.



Aspen communities on Green Mountain are in late seral condition, with heavy conifer encroachment.



Green Mountain aspen stand and spring after removing encroached conifer.



LANDER REGION STREAM TEMPERATURE MONITORING

Program: Aquatic Habitat

Project Leads: Carli Baum

Project Goals: Goal 1

From 2023 through 2024, water temperature loggers were deployed at 11 established monitoring sites in streams in the Popo Agie, Little Popo Agie, Sweetwater, Upper Wind, and East Fork Wind River watersheds. Data were recorded every 30 minutes or every one hour and were downloaded from all loggers. These data were used to calculate a suite of metrics to describe each stream's thermal regime (the magnitude, frequency, variation, and timing of temperature events). Stream temperature data have been collected at these established sites for 4-22 years to inform stream habitat and fish management decisions and to share with USGS scientists. Two additional loggers were added at the Middle Fork Popo Agie site to examine the relationship between pool water temperature, riffle water temperature, ambient air temperature during low summer stream flows in the city of Lander. Game and Fish cooperated with WyDEQ by helping create a sampling and analysis plan that ensures standardized high data quality and allows WyDEQ to also utilize the data.



Monitoring stream temperatures in Lander.

BAIN HAYFIELD RESTORATION

Program: Habitat and Access

Project Leads: Brian Parker, Miles Proctor, Kevin Howard

Project Goals: Goal 1

2024 was the final phase of the Bain Hayfield restoration project. The first phase in 2022 was a new pivot and the second phase in 2023 was disking, packing, leveling, and planting an annual cereal grain cover crop to be harvested in the summer. The third and final phase started in the fall of 2023 when ground was broke and left fallow over winter help break down organic matter and facilitate final seed bed preparation.

Bain Meadow farming will provide over 200 tons of certified weed free hay for feedgrounds, Spence & Moriarity WMA.

tion in the spring of 2024. In May of 2024 the final permanent cover was planted with Meadow Brome, Orchard Grass, Intermediate Wheatgrass, and Tall Fescue. A nurse crop of beardless barley and oats was planted over the permanent grass to provide soil protection, erosion control, weed suppression, soil nutrients and forage for wildlife while the perennial permanent grasses establish.



MIDDLE FORK LONG CREEK RESTORATION

Program: Aquatic Habitat

Project Leads: Carli Baum

Project Goals: Goal 2

Middle Fork Long Creek is a tributary in the Upper Wind River watershed that hosts a small population of Yellowstone Cutthroat Trout (YSC). Like many streams across Wyoming, Middle Fork Long Creek is actively incising and sediment is readily flushed out of the system during high flow events. In 2024, the Lander AHAB collaborated with the Lander Regional Fisheries Biologist and USFS personnel to create a restoration plan for Middle Fork Long Creek. The main goals that were discussed are 1) to diversify and improve the riparian and stream habitat by installing BDAs and

Post-Assisted Log Structures (PALS), and 2) be strategic about installation locations as to not encourage Brook Trout encroachment further upstream into the YSC habitat via BDA ponds. All parties agreed that BDA and PALS installation will occur downstream of the main road culvert, in the case of future management discussions where the culvert could serve as a potential fish barrier for Brook Trout. Multiple site visits occurred in 2024 to assess the stream characteristics and choose optimal sites for BDAs and PALS installation throughout the reach.



Evaluating potential BDA sites on Middle Fork Long Creek.



Eroded bank in Middle Fork Long Creek.

SPENCE & MORIARITY WMA NOXIOUS WEED MANAGEMENT

Program: Habitat and Access

Project Leads: Brian Parker, Miles Proctor, Kevin Howard

Project Goals: Goal 2

Annual herbicide application is a crucial part of the Department's habitat management strategy. The majority of the irrigated hay meadows are certified "Weed Free". The hay produced here is then used on the Department's elk feedgrounds in Sublette and Teton counties. Upland weed management promotes habitat integrity and minimizes noxious weed spread with migrating wildlife. The Department contracted with Rocky Mountain Agronomy Center to apply herbicide across irrigated meadows on Spence and Moriarity WMA to control noxious weeds, largely white-top and Canada thistle, in early June and July. Additionally, Fremont County Weed & Pest sprayed a variety of noxious weed species on irrigated meadows and rangeland starting in July and continuing through fall 2023. Habitat and Access personnel also dedicated substantial contract personnel time to noxious weed control. Hay field acres treated 175, over 40 miles of road banks, and 30 miles of ditches along with 30 acres of meadows.



Noxious weeds on the WMA.



POPO AGIE RIVER RESTORATION

Program: Aquatic Habitat

Project Leads: Carli Baum

Project Goals: Goal 2

The Popo Agie River is a Red Ribbon Trout fishery (300-600 lbs. of trout per mile) and the limited public accesses are popular for anglers and hunters. The only official public access is a state section, called Country Garden, which is approximately 5 miles northeast of Lander off Highway 789. The lessee has been a great land steward and has allowed other agencies to conduct river bank stabilization projects in the past (2010 and 2014), and maintained a fence to protect the riparian area from overgrazing. These projects along with improved grazing practices have improved habitat conditions, but more work is needed to restore the river and riparian habitat for fish and to protect lessee infrastructure. Many issues with the Popo Agie River are likely related to past or present land use activities, dewatering, and channelization. Noticeable changes include agricultural land loss, a lower water table, and a decrease in deep-rooted native riparian vegetation. These issues are of mutual concern to the Popo Agie Conservation District (PACD)

and Game and Fish, therefore this project provides a great opportunity for Game and Fish to partner with PACD to restore river and riparian conditions in an Aquatic Restoration Priority area for wetland, riparian and stream restoration of the Game and Fish Statewide Habitat Plan. Improving the river habitat would benefit Brown Trout, Rainbow Trout, and Mountain Whitefish, along with many other small-bodied native fishes. Additionally, improved riparian habitat could potentially facilitate more forage and cover for terrestrial wildlife. This project will maximize the quality of a limited fishing and hunting resource in the area, and benefit a lessee that is already managing the land for wildlife and the public. In 2024, the Lander AHAB coordinated with PACD on planning and logistics for hiring an engineering firm to conduct an assessment and produce a design report on the proposed project reaches identified in 2023. The Lander AHAB conducted site visits and drafted a grant application to submit in early 2025 for additional funding.



High water on eroding bank of Popo Agie River Country Garden state section.



Bank erosion on the Popo Agie River Country Garden state section.

RED CANYON JUNIPER

Program: Terrestrial Habitat

Project Leads: Amy Anderson

Project Goals: Goal 2

Funding Partner(s): BLM

The Red Canyon Juniper project was initiated in 2024 to cut encroached juniper out of productive bitterbrush/sagebrush communities that are considered crucial winter range for mule deer. The first round of treatment included the most sparsely encroached acreages. A total of 300 acres were treated using a contracted saw crew to lop and scatter large juniper trees. The project will continue for the next three to four years treating approximately 300 acres per year. This project will also have a cheatgrass treatment component after the juniper removal is completed.



After cutting juniper trees out of mixed mountain shrub communities.



RED DESERT FENCE INITIATIVE: NORTH TIPTON FENCE CONVERSION

Program: Terrestrial Habitat

Project Leads: Amy Anderson

Project Goals: Goal 3

Funding Partner(s): BLM, MFF, Private landowners, USFWS - Private Lands Program, WGBGLC, WWNRT, Knobloch Family Foundation, Game and Fish Trust Fund

The first phase of the Red Desert Fence Initiative came together very quickly thanks in large part to excellent partnerships and a willing landowner. An 18,000 acre area of the Red Desert, north of Tipton and directly adjacent to I-80, was identified as an area where pronghorn were excluded from crucial habitats due to woven wire fencing. The landowner recognized the problem, and immediately came on board with the project because he could see benefits of converting the fence both to his operation and to the pronghorn herd and other wildlife on his ranch. This project converted more than 23 miles of woven wire fencing to 4 strand barbed/barbless fencing in one season. The landowner also fabricated drill stem pipe crossing structures with removable rails to replace traditional H braces, and he installed them every quarter mile along the fence. These structures should create very visible, and easily navigated crossing locations which will be especially important during winters with heavy snow loads. The partnerships are what made this project possible. With coordination assistance from The WYldlife Fund and Little Snake River Conservation District, Game and Fish was able to amass the funding necessary to convert all of the fencing in a single project year. Funding from the Knobloch Family Foundation, WWNRT, and USFWS Partners Program were the cornerstones of the project, but additional funding came from Game and Fish Trust Fund, MFF, BLM, WGBGLC, and the private landowner.



Pronghorn buck going under smooth bottom wire of new North Tipton Fence.



North Tipton Fence and crossing structure after removal of 23 miles of woven wire, and replacing with more wildlife friendly 4 wire barbed/barbless fencing.



Grazing activities, Red Rim Daley WHMA.

RED RIM - DALEY WHMA GRAZING

Program: Habitat and Access

Project Leads: Brian Parker, Matthew Pollock, Matthew Pollock

Project Goals: Goal 1

Red Rim-Daley WHMA is comprised of OS LI, BLM, and Commission-owned property, and managed as a wildlife habitat/livestock grazing demonstration area. Two operators annually graze the Red Rim - Daley WHMA, collectively consuming approximately 1,650 AUMs. Rotational grazing allows for optimal plant development and rangeland health, both on the WHMA and on rested pastures outside the boundaries of the WHMA that are also important wildlife habitats. The grazing lessees also perform fence maintenance, water well maintenance, and other infrastructure improvements and maintenance, as well as defer grazing on their private ground in exchange for grazing on the WHMA.



OCEAN LAKE WHMA GRAZING

Program: Habitat and Access

Project Leads: Justin Rhine

Project Goals: Goal 1

Ocean Lake WHMA is grazed on a five year, five pasture rotational cycle. Each pasture is grazed with a short duration high intensity grazing prescription during the month of January. This grazing reduces herbaceous matter accumulation, and promotes vigor and palatability of grass-

es, benefiting waterfowl and deer. Additionally, high intensity grazing serves to fertilize each pasture for the upcoming growing season. Each pasture is rested for four years following the winter grazing allowing for sufficient recovery. In 2024 the Department grazed the Pond fields.

SOUTH COVE FENCE REBUILD

Program: Habitat and Access

Project Leads: Justin Rhine

Project Goals: Goal 1, Goal 2

On Ocean Lake WHMA one mile of dilapidated fence in the south cove was removed and rebuilt using wildlife friendly 4 strand barbed wire. The original fence was woven wire on the bottom with two strands of barbed wire on top which had been pushed down by neighboring cows

causing the fence to be a hazard to wildlife. In addition to being a wildlife hazard, the trespass livestock were inflicting damage to wetland and upland habitats on the WHMA.

SOUTH PASS ASPEN

Program: Terrestrial Habitat

Project Leads: Amy Anderson

Project Goals: Goal 2

Funding Partner(s): RMEF, USFS, WGBGLC, WWNRT, Game and Fish Mule Deer Initiative

In 2024, contracted saw crews from Summitt Forests Inc removed 247 acres of conifer from aspen stands. Of these acres, 111 acres included cutting and hand piling, and 136 acres included lop and scatter treatment.

The majority of the work this year was in the vicinity of Slate Creek along the Loop Road, but also included acreage on Mill Creek. The South Pass Aspen project has treated over 3,500 acres of aspen habitat since 2015.



Large treatment unit near Slate Creek off of the Louis Lake Road on South Pass.



Treatments along the Louis Lake Road revealed large, healthy patches of snowbrush ceanothus, a favored forage species for mule deer.



SPENCE AND MORIARTY WMA IRRIGATION CANAL MAINTENANCE

Program: Habitat and Access

Project Leads: Brian Parker, Miles Proctor, Kevin Howard

Project Goals: Goal 1

Removal of silt and debris from the irrigation canals on Spence and Moriarty WMA occurs annually to improve water efficiency on commission owned irrigated lands. These irrigated lands are critical winter range for elk, mule deer, and bighorn sheep. In 2024, silt and debris were removed Wiggins Ditch bank armoring, Spence & Moriarty WMA.



from almost 25 miles of ditch on the Wiggins Fork, East Fork, and Bear Creek Canals, located on the Spence and Moriarty WMA. 2.5 acres of settling ponds were also maintained. These ponds allow silt deposition to be more localized within the irrigation system and easier to remove.

Wiggins Ditch bank armoring, Spence & Moriarty WMA.



SQUAW/BALDWIN CREEK RUSSIAN OLIVE

Program: Terrestrial Habitat

Project Leads: Amy Anderson

Project Goals: Goal 2

Funding Partner(s): Fremont County Weed and Pest, Popo Agie Conservation District, Private landowners, Game and Fish Trust Fund, WySF

In 2024, Popo Agie Weed Management Association treated properties adjacent to Highway 287 and along Baldwin Creek. These treatments will protect native diversity by removing invasive Russian olive, improve visibility along Highway 287 where mule deer and white-tailed deer are often involved in collisions with vehicles, and improve flows on Baldwin Creek where Russian olive densities were causing localized flooding in high water years. This year six landowners were involved in the project, and two Wyoming contractors

won bids to conduct the treatments. It has long been a goal of this project to engage more local contract crews. Partners involved in the planning and implementation of this project include a sub-committee of the Popo Agie Weed Management Association, including: Wyoming Game and Fish Dept, Fremont County Weed and Pest, Popo Agie Conservation District, and WySF. This committee has been very successful in getting Russian olive removal projects implemented in the upper tributaries of the Popo Agie River.



Before and After Russian olive removal on Baldwin Creek near Lander. This project enhances riparian habitat, and creates visibility in the Highway ROW where mule deer and white-tailed deer often are involved in collisions with vehicles on Highway 287.



STRAWBERRY CREEK ZEEDYKS

Program: Aquatic Habitat

Project Leads: Carli Baum

Project Goals: Goal 2

Although the headwaters of Strawberry Creek were historically wet meadows, habitat degradation has led to headcuts, hummocks, and channelization. In 2024, Game and Fish and BLM personnel installed 50 Zeedyk rock structures by hand on an ephemeral tributary of Strawberry Creek. Over time, these Zeedyk structures will arrest headcut migration, promote riparian vegetation growth in the captured sediment, and expand the wet meadow environment.



Installing a one rock dam Zeedyk structure on a Strawberry Creek tributary.

SWEETWATER RIVER RIPARIAN FENCE

Program: Aquatic Habitat

Project Leads: Carli Baum

Project Goals: Goal 2

Funding Partner(s): Private landowners and WWNRT

Wyoming Game and Fish Department has worked with Split Rock Ranch personnel, the NRCS, and Ducks Unlimited to develop solutions that maximize river and riparian habitat benefits and reduce wildlife mortality in fences while allowing the ranch to efficiently operate. The newly constructed wildlife-friendly fencing will reduce livestock grazing in the river corridor, which will improve river and riparian health and foster the growth of woody vegetation. The proposed fences will allow the ranch to graze their irrigated and range pastures for longer periods while eliminating or greatly reducing grazing near the river. Reducing riparian grazing will allow vegetation to recover and prevent hoof shear

on banks, which contributes to erosion and incised channels. The Sweetwater River Riparian Fence project is set to be accomplished in three phases, with Phase I being completed in 2025, Phase II in 2026, and Phase III in 2027. In 2024, 8.5 miles of fence replacement and new installation of wildlife-friendly fencing was completed around the ranch headquarters and the main pivots, completing most of the Phase I plans. The remainder of Phase I fencing will be completed in 2025. Phase I fencing protects approximately 6.4 miles of the Sweetwater River from grazing, which will greatly benefit river health and the facilitate undisturbed riparian vegetation growth.

Split Rock Ranch riparian fence.



SWEETWATER RIVER WATERSHED PLAN

Program: Aquatic Habitat

Project Leads: Carli Baum

Project Goals: Goal 2

An assessment of the Rock Creek watershed, a sub-watershed of the Sweetwater River, has been conducted from 2020 to 2024 to describe stream and riparian habitat, identify major watershed issues, describe possible restoration approaches, and outline future enhancements. The Sweetwater River has been prioritized to preserve habitat for SGCN fish and riparian reliant wildlife. The Wyoming Habitat Assessment Methodology has been used to document current conditions along approximately 66 miles of the Sweetwater River and 77 stream miles of tributaries. In 2024, current conditions were documented on an additional 1.4 miles of Slate Creek, a tributary in the upper Rock Creek watershed that runs through USFS land and private land. Throughout the Sweetwater River, excessive lateral streambank erosion and struggling willow communities are common, but some tributaries are in notably better condition. During assessments of the Sweetwater River, riparian herbaceous vegetation stubble height was often near or less than 2-3

inches in the fall. Wild ungulates and livestock contribute grazing pressure to these degraded riparian communities. High spring flows combined with reduced stream bank stability caused by degraded riparian vegetation have led to bank erosion, over-widened channels, and channel incision. However, tributary conditions are often much better with stable banks and age class diversity of willow communities, especially in the upstream areas that transition to USFS land. For example, despite prominent evidence of grazing in Slate Creek, a wide range of willow size classes were still observed. The improved condition of upstream tributaries is likely related to differences in grazing practices and increased productivity outside the riparian area. There is a shared desire from BLM and Game and Fish to identify and pursue priority restoration projects in the Rock Creek watershed, therefore habitat assessments will continue in 2025, focusing on areas where there is the greatest interest and feasibility for future restoration.

Slate Creek.



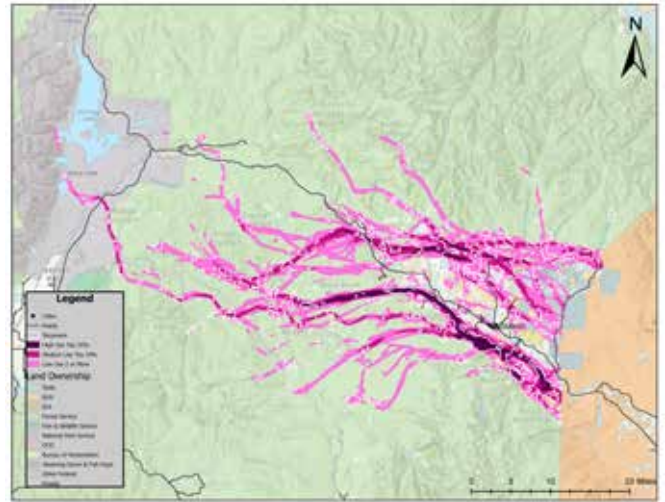
UPPER WIND RIVER MULE DEER MIGRATION CORRIDOR

Program: Terrestrial Habitat

Project Leads: Aly Courtemanch, Daryl Lutz, Jill Randall, Zach Gregory, Cheyenne Stewart

Project Goals: Goal 3

The Upper Wind River Mule Deer Migration Corridor is encompassed primarily by the Dubois mule deer herd, but also includes mule deer movement into and out of the Sublette mule deer herd and Grand Teton and Yellowstone National Parks. Mule deer in this herd migrate varying distances (5-90 miles) between their winter and summer ranges across federal, state, and private lands. Each year, thousands of mule deer migrate between distant high-elevation summer ranges and lower winter ranges near Dubois and the Wind River Indian Reservation. Collar data from 147 individuals (494 sequences) was collected from 2014-2023 and then analyzed with the line buffer method to delineate the corridor use levels and the Brownian Bridge Movement Model to delineate stopovers. This data was used to develop a Threat Evaluation which was taken through a public process, which culminated with a Commission presentation in September. At this meeting the corridor was formally identified which will elevate the significance of this area for conservation actions targeting connectivity and sustaining these seasonal movements.



Upper Wind River mule deer migration corridor.

OCEAN LAKE WHMA PRESCRIBED BURN

Program: Habitat and Access

Project Leads: Brian Parker, Justin Rhine

Project Goals: Goal 1, Goal 2

On an annual basis the Department in cooperation with BLM and BOR will burn some of the Ocean Lake WHMA wetlands. The wetlands are drained and burned prescriptively on a rotating annual basis. Pre-

scribed fire reduces cattail monocultures in the wetlands and increases vegetative diversity. The prescribed fire will produce better habitat resulting in net species diversity and increased habitat structure.

Ocean Lake WHMA wetlands.



WHISKEY MEADOW IRRIGATION INFRASTRUCTURE

Program: Habitat and Access

Project Leads: Brian Parker, Miles Proctor, Kevin Howard

Project Goals: Goal 1

Removal of silt and brush over growth was completed on the Torrey irrigation canal on Whiskey Basin WHMA to improve water efficiency on commission owned irrigated lands. These irrigated lands are critical winter range for elk, mule deer, and bighorn sheep. Silt, debris and ditch bank overgrowth removal occurred on a little over a mile of irrigation ditch. Check structures along with a bubbler to convert remaining open ditch into gated pipe were also installed on the Whiskey Basin WHMA. This maintenance is done to ensure flow of water to Game and Fish irrigated lands. The conversion to gated pipe allows more accurate water distribution on meadows and decreases loss of evaporation during transport of water.



Check structure on the Whiskey Basin WHMA.

WHISKEY BASIN WHMA NOXIOUS WEED MANAGEMENT

Program: Habitat and Access

Project Leads: Brian Parker, Miles Proctor, Kevin Howard

Project Goals: Goal 2

Habitat and Access personnel and Fremont County Weed & Pest sprayed a variety of noxious weed species consisting of white-top, Canada thistle and cheat grass on irrigated meadows, rangeland, and road right of ways starting in May and continuing through fall

of 2024. Noxious weed management is an important component of promoting rangeland health, benefiting bighorn sheep, elk and deer. Upland range is surveyed and sprayed annually in this management effort.

WHISKEY MOUNTAIN BIGHORN SHEEP HABITAT ENHANCEMENT

Program: Terrestrial Habitat

Project Leads: Amy Anderson

Project Goals: Goal 2

Funding Partner(s): NFWF, WyWSF, WWNRT, Game and Fish Trust Fund

During summer 2024, a contracted saw crew was hired to cut conifer in strategically selected polygons to open up movement corridors where collar data shows bighorn sheep may be resistant to using due to conifer encroachment. Both cutting and hand piling, and lop and scatter slash prescriptions were used, and in total, 135 acres were either thinned, or

clear cut of limber pine, juniper, and in some cases Douglas fir within the Whiskey Basin WHMA. These treatments are meant to offer bighorn sheep more open habitats they need to feel secure on the landscape. Additional treatments are planned for the next several years which will include Commission owned lands, USFS and BLM managed lands.



Whiskey Basin WHMA bighorn sheep habitat area before cutting and hand piling conifer.



Whiskey Basin WHMA bighorn sheep habitat after contracted saw crews cut and hand piled conifer to open up crucial winter range habitat and movement corridors.



LARAMIE REGION

The Laramie Region covers southeast Wyoming from Torrington to Saratoga and encompasses diverse ecosystems ranging from alpine headwaters to high desert shrublands. Wildlife and habitat projects in the region reflect a strong collaborative approach with local landowners, federal and state agencies, NGOs, and volunteers.

Key project types included:

- Wildlife-friendly fence conversions and big game migration support
- Aquatic habitat restoration, watershed assessments, and post-fire monitoring
- Invasive species control, including cheatgrass and noxious weed treatment
- Native vegetation and forage enhancements through seeding, irrigation, and conifer removal
- Wildlife research using GPS collars to monitor movement, habitat use, and survival
- Public access improvements, including boat ramps, signage, and infrastructure maintenance

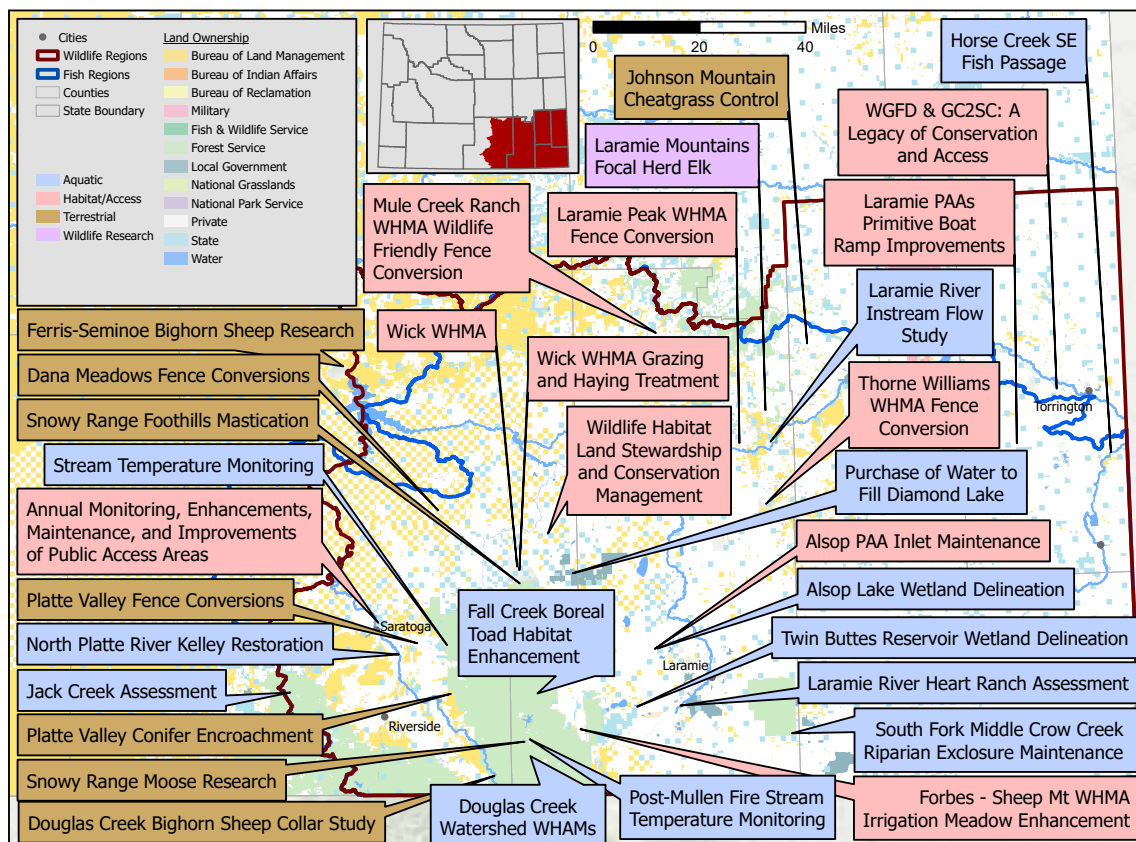
Dana Meadows & Laramie Peak WHMA Fence Conversions: Ongoing efforts to replace traditional fencing with wildlife-friendly designs continued in high-priority habitats like Dana Meadows and Laramie Peak WHMA. These projects improve connectivity for elk, mule deer, and pronghorn, reduce the risk of entanglement and mortality, and maintain sustainable grazing systems. 13.5 miles have been converted since 2021, with a goal of 40+ miles in the Laramie Peak WHMA alone.

Douglas Creek Post-Fire Watershed Monitoring: In response to the 2020 Mullen Fire, stream assessments were conducted on Douglas Creek tributaries to evaluate post-fire impacts and identify restoration opportunities. Data collected is guiding potential restoration designs, including sediment reduction, floodplain reconnection, and habitat enhancement through in-stream structures.

Fall Creek Boreal Toad Habitat Enhancement: To support a breeding population of Boreal Toads, BDAs were installed in Fall Creek, and exclusionary fencing was constructed to allow willow recovery. These efforts aim to restore pond habitat vital for toad reproduction and long-term population resilience.

Horse Creek Fish Passage Project: A new 395-foot fish ladder was completed in spring 2024 at the Horse Creek Lateral Diversion. The ladder reconnected over 23 miles of aquatic habitat for native fish, including several SGCNs. Monitoring using PIT tags will continue in 2025 to track fish movement.

Platte Valley Conifer Removal and Fence Modifications: Juniper removal projects treated nearly 500 acres of crucial mule deer winter range and sage-grouse habitat. Additionally, over 16 miles of hazardous fencing were converted to wildlife-friendly designs, guided by GPS collar data to prioritize high-use areas in big game migration corridors and crucial winter range.



ALSOP LAKE WETLAND DELINEATION

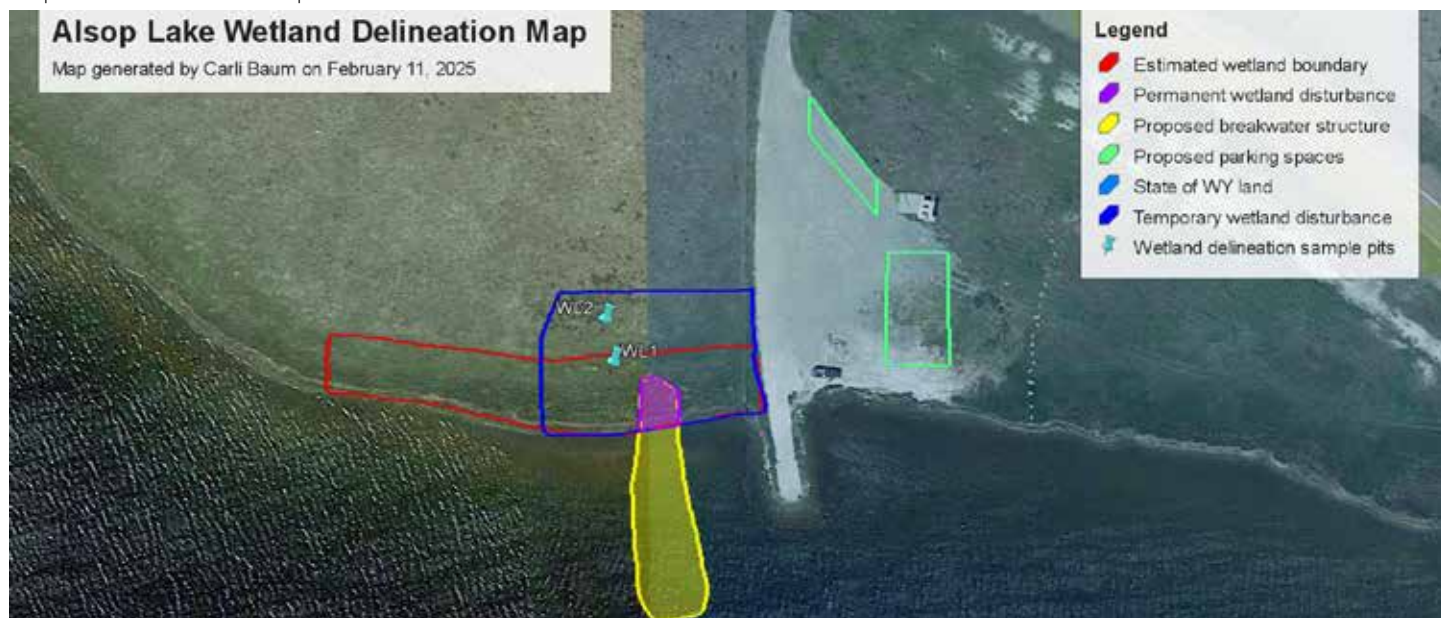
Program: Aquatic Habitat

Project Leads: Steve Gale, Carli Baum

Project Goals: Goal 1

Proposed installation of a breakwater pier at Alsop Lake will provide boaters with protection from wave action at the boat ramp and improve angler experience. Prior to construction of the breakwater pier, a wetland delineation of Alsop Lake was required to document temporary and permanent disturbance to wetlands caused by the project. In August 2024, a wetland delineation was conducted. Land cover, soil maps, wetland inventories, and aerial imagery information on Alsop Lake was gathered prior to the field visit. During the field visit, two sample soil pits were selected west of the boat ramp to determine

Alsop Lake Wetland Delineation Map.



the wetland-upland boundary within the project area. The estimated permanent wetland disturbance of the breakwater pier had an area of approximately 0.02 acres (832 sq. ft) and was defined as the terrestrial portion of where the breakwater pier will be installed. Temporary disturbance was estimated to be a total of 0.31 acres, and 0.17 acres of which are within the wetland boundary. The amount of permanently disturbed wetland will be less than 0.10 acres, therefore the project is not required to mitigate for wetland loss under Clean Water Act 404 wetland permitting rules.

DANA MEADOWS FENCE CONVERSION

Program: Terrestrial Habitat

Project Leads: Britt Burdett

Project Goals: Goal 3

Funding Partner(s): BLM, Private Landowners, RMEF, USFWS - Private Lands Program, WGBGLC, Game and Fish Platte Valley Habitat Partnership

In the fall of 2023, Game and Fish, BLM, Medicine Bow Conservation District, and US Fish and Wildlife Service Partners for Fish and Wildlife removed 3.5 miles of woven wire/barbed wire combination fence in important elk, pronghorn, and mule deer habitat on Dana Meadows Ranch. A new, wildlife-friendly 4-wire fence (three barbed, one smooth) was constructed in its place over the summer of 2024. This project builds upon a previous, 10 mile fence conversion project on Dana Meadows that was completed in 2021. The new fence should increase overall habitat connectivity, decrease big game mortalities, and maintain proper grazing systems.



Recently constructed wildlife friendly fence.



DIAMOND LAKE WATER 2024

Program: Aquatic Habitat

Project Leads: Jerry Cowles, Del Lobb

Project Goals: Goal 1

Game and Fish, in collaboration with the Wheatland Irrigation District (WID), executed a 10-year agreement initiated in 2017, allowing Game and Fish to purchase up to 1,000 acre-feet of water annually. As part of this agreement, water is delivered through a pipeline constructed by Game and Fish in 2018, connecting the Cannon Canal to the lake. For the 2024 delivery, water began its journey on June 13 and concluded on July 15. A meticulous monitoring process, utilizing trail cameras, staff gauges, and dataloggers, was implemented to ensure accurate mea-

surements and accountability. The final calculated delivery amounted to 707 acre-feet, with both WID and Game and Fish confirming the total. This water was purchased at a rate of \$100 per acre-foot, resulting in a total transaction value of \$70,700. The successful water delivery contributed to raising the lake level to 7,351 feet by July 15. This accomplishment highlights our commitment to effective water resource management and conservation, ensuring sustainable water availability for aquatic habitats and recreational opportunities.

DOUGLAS CREEK BIGHORN SHEEP COLLAR STUDY

Program: Terrestrial Habitat

Project Leads: Ryan Amundson, Lee Knox

Project Goals: Goal 3

Funding Partner(s): WGBGLC

In years 2019-2023, a total of 33 GPS collars were deployed on bighorn sheep in the Douglas Creek herd unit. The collars were programmed to fall off in December 2024. Information to be learned from the collar data includes the following: 1) quantify population-level seasonal movements and distribution of adult female bighorn sheep within areas of the Douglas Creek

herd unit that were impacted by the 2020 Mullen Creek Wildfire, 2) identify environmental attributes that influence habitat selection of adult bighorn sheep and incorporate those variables into a predictive seasonal range map, 3) investigate adult female bighorn sheep survival, and 4) assess the health of handled bighorn sheep through biological samples (blood, feces, hair).

Bighorn sheep with collar.



Bighorn lambs in escape terrain in the Mullen Wildfire scar.



DOUGLAS CREEK WATERSHED WHAMS

Program: Aquatic Habitat

Project Leads: Steve Gale

Project Goals: Goal 2

To evaluate post-fire effects of the 2020 Mullen Fire, WHAM assessments within the Douglas Creek watershed were completed on Bert and Mowberg Creeks, first order tributaries to Douglas Creek. Previous WHAM assessments were completed in 2012 allowing comparisons of pre- and post-fire WHAM data. Bert Creek is located on the Medicine Bow-Routt National Forest. The channel type is a mix between an incised E and B channel. The valley type is a confined colluvial U-shaped and moderately steep ($\leq 6\%$). The riparian width varies due to the incision of the E channel, but it is laterally stable. There is evidence of woody recruitment and numerous buried trees within the flood prone area. In-channel woody debris improves floodplain connectivity. Pools, riffles, and runs were all common throughout the segment. Very little ($<10\%$) bank erosion was observed. Riparian vegetation was 40% willow, 20% riparian grass, 20% sedge, and 20% forb. Upland vegetation was 50% pine, 30% grass, 15% forb, and 5% aspen. Wetted width averaged 3 feet and bankfull depth 1.2 feet. There is evidence of relict beaver ponds and the supply of beaver food and building supplies was rated "questionable". Large scale influences include the Mullen Fire, grazing, and recreation (single-track dirt bike trail), while small scale influences include road crossings and a culvert. Bert Creek retained a green and resilient riparian area following the Mullen Fire, most likely due to its wide riparian width (≥ 150 feet). Bert Creek may serve as a good reference reach for future channel designs in nearby watersheds. Mowberg Creek is also located on the Medicine Bow-Routt National

Forest. For the first $\frac{1}{2}$ mile from its confluence with Douglas Creek, the channel is heavily impacted by post-fire debris flows and an active headcut. The channel type within the first $\frac{1}{2}$ mile is a mix between an incised B and D channel type. Upstream of the headcut the stream is a stable E channel. The valley type is a confined colluvial U-shaped and is moderately steep ($\leq 6\%$). Within the section of stream impacted by the headcut and debris flows the riparian width is narrow with encroaching lodgepole pine. These narrow riparian widths probably contributed to the inability of the stream to accommodate post-fire debris flows. Where the riparian width is >50 feet the stream is laterally stable without noticeable post-fire impacts to the riparian area. Pools, riffles, and runs were all common throughout the segment. Bank erosion was moderate (11-25%). Riparian vegetation was 50% riparian grass, 40% willow, and 10% pine. Upland vegetation was 50% grass, 15% pine, 10% sagebrush, and 25% bare ground. Beaver food and building supplies were rated "questionable" and relict beaver dams occurred upstream of WHAM segment. Large scale influences include the Mullen Fire, grazing, and recreation (dirt bike trail), while small scale influences were a natural barrier, road crossing, and a culvert. The single-track dirt bike trail along the stream is mostly out of the riparian area. At the confluence, there are multiple tracks across Mowberg Creek, which is degrading the riparian and in-channel habitat. To reduce sediment input and eliminate the active headcut, restoration techniques could be applied to the impacted area of Mowberg Creek.

Mowberg Creek accelerated bank erosion.



FALL CREEK BOREAL TOAD HABITAT ENHANCEMENT

Program: Aquatic Habitat

Project Leads: Ryan Amundson, Steve Gale, Wendy Estes-Zumpf

Project Goals: Goal 2

Fall Creek is a tributary to the Middle Fork Little Laramie River on the eastern flank of the Medicine Bow Mountains. A portion of the drainage harbors a breeding population of Boreal Toads. The toads utilize remnant beaver ponds for breeding habitat. The declining water holding capacity of the remnant beaver ponds is of concern for continued Boreal Toad breeding. Due to limited willow growth in the drainage for beaver food and building supplies, active habitat restoration measures were undertaken to sustain pond habitat. Beaver dam analogs were installed in 2021-2022 and exclusionary fencing constructed to limit wildlife browsing. A gate was installed in the electric fence in June 2024 to facilitate wildlife movement in and out of the enclosure when not in operation. The Herpetological Coordinator and Department technicians performed BDA maintenance in June 2024. The Laramie

AHAB, Laramie THAB, Herpetological Coordinator, and Department technicians monitored the fence often from June through October to ensure wildlife were not entrapped and repair damage. Considerable time was spent on repair work in 2024. Additionally, willow surveys were completed using the Keigley Live Dead Index. The enclosure has only been up for two growing seasons and there has been some issues with wildlife accessing inside the enclosure. However, in general, it appears willows outside of the enclosure are experiencing high levels of browsing intensity. The browse documented inside the enclosure is likely due to browsing pre-construction or due to the few instances of wildlife presence inside the enclosure. Over time, willows inside the enclosure will increase in height, productivity, and leader length compared to willows outside of the enclosure.

Fixing electric fence on Boreal Toad habitat enclosure.



FERRIS-SEMINOE BIGHORN SHEEP RESEARCH

Program: Terrestrial Habitat

Project Leads: Teal Cufaude, Britt Burdett

Project Goals: Goal 3

Funding Partner(s): WGBGLC and WyWSF

In February 2020, ten bighorn sheep in the Miracle Mile area were collared to monitor movements. These original ten collars were released from sheep in December 2022. In order to continue monitoring movements of these sheep, we collared ten additional sheep in February 2022. These ten collars were released in December 2024. Each day of this project, wildlife managers receive four locations for each collared animal. An R code was developed to automatically notify managers if a collared bighorn sheep has left the herd unit boundaries. Data gathered from these collar efforts was primarily used to monitor movements outside the herd unit boundaries, but will also be used to evaluate bighorn sheep habitat use in the Ferris-Seminole herd unit. Monitoring bighorn sheep movements allowed for immediate management response if any marked bighorn sheep wandered outside of the herd unit to Pedro Mountains and came within close proximity to domestic sheep. Additionally, managers will use collared animal data to help evaluate annual trend flight results and better estimate the population of this herd. In 2025, we plan to expand the Ferris-Seminole Bighorn sheep monitoring effort. The objectives include: 1) GPS ear tag bighorn sheep



Ferris-Seminole bighorn sheep found at the base of a rocky outcropping.

in the eastern portion (Bennett Mountains) of the herd unit to monitor movements and detect any potential or actual occupation of the Pedro Mountains; 2) GPS collar bighorn sheep in the western portion (Ferris and Seminole Mountains) of the herd unit to conduct bighorn sheep movement assessments; and 3) use collar and ear tag data to estimate the potential for foraging bighorn sheep to exit and return to the herd unit thereby affecting the risk of disease.



FORBES - SHEEP MOUNTAIN WHMA IRRIGATION MEADOW ENHANCEMENT

Program: Habitat and Access

Project Leads: Jerry Cowles, Micah Morris

Project Goals: Goal 1

Funding Partner(s): WWNRT, RMEF

Implementation of the water delivery system improvements on the Forbes-Sheep Mountain WHMA began at the start of the 2024 field season. Key upgrades included the installation of a steel diversion structure with a head gate and staff gauge, a Parshall flume with staff gauge, 1,320 feet of underground transport pipe, and re-seeding the disturbed area with a native seed mix. The head gate structure was constructed by Wyoming Game & Fish Department employees. The elevation of both the diversion structure and the Parshall flume were verified by Game and Fish Survey Crew to match engineering specifications. The underground

Irrigation system upgrades, Forbes-Sheep Mountain WHMA.



water transport pipe, was also installed by Game and Fish staff following the engineered elevation profile. Given the permeability of the earthen delivery system, low-profile hand-built structures made from wood and rock will be constructed during the 2025 field season to restore the hydrologic and ecological functions of wet meadows and small streams impacted by head-cutting, gully erosion, and channel incision. Additional treatments will include ditch cleaning, restoration work. Aspen and meadow enhancements are also slated to be implemented by removal and distribution of downed timber within aspen stands and hillsides.

Irrigation system upgrades, Forbes-Sheep Mountain WHMA.



HORSE CREEK LATERAL FISH LADDER

Program: Aquatic Habitat

Project Leads: Nick Scribner

Project Goals: Goal 3

Funding Partner(s): WWNRT, USFWS, NAWCA, NRCS, Wyoming Water Development Commission, WGBGLC

The Horse Creek drainage begins in the Laramie Range, flows east, and empties into the North Platte River in Nebraska. It supports a high density of native fishes, including several SGCNs. Recent sampling from 2018–2019 documented 18 native species and 25 total species in lower Horse Creek with five SGCN near two diversions where passage improvements were recently completed (Lawrence Ditch and Horse Creek Lateral). These improvements reconnect 23.5 miles of stream and over 27 total miles of lower Horse Creek within Wyoming. Final work on a 395 ft long fish ladder was completed in spring 2024 at Horse Creek Lateral with the official opening in mid-May. The ladder operated for two months before flows

became too low to meet irrigation demands, so the ladder was turned off in mid-July. As long as stream flows are sufficient there will be year-round passage possible allowing fish in Lower Horse Creek to access some of the best available habitat upstream of this site. The Fort Laramie irrigation canal releases 80 cfs into Horse Creek 12 miles upstream and uses Horse Creek as a conduit before diverting it at Horse Creek Lateral diversion. These higher flows provide cooler temperatures, more food and cover, and refuge areas from predators for fish. Future monitoring efforts using PIT tags will occur in 2025 to document fish movements through these improved irrigation diversions and throughout the lower watershed.



I-80 ELK MIGRATION STUDY

Program: Wildlife Research

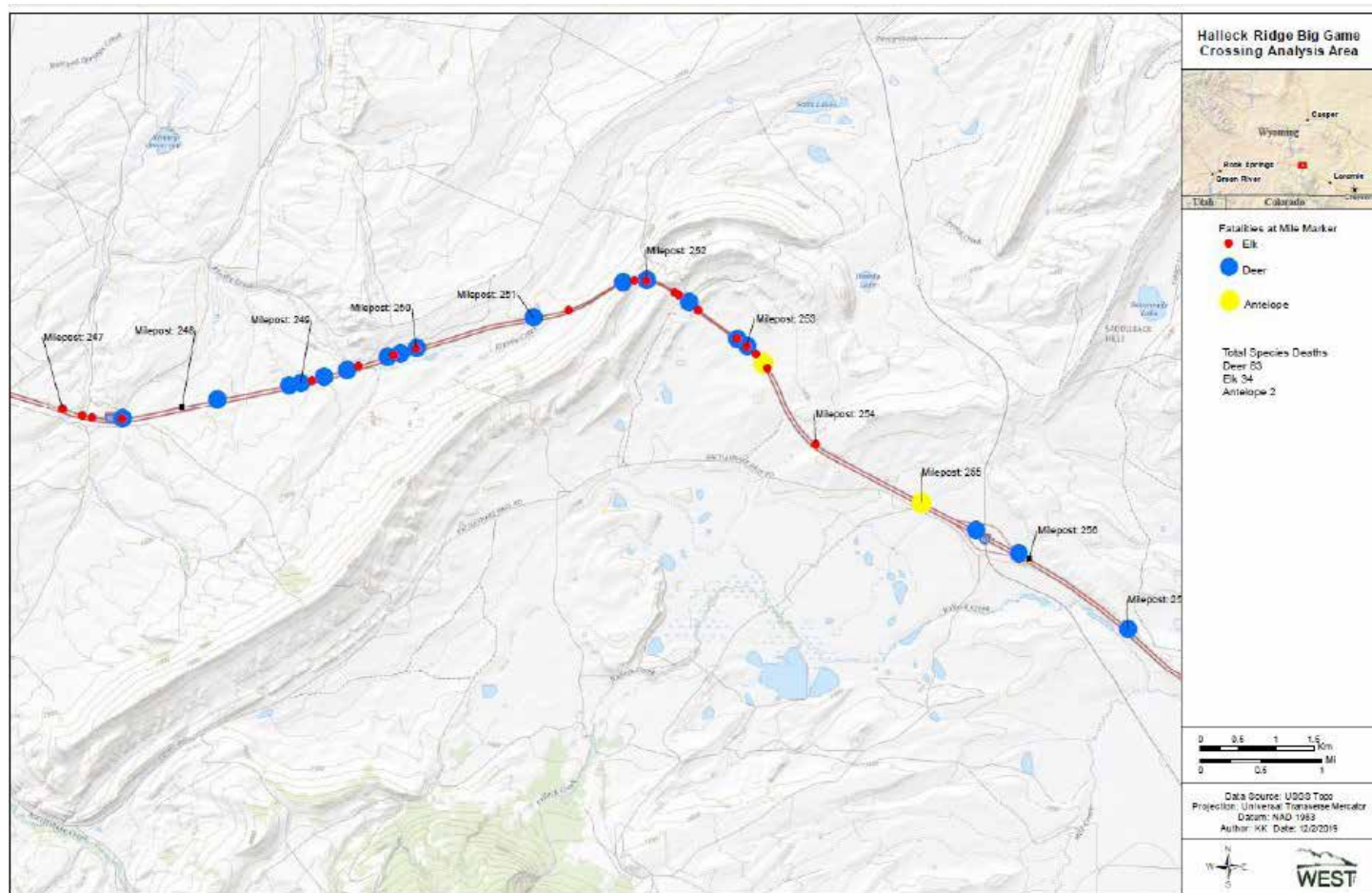
Project Leads: Ryan Amundson, Lee Knox

Project Goals: Goal 3

Funding Partner(s): WGBGLC, RMEF

Game and Fish plans to collar 70 cow elk, in the northern portion of the Snowy Range elk herd (Hunt Areas 125, 11, and 10), along I-80 from Dana Ridge to Cooper Cove to address the following objectives: 1) inform the placement of wildlife crossing structures for the Halleck Ridge Crossing Project, 2) document elk movement across I-80 during closures, and 3) document seasonal range use, migration

patterns, and land use. Game and Fish started by collaring 29 elk in December 2024. The Snowy Range Elk I-80 Project cost will require us to have multiple collaring phases, but collars deployed in each phase will remain on elk for at least three years. The aim is to deploy 31 more collars during the 2025/2026 winter to fill in gaps from the current GPS data collection.



Elk and Mule Deer mortality locations along I-80



JACK CREEK ASSESSMENT

Program: Aquatic Habitat

Project Leads: Steve Gale

Project Goals: Goal 2

The Jack Creek watershed is located on the north slope of the Sierra Madre Mountains in south central Carbon County. The headwaters of Jack Creek originate about one mile west of North Spring Creek Lake on the east slope of the continental divide. It flows north and northeast nearly 35 miles to its confluence with the North Platte River about 5.5 miles downstream from the Town of Saratoga. Jack Creek flows for about 9 miles on USFS lands and flows through the Jack Creek grazing allotment. USFS Road 452 crosses Jack Creek, just downstream of the USFS Jack Creek Campground. Jack Creek near the USFS Jack Creek Campground and USFS Road 532 crossing is experiencing: 1) channel modifications resulting from the placement of in-channel boulders, and 2) accelerated bank erosion upstream and near the FS 452 Bridge. To assess the restoration potential of Jack Creek near the USFS campground a Wyoming Stream Quantification Tool v2.0 (WSQT) assessment was completed on a 432-foot segment. The WSQT generates a designation of functioning, functioning at risk, and not functioning from

Jack Creek bank erosion upstream of USFS Road 532 Bridge.

categories including reach hydrology and hydraulics, geomorphology, physiochemical, and biology. Each category hosts a suite of parameters and metrics that produce a condition score. The WSQT was completed September 2024 to assess current reach hydrology and hydraulics and geomorphology. Assessments consisted of a longitudinal profile, cross section surveys, pebble counts, BANCS, woody debris count, and woody vegetation cover. The assessed reach received a score of 0.46 (out of a possible 0.60) and lost points due to lack of floodplain connectivity, reduced woody debris inputs, and high rates of erosion. The longitudinal profile and cross-sections indicate a C4 stream type with a moderate slope, a mix of long and short riffles, and moderately deep pools. Restoration activities that reduce bank erosion and increase riffle length, pool depths, and woody debris would be beneficial to stream function and the fishery. Next steps include coordination with the USFS to discuss assessment results and develop a restoration plan.



JOHNSON MOUNTAIN CHEATGRASS CONTROL

Program: Terrestrial Habitat

Project Leads: Ryan Amundson

Project Goals: Goal 2

Funding Partner(s): Platte County Weed and Pest, Private Landowners, RMEF, WGBGLC, WyWSF

In August 2024, 566 acres of mixed mountain shrub habitats in the foothills of the Laramie Range were sprayed with Rejuvra herbicide via he-

licopter to control cheatgrass infestations on Crucial Winter Range for mule deer. The area is also utilized by elk, pronghorn, and bighorn sheep.

LANDSCAPE VEGETATION ANALYSIS (LaVA)

Program: Terrestrial Habitat

Project Leads: Britt Burdett

Project Goals: Goal 2

The Landscape Vegetation Analysis (LaVA) Project was developed in response to landscape-level tree mortality from bark beetles and other forest health issues. The LaVA project allows up to 288,000 acres to be treated over fifteen years through a conditional NEPA based process. Game and Fish continues to work with the Medicine Bow National Forest and other federal, state, and local cooperators to plan and implement habitat projects that improve wildlife habitat by diversifying age class, improving stand health, and increasing species diversity. In 2024, several wildlife habitat improvement projects were identified in the Snowy Range and the Sierra Madres. Implementation is planned for summer 2025.

LARAMIE MOUNTAINS FOCAL HERD ELK

Program: Wildlife Research

Project Leads: Ryan Amundson, Keaton Weber

Project Goals: Goal 3

Funding Partner(s): Game and Fish Commission

This project is part of the Department's large scale Mule Deer Monitoring Program, approved by Game and Fish Commission in March, 2022. In 2024, managers collared 120 cow elk throughout hunt areas 6 (n=60) and 7 (n=60) to overlap with collared mule deer bucks, does and fawns to help the Department understand how elk abundance and habitat use affects spatially coincident mule deer populations. The two elk herd units associated with this overlap include the Iron Mountain elk herd unit (hunt area 6), and the portion of Laramie Peak/Muddy Mountain elk herd unit that is in elk hunt area 7 and overlaps with deer hunt area 64. While elk are often implicated in ongoing mule deer population declines, experimental tests of this idea are few. We will capitalize on targeted elk reductions ongoing in the Iron Mountain elk herd to evaluate how changes in elk abundance may affect mule deer. In addition, we will quantify how elk respond to increased harvest pressure. Studying changes in elk abundance will help managers better understand the role of elk numbers in mule deer population trends, assess the effects of hunting season structures on elk habitat use and vulnerability to harvest, and inform the biological basis of elk population goals. These elk collar data will also help managers make informed decisions on habitat improvements, fence conversions, and assist in providing informed recommendations in the face of energy and mining developments. The following objectives will be addressed in this project:

- Habitat use (mule deer + elk). Evaluate variation in elk and mule deer habitat use following elk reductions



Overlook of potential aspen treatments in the Snowy Range.



Elk undergoing a field necropsy to determine cause of death.

- Movement (mule deer + elk). Quantify changes in the timing and direction of elk and mule deer movement in response to reductions
- Harvest management (elk). Assess the influence of elk harvest management strategies on elk behavior. Evaluate the effects of hunting season dates, season length and alternative harvest tools on elk habitat use / vulnerability to harvest
- Animal health (elk). Inventory disease (CWD & brucellosis).



LARAMIE PEAK WHMA FENCE CONVERSION

Program: Habitat and Access

Project Leads: Jerry Cowles, John Henningsen, Nathan Baas

Project Goals: Goal 3

Funding Partner(s): WGBGLC, Game and Fish Trust Fund

In 2024, Game and Fish crews and contractors successfully converted two miles of fencing on the Laramie Peak WHMA. This ongoing effort transforms dilapidated, overly tall fences into wildlife-friendly structures, enhancing habitat connectivity and reducing barriers to wildlife movement. Since the project began in 2021, a total of 12 miles have been converted, with the ultimate goal of addressing over 40 miles of fencing in this multi-year initiative. Laramie Peak WHMA serves as a crucial winter range for bighorn sheep, elk, mule deer, and pronghorn, providing essential habitat during critical winter months. Wildlife-friendly fencing promotes natural movement patterns, improves access to key seasonal habitats, and reduces the risk of injury or mortality caused by traditional fence designs. Additionally, the transition to these improved fencing standards decreases annual maintenance requirements, allowing crews to allocate more resources toward valuable habitat enhancement projects that further conservation efforts. A key partner in the management of Laramie Peak WHMA is the Vale Ranch, which has demonstrated a strong commitment to responsible land stewardship. The ranch aims to expand wildlife-friendly fencing efforts across its lands, setting an inspiring example for neighboring landowners. This collaborative effort between Game and Fish and Vale Ranch exemplifies a shared dedication to conservation, fostering greater public awareness of the benefits of wildlife-friendly fencing for both wildlife and livestock operations.



New wildlife friendly fence on Laramie Peak WHMA.



ALSOP PAA INLET MAINTENANCE

Program: Habitat and Access

Project Leads: Jerry Cowles, Mac Foos, Todd Grosskopf, Stryker Davies

Project Goals: Goal 1

The Statewide Habitat and Access Crew, with regional support, successfully completed critical water management improvements at Alsop Lake to enhance water control, fishery health, and surrounding wetland habitat. The project involved replacing a deteriorated head gate and culvert, cleaning and stabilizing one mile of ditch to improve water delivery, and reinforcing ditch banks to enhance water flow efficiency. These improvements ensure a more consistent water supply to the 33-acre lake, benefiting aquatic life, waterfowl, and recreational users. By investing in sustainable water control infrastructure, Game and Fish continues to support healthy ecosystems, resilient fisheries, and improved public access for boating, fishing, and waterfowl hunting near Laramie.



Alsop PAA maintenance.

LARAMIE PAAS PRIMITIVE BOAT RAMP IMPROVEMENTS

Program: Habitat and Access

Project Leads: Jerry Cowles, Jacob Sorensen, Mac Foos, Todd Grosskopf

Project Goals: Goal 1

In 2024, the Statewide Habitat and Access Crew, in cooperation with the Laramie Regional Habitat and Access team, undertook significant improvements to primitive boat ramps at Packers PAA, Rock Lake PAA, and Springer Reservoir. To enhance boater access and safety, crews hauled 50 tons of

material to each location. The material was then spread and compacted, ensuring improved access during low-water conditions and reducing erosion risks. These upgrades provide safer and more reliable entry points for boaters, supporting fishing, waterfowl hunting, and other recreational activities.

Rock Lake boat ramp.



ANNUAL MONITORING, ENHANCEMENTS, MAINTENANCE, AND IMPROVEMENTS OF PAAS

Program: Habitat and Access

Project Leads: Jerry Cowles, Micah Morris, Jacob Sorensen, Mark Cufaude, John Henningsen, Nathan Baas

Project Goals: Goal 1, Goal 2

PAAs in the Laramie Region provide invaluable recreational opportunities, including hunting, fishing, birding, and camping. Their ongoing maintenance and enhancements are essential for balancing public recreation, ecological conservation, and responsible land management. Crews conduct regular maintenance to preserve habitats, mitigate human impact, and ensure safe, responsible recreation. To maintain infrastructure, 29 miles of boundary and interior fencing are serviced annually to contain neighboring livestock, minimize off-road vehicle use in sensitive areas, and clearly delineate boundaries for sportspersons. Wildlife-friendly fencing is implemented whenever possible to support conservation efforts. Directional, regulatory, interpretive, and informational signage is installed and updated regularly to improve visitor experience and compliance. Additionally, oversight is provided for

Public Access Area improvements and management occur across the Laramie Region.



Public Access Area improvements and management occur across the Laramie Region.



67 miles of designated open roadways and 99 parking areas to ensure safe and accessible public use. Routine inspections of cattle guards help prevent conflicts with neighboring livestock operations, promoting smooth coexistence. Essential services such as comfort station maintenance, litter removal, and the collection of public use and recreational data are managed through eight service contracts. Noxious weed control involves a combination of herbicide application, hand and mechanical removal, targeted grazing, revegetation, and biological controls. Tracking weed locations helps evaluate and refine control efforts over time. Recreational access is further supported by regular silt and debris removal from boat ramps, seasonal dock adjustments, and necessary repairs to ensure safe and accessible boating opportunities.

Public Access Area improvements and management occur across the Laramie Region.



LARAMIE REGION WHMAS

Program: Habitat and Access
Project Leads: Jerry Cowles, Micah Morris, Mark Cufaude, John Henningsen, Nathan Baas
Project Goals: Goal 1

Game and Fish’s commitment to “Conserving Wildlife - Serving People” is reflected in the annual monitoring, maintenance, and enhancement efforts across fourteen WHMAs in the Laramie Region. These efforts aim to protect and enhance critical wildlife habitats, promote responsible land use practices, and provide high-quality recreational opportunities. In 2024, approximately 305 miles of boundary and interior allotment fences were maintained, with an additional 23.6 miles converted to wildlife-friendly specifications to support safe wildlife movement. Agricultural irrigation played a vital role in habitat enhancement, with water distributed across 1,751 adjudicated acres to improve big game winter forage, hay meadows, and food plots for upland birds and waterfowl. These efforts directly contribute to nesting cover and wintering habitat. Annual

Management of Wildlife Habitat Management Areas occur year round across the Laramie Region and across Wyoming.



Management of Wildlife Habitat Management Areas occur year round across the Laramie Region and across Wyoming.



biological monitoring includes terrestrial and aquatic wildlife observations, vegetation and habitat data collection, and assessments of management effectiveness. In 2024, noxious weed control efforts intensified through partnerships with private contractors and County Weed and Pest districts. A total of 1,083 acres of state-designated noxious weeds were treated or eradicated within regional WHMAs, improving habitat conditions for wildlife. Infrastructure maintenance remains a priority, with 560 miles of roads and 61 parking areas maintained to ensure safe and accessible public use. New and updated signage enhances visitor experience by providing clear directional, regulatory, interpretive, and informational guidance. Comfort stations and parking areas receive both contract oversight and hands-on repairs to enhance public convenience.

Management of Wildlife Habitat Management Areas occur year round across the Laramie Region and across Wyoming.



Management of Wildlife Habitat Management Areas occur year round across the Laramie Region and across Wyoming.



LARAMIE RIVER HART RANCH ASSESSMENT

Program: Aquatic Habitat

Project Leads: Steve Gale

Project Goals: Goal 2

The Hart Ranch, also known as Bath Ranch, sprawls along the Laramie River encompassing around 8,200 acres. This ranch dates back to the early 1860s, and has the oldest recorded water rights along the Laramie River. Through a joint purchase agreement between the City of Laramie and The Conservation Fund, the ranch was acquired. The City secured 4,600 acres, with the remaining acres going to The Conservation Fund. The Conservation Fund later sold their portion to the USFWS. The USFWS designated their newly acquired portion as the Wyoming Toad Conservation Area, which is now part of the National Wildlife Refuge system. The City's primary interest in the Hart Ranch lies in its water rights. Beyond water rights, the City of Laramie is exploring additional potential uses such as public access, hunting, and fishing. The City of Laramie is collaborating with Game and Fish to assess these opportunities. A level 1 watershed assessment was conducted for a segment (4 mile) of the Laramie River that flows through the City of Laramie Hart Ranch, using the WHAM in 2023. The WHAM survey was conducted to gather baseline data on stream and riparian area characteristics. In addition to the WHAM level 1 in 2023, a rapid bank erosion assessment was conducted along a 3,700-foot reach of the Laramie River within the WHAM segment. To conduct the rapid assessment, Bank Erosion Hazard Index (BEHI) variables were measured on five banks to determine a BEHI

rating. To further evaluate the restoration potential of the Laramie River within the Hart Ranch a partial Wyoming Stream Quantification Tool v2.0 (WSQT) assessment was completed on a 1,200-foot segment in October 2024. WSQT generates a category designation of functioning, functioning at risk, and not functioning from stream function pyramid categories including reach hydrology and hydraulics, geomorphology, physiochemical, and biology. Each category hosts a suite of parameters and metrics that produce a condition score. The WSQT was completed October 9-11, 2024 to assess current reach hydrology and hydraulics and geomorphology. Assessments consisted of a longitudinal profile, cross section surveys, pebble counts, BANCS, woody debris count, and rapid woody vegetation cover. The assessed reach received a score of 0.39 (out of a possible 0.60) and lost points due to lack of flood-plain connectivity, low amount of large woody debris inputs, and high rates of erosion. The longitudinal profile and cross-sections indicate a C4c stream type with a relatively flat gradient, few riffles, and long distances between pools. Restoration actions such as bank stabilization, increased riffle lengths and woody debris would likely produce more favorable conditions and enhance the fishery. Assessment information will be disseminated to the City of Laramie as habitat restoration work could help improve stream function and increase habitat complexity.

Laser level set-up on Laramie River to conduct longitudinal profile.



LARAMIE RIVER WATER TEMPERATURE MONITORING DOWNSTREAM OF TUNNEL DIVERSION DAM

Program: Aquatic Habitat

Project Leads: Del Lobb

Project Goals: Goal 1

The Laramie River downstream of Wheatland Irrigation District's Laramie River Diversion Dam supports a population of Hornyhead Chub, a Species of Greatest Conservation Need. In 2021, the dam was rebuilt and, since then, flow releases and leakage during the summer can be very low, sometimes near zero, raising concerns about high water temperatures affecting Hornyhead Chub and other fish populations in the river. Summer water temperature monitoring was conducted at three locations in the 18-mile river section downstream of the dam. Monitoring locations, sites 1, 2, and 4, are

0.8, 2.6, and 18 river miles downstream from the dam (site 3, 12.4 miles downstream, was monitored in 2023 but not in 2024). Maximum summer water temperatures at sites 1 and 2 were 82.5° F and 77.8° F, respectively, on June 30 following five days of less than 0.2 cfs reported by the State Engineer's Office stream flow gauge located near site 1. Stream stage monitoring and four flow measurements were done at site 2. The site 4 logger will be retrieved in 2024. The relationship between stream flow and water temperatures in 2023-25 will be assessed. Monitoring likely will end in 2025.

MULE CREEK RANCH WHMA FENCE CONVERSION

Program: Habitat and Access

Project Leads: Jerry Cowles, John Henningsen, Nathan Baas

Project Goals: Goal 3

Funding Partner(s): Private landowners, RMEF, Game and Fish Trust Fund

Game and Fish staff and neighboring landowners converted 2.15 miles of fence on Mule Creek Ranch WHMA during 2024. We have identified 24 miles of boundary and interior fences on Mule Creek Ranch WHMA that are in need of conversion. We aim to enhance wildlife habitat for elk, pronghorn and mule deer by converting existing five, six, and seven-wire fences to a wildlife friendly four-strand design. Removal-rail

sections have been installed at high wildlife crossing locations; top rails are lowered when livestock are not present. Reflective markers have been and will be placed on fence lines in important sage grouse habitat. Partners in both funding and volunteer labor include MDF, RMEF, Game and Fish Trust Fund, and the Mule Creek Ranch cattle grazing lessee- 88 Ranch.

Constructing wildlife friendly fence on Mule Creek Ranch WHMA: driving posts and unrolling wire through rocky terrain. Constructing wildlife friendly fence on Mule Creek Ranch WHMA: driving posts and unrolling wire through rocky terrain.



NORTH PLATTE RIVER RESTORATION

Program: Aquatic Habitat

Project Leads: Jim Wasseen

Project Goals: Goal 2

Funding Partner(s): Private landowners, SERCD, WLCI, WWNRT, Game and Fish Trust Fund, NRCS

The Saratoga-Encampment-Rawlins Conservation District (SERCD) successfully completed a two-phase river restoration project on the North Platte River. In 2023, 2,400 feet of river restoration was accomplished, followed by the completion of the remaining 1,200 feet this fall. Restoration activities included bank sloping, channel narrowing, and building bankfull benches with toewood. These measures reduce lateral bank erosion, facilitate sediment transport, enhance trout habitat, and minimize agricultural land loss. Boulder mini-vane structures were strategically placed to redirect water flow away from the outer edges of meander bends, creating deeper pools that provide habitat for fish and other aquatic species, especially during low, warm summer flows and periods of winter ice. The size and slopes of point bars were reduced to minimize stream bank stress and allow higher spring runoff flows to inundate these features. The planting of willow clumps and stakes, along with reseeding disturbed areas with an approved native grass mix, is facilitating faster regrowth of riparian areas, further enhancing stream bank stability and promoting vegetation diversity.



Bankfull bench constructed along the N. Platte River on the Kelley Place.

PLATTE VALLEY CONIFER ENCROACHMENT

Program: Terrestrial Habitat

Project Leads: Britt Burdett

Project Goals: Goal 2

Funding Partner(s): NFWF, BLM, Rocky Mountain Power Mitigation, WWNRT

In 2024, the BLM, Saratoga-Encampment-Rawlins Conservation District, and Game and Fish continued their large-scale conifer encroachment removal efforts in the Platte Valley. The Barrett Ridge/Corral Creek project aims to remove encroaching juniper from sagebrush and mixed mountain shrub communities within Platte Valley mule deer winter and crucial winter ranges and sage-grouse core areas. Approximately 469 acres were masticated in the northern portion of the project area near South Cottonwood Creek and Corral Creek. Funding was provided by the BLM, Rocky Mountain Power Mitigation Funds, and the National Fish and Wildlife Foundation.



The Platte Valley Habitat Partnership continues to prioritize juniper mastication in mule deer winter range and sage-grouse core areas.

PLATTE VALLEY FENCE CONVERSIONS

Program: Terrestrial Habitat

Project Leads: Britt Burdett

Project Goals: Goal 3

Funding Partner(s): NFWF, USFS, WWNRT, Game and Fish Platte Valley Habitat Partnership

Within the Platte Valley mule deer herd unit, fence modifications have been prioritized and implemented through the collaborative efforts of local natural resource agencies. Members of the Platte Valley Habitat Partnership (PVHP) (Saratoga-Encampment-Rawlins Conservation District, BLM, Game and Fish, USFS, private landowners) have worked together to identify fences that need to be converted to wildlife-friendly specifications. These fence conversions are intended to increase overall habitat connectivity, decrease big game mor-

talities, and maintain proper grazing systems. In 2024, 16.8 miles of hazardous fence were converted to wildlife-friendly specifications. Additionally, 1 mile of unnecessary fence was permanently removed. Since 2014, the PVHP has converted over 92 miles of hazardous fences. The PVHP working group will continue to prioritize large-scale fence conversions within the migration corridor and mule deer crucial range using the Platte Valley mule deer GPS collar data to guide our efforts.



POST-WILDFIRE STREAM TEMPERATURE MONITORING

Program: Aquatic Habitat

Project Leads: Steve Gale

Project Goals: Goal 2

The 2020 Mullen Fire consumed over 175,000 acres and had a significant impact on the Medicine Bow-Routt National Forest especially within the Middle Douglas Creek watershed. Specifically, the fire affected 89% of the watershed, with 72% experiencing moderate to high soil burn severity. This is particularly significant because Douglas Creek is renowned for being one of the most productive trout fisheries within the forest (Brook, Brown, and Rainbow Trout) and providing substantial recreational benefits. In addition to providing important aquatic habitat for resident trout, Douglas Creek is an important spawning tributary for migrating Brown and Rainbow Trout from the North Platte River. Three Habitat Quality Index (HQI) monitoring locations were established in 2021 within the portion of the Douglas Creek watershed (i.e., two locations in Douglas Creek and one in Muddy Creek) impacted by the fire. A control site was established on the Middle Fork Little Laramie River, which did not burn. Four temperature loggers were deployed at HQI monitoring sites in 2021 and temperatures will be compared to the control site to understand the magnitude of post-fire water temperature shifts. Prior to 2024, all four loggers had yet to record a full calendar



Muddy Creek post-fire stream temperature monitoring site in 2024.

year of stream temperature data, due to operational disruptions. A full calendar year of stream temperature data was recorded in 2024 and some comparisons can be made using data from June-August. The control site on the Middle Fork Little Laramie River had cooler stream temperatures whereas the sites within the Mullen Fire burn area experienced similar stream temperatures. This difference could be due to elevation differences between the control site and sites within the burn area. More consistent data is needed from all sites to discern trends.

SARATOGA LAKE PAA FENCE CONVERSION

Program: Habitat and Access

Project Leads: Mark Cufaude, Mac Foos, Tyler Westlake, Stryker Davies

Project Goals: Goal 3

Habitat and Access personnel completed over five miles of fence

conversions or removals involving lands associate with Saratoga Lake and neighboring private lands where a large number of wildlife concentrates during winter months. 3.11 miles were converted or modified to enhance wildlife movement while 2.28 miles of unnecessary fences were removed to enhance wildlife movement in the area. This project addressed goals outlined in the Platte Valley MDI Plan, Wyoming's State Wildlife Action Plan, and Wildlife Crossing and Migration Operational Plan.



Old Baldy Saratoga Lake fence.

SNOWY RANGE FOOTHILLS MASTICATION

Program: Terrestrial Habitat

Project Leads: Ryan Amundson

Project Goals: Goal 2

Funding Partner(s): MDF, USFS



Mastication of conifer in the Foote Creek drainage to promote aspen regeneration.

Approximately 196 acres of mixed conifer, aspen, and mountain shrub habitats were masticated in 2024 on the flanks of the Snowy Range. Adjacent to the Wick WHMA on USFS lands, approximately 113 acres were masticated to encourage regeneration of aspen in transition range habitats for mule deer, elk, and moose. A follow-up prescribed burn is planned for this area in 2028, to further encourage aspen resprouting. Above the town of Woods Landing, an additional 83 acres of burned timber from the Badger Creek Wildfire of 2018 was masticated in an effort to promote aspen and mixed mountain shrub regeneration in Crucial Winter Range for mule deer.



SNOWY RANGE MOOSE RESEARCH

Program: Terrestrial Habitat

Project Leads: Teal Cufaude, Britt Burdett

Project Goals: Goal 3

Funding Partner(s): WGBGLC, Wyoming Sportsmans Group, BOW

The Snowy Range Moose research project addresses five primary objectives. These include:

1. Quantifying movement and distribution of female moose;
2. Evaluating the effects of the Mullen Wildfire on habitat selection;
3. Assessing changes in habitat quality post-wildfire;
4. Measuring cow moose survival; and
5. Opportunistically assessing the health of captured moose.

Phase 1 began in 2022; 9 female moose were captured via helicopter darting on winter habitats within and surrounding the Mullen Wildfire perimeter. Phase 2 was completed in 2023; 19 female moose were captured. Phase 3, which includes collaring ten female moose and redeploying seven mortality collars was planned for winter 2023-2024, but aerial captures were canceled due to poor capture conditions. Phase 3 captures are now scheduled for February 2025. For all phases, captured moose are fitted with GPS-enabled collars set to collect hourly fixes through December 2027. The collar fix-rate is identical to previous Snowy Range



Game and Fish managers attempting to locate a collared moose using telemetry.

moose studies, which will allow us to compare movement strategies and resource use of moose prior to and following the fire. Each phase of collars will be deployed for a period of three years during which Game and Fish managers will gather information on the status of each moose and their response to recently burned habitats. In addition, managers will be able to track animals' survival and rate of juvenile recruitment.

SOUTH FORK MIDDLE CROW CREEK RIPARIAN EXCLOSURE MAINTENANCE

Program: Aquatic Habitat

Project Leads: Steve Gale

Project Goals: Goal 1

Six fenced exclosures were constructed in conjunction with the Cheyenne Stage II Water Development Diversion Project in 1985 to stabilize stream banks along the South Fork of Middle Crow Creek. Two of the exclosures were removed in 2005. The four remaining protect approximately 63.5 acres of stream and riparian habitat and are located downstream of the Vedauwoo Road (USFS Road 700). The Cheyenne Board of Public Utilities maintained the exclosures until 2006. The Department and the USFS maintained the exclosures without an agreement until 2013 when a Memorandum of Understanding (MOU) was developed. The MOU outlined that the USFS would provide supplies and materials and the Department would provide labor. The current MOU was signed in 2020 and expires in 2025. The exclosures are benefiting the riparian ecosystem by excluding livestock grazing of the riparian vegetation that is stabilizing the stream banks within the exclosures. This is beneficial for the overall riparian ecosystem health, provides habitat structure for terrestrial and aquatic wildlife, and maintains the multiple use function of USFS lands. Riparian exclosure fence maintenance on South Fork Middle Crow Creek occurred over two days in 2024. An allotment fence separates exclosures 1 and 2 (west grazing allotment) from 3 and 4 (east grazing allotment). The Laramie AHAB performed maintenance on July 22 for the western exclosures (1 and 2), prior to cattle moving into the west grazing allotment. Maintenance included removing fallen trees, replacing missing staples, and replacing missing stays. Cattle had entered the east grazing allotment earlier than scheduled, due to a break in the allotment fence. The Laramie AHAB notified the USFS who notified the lessee. Cattle were promptly moved back to the west grazing allotment and the allotment fenced was fixed by the lessee. Additional fence main-

tenance occurred on August 7 for the eastern exclosures (3 and 4). There were trespass cattle in the exclosure. The Laramie AHAB notified the USFS with the number of cattle and brand. The owner of the cattle was contacted and they were removed the next day. Maintenance included tightening fence, replacing missing staples, and replacing missing stays. In accordance with the exclosure maintenance agreement with the USFS, a brief annual monitoring report was submitted to the Medicine Bow National Forest Range Conservationist in December 2024.



Laramie AHAB preparing to fix exclosure fence.



LARAMIE REGION ANNUAL STREAM TEMPERATURE MONITORING

Program: Aquatic Habitat

Project Leads: Steve Gale

Project Goals: Goal 2

Water temperature in streams plays a crucial role in shaping various physical and biological processes, alongside streamflows, making it a key factor driving ecosystem dynamics. Since 2015, we have been gathering annual water temperatures data on two streams: Encampment River and Wagonhound Creek. This long-standing dataset is valuable for understanding temporal and spatial variations in stream temperatures. By analyzing these data, we can better anticipate the

implications of temperature shifts for water quality and the distribution of species within these ecosystems. Data was retrieved from the Encampment River and Wagonhound Creek monitoring sites in October 2024. The Encampment River long-term monitoring site was shifted from private property approximately one river mile upstream to public property in 2024. This will ensure future access to the Encampment River monitoring site.

THORNE WILLIAMS WHMA FENCE CONVERSION

Program: Habitat and Access

Project Leads: Jerry Cowles, John Henningsen, Nathan Baas

Project Goals: Goal 3

Funding Partner(s): WWNRT, Game and Fish Trust Fund

In 2024, Game and Fish staff, contractors and volunteers successfully converted an additional two miles of fencing at the Thorne-Williams WHMA. This project, which began in 2023, focuses on replacing dilapidated and overly tall woven-wire fences with wildlife-friendly alternatives to improve habitat connectivity and reduce barriers to wildlife movement. To date, 3 miles have been converted, with the ultimate goal of addressing the final 8 miles of boundary fencing. At the completion of this project, all boundary fences and internal fences on Thorne-Williams WHMA will be wildlife friendly. The Thorne-Williams WHMA serves as a critical winter range for bighorn sheep, elk, mule deer, and pronghorn, providing essential habitat during the harsh

winter months. By installing wildlife-friendly fencing, we are enhancing natural wildlife movement, improving access to seasonal habitats, and reducing the risk of injury or mortality caused by traditional fence designs. Additionally, these upgraded fences significantly reduce maintenance costs, allowing Game and Fish crews to focus on further habitat enhancement efforts. In September 2024, 12 volunteers from the Wildlife Fellowship Program, a collaboration between The Wildlife Society, University of Wyoming, and Game and Fish, helped convert ¼ mile of boundary fence in rough, rocky terrain. Additional volunteers began the process of removing the existing barbed wire over the top of woven wire, covering another mile of terrain.



New wildlife friendly fence on Thorne Williams WHMA; Fellowship interns begin the process of removing overly tall woven fence and barbed wire in preparation for converting to four-strand.



TWIN BUTTES RESERVOIR WETLAND DELINEATION

Program: Aquatic Habitat

Project Leads: Steve Gale, Carli Baum

Project Goals: Goal 1

Twin Buttes Reservoir PAA is located 13 miles west of Laramie. The area is managed through a cooperative agreement between the Department, the BLM, and private landowners. There are two parking areas and almost four miles of lakeshore access, which anglers can use to fish the 334-acre reservoir. The Department is working to provide boaters with a breakwater pier to reduce wave action on the boat ramp at Twin Buttes Reservoir. Constructing a pier requires a wetland determination to mitigate

any aquatic resource impacts. The site was visited in summer 2024 and a delineation completed. The parking lot and shoreline to the west of the boat ramp do not have wetland conditions and project staging and construction activities can occur within this area without impacts to wetland resources. There is an area to the east of the boat ramp, which does have wetland features. Project staging or construction activities should not occur within this wetland area.

WICK BROTHERS WHMA MEADOW ENHANCEMENT

Program: Habitat and Access

Project Leads: Jerry Cowles, Micah Morris

Project Goals: Goal 1, Goal 2

The Wick Brothers-Beumee WHMA has undertaken a comprehensive initiative to enhance irrigated meadows through seedbed preparation, seeding, fertilization, and hydrologic restoration during the 2024 field season. This project aims to sustain diverse and nutritious native forage for wildlife, reduce the spread of aggressive weedy species, and promote ecological health in riparian areas. To improve habitat quality, the Johnson-Oleson meadow was disked to remove the existing seedbed, preventing the dominance of invasive species. Seedbed preparation ensured optimal seed-soil contact, enhancing germination success. A dormant forb and legume seeding covering 100 acres

in select portions of the meadow was implemented to strengthen the native forage base and provide wildlife with year-round nutrition. Fertilization efforts further enriched soil fertility and stimulated microbial activity, supporting overall ecosystem productivity. Hydrologic restoration efforts included the construction of irrigation diversion structures to facilitate supplemental water transfer through a mile of gated pipe. Additionally, riparian areas along Wagonhound Creek were re-seeded to stabilize streambanks, control erosion, and reduce sedimentation, leading to improved plant diversity and soil health in these sensitive areas.

Meadow management. Drilling the Johnson-Oleson Meadow, Wick Brothers WHMA.



Meadow management. Drilling the Johnson-Oleson Meadow, Wick Brothers WHMA.



WICK BROTHERS WHMA FORAGE RESERVE

Program: Habitat and Access

Project Leads: Jerry Cowles, Micah Morris

Project Goals: Goal 1

The Forage Reserve employs a Lease Agreement with a livestock grazing operator, providing a opportunity to exchange habitat utilization on nearly 12,257 acres of livestock grazing for various improvements within the boundaries of the Wick Brothers WHMA. An integral component of the initiative involves resting private lands with high wildlife use. This strategic approach not only contributes to habitat conservation but also acknowledges the importance of maintaining a healthy and balanced ecosystem beyond WHMA boundaries. Seasonal grazing is managed to provide high-quality pasture while diversifying the forage base. Recognizing that different forage varieties occupy various environmental niches, the project ensures minimal seasonal impacts on pastures, preserving forage availability throughout the year. Pastures are periodically rested to maintain a healthy vegetative

Grass for grass. Utilizing the forage reserve concept leverages habitat value on private lands used by a variety of wildlife. Wick Brothers WHMA.



stand and ensure forage quantity and quality for wintering wildlife. Since continuous grazing can degrade pasture health, a rest period of one year or more is implemented, particularly in native rangelands with limited moisture. This practice improves forage cover, enhances soil health, reduces weed pressure, minimizes erosion, and increases drought resistance. The Wick Brothers WHMA Forage Reserve Project stands as a model of sustainable grazing practices, wildlife habitat management, and collaborative conservation. By prioritizing forage enhancement, wildlife support, and ecological health, the initiative ensures the long-term well-being of the landscape and its inhabitants. Ongoing monitoring and adaptive management remain essential to sustaining the success of this multifaceted approach to habitat and grazing management.

Grass for grass. Utilizing the forage reserve concept leverages habitat value on private lands used by a variety of wildlife. Wick Brothers WHMA.



Grass for grass. Utilizing the forage reserve concept leverages habitat value on private lands used by a variety of wildlife. Wick Brothers WHMA.



PINEDALE REGION

The Pinedale Region is located in the western part of Wyoming, bordered by the Wyoming Range to the west and the Wind River Range to the east. It extends north to Union Pass and south towards Farson. This region is home to the Upper Green River and its notable tributaries, the New Fork and East Fork rivers. It also features several memorable lakes, including Soda, Fremont, Half Moon, Burnt and Boulder lakes.

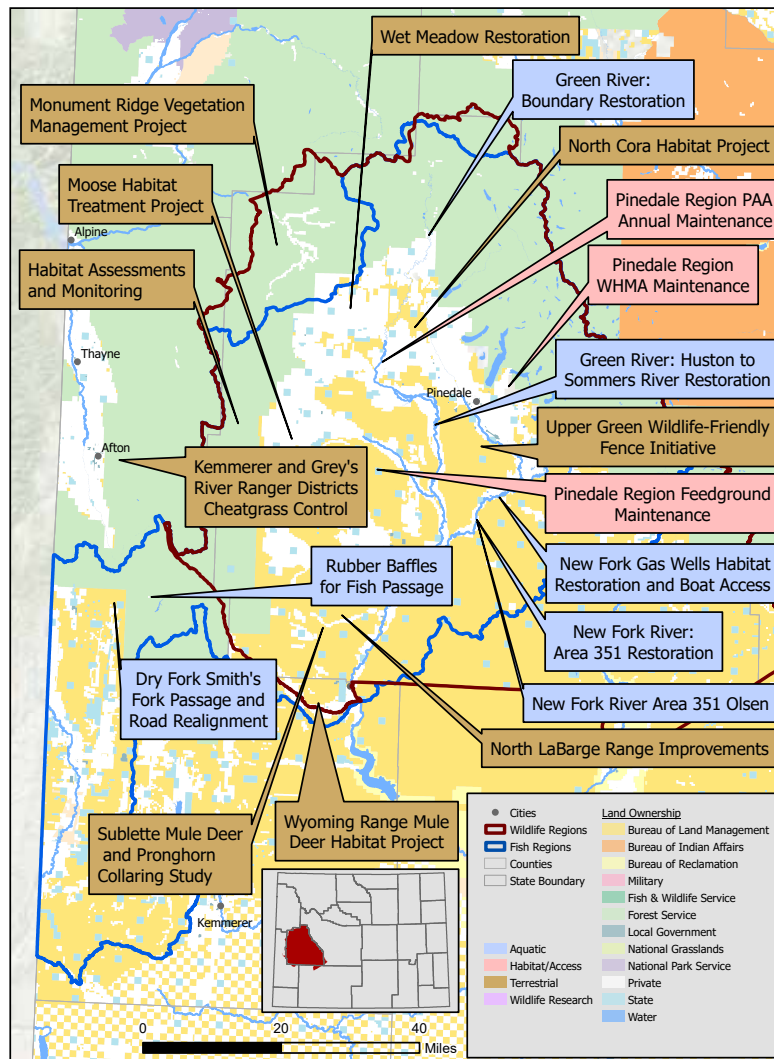
In 2024, habitat enhancement efforts focused on conserving and protecting crucial aquatic and terrestrial wildlife habitats, restoring these habitats and conserving, enhancing and protecting fish and wildlife migrations. Projects in the region were undertaken to achieve these goals in collaboration with various organizations, agencies, local landowners and volunteers.

Habitat restoration in the Pinedale Region involved diverse projects. Fish passage was improved on the Dry Fork of the Smith's Fork, and sections of the Green River were restored through collaborative work. Region-wide projects included yearly vegetation monitoring, habitat evaluations, and invasive cheatgrass treatments. The Monument Ridge and Area 351

Habitat Restoration projects progressed, as did the New Fork Gas Wells Boat Access and Habitat Enhancement project. Streambank restoration was completed on the New Fork River. In the Pinedale Anticline Project Area, sagebrush was mechanically treated, and livestock water distribution in the North LaBarge Allotment was enhanced. Wet meadow and stream restoration utilized Zeedyk structures throughout the region, and the Wyoming Range Mule Deer Habitat Project continued broad-scale improvements. Additionally, 23 miles of fencing were converted to be wildlife-friendly by adding crossings and markers and removing old fences, contributing to the almost 750 miles modified since 2010.

The region continues to focus on monitoring big game animals, with several ongoing research projects. Wildlife biologists are closely monitoring moose, mule deer, and pronghorn populations in the region to better understand their seasonal movements, survival rates, and distribution.

In addition to a range of targeted projects, the Pinedale Region continued to maintain its five WHMAs, 11 elk feedgrounds and 23 PAAs.



DRY FORK OF THE SMITH'S FORK RESTORATION

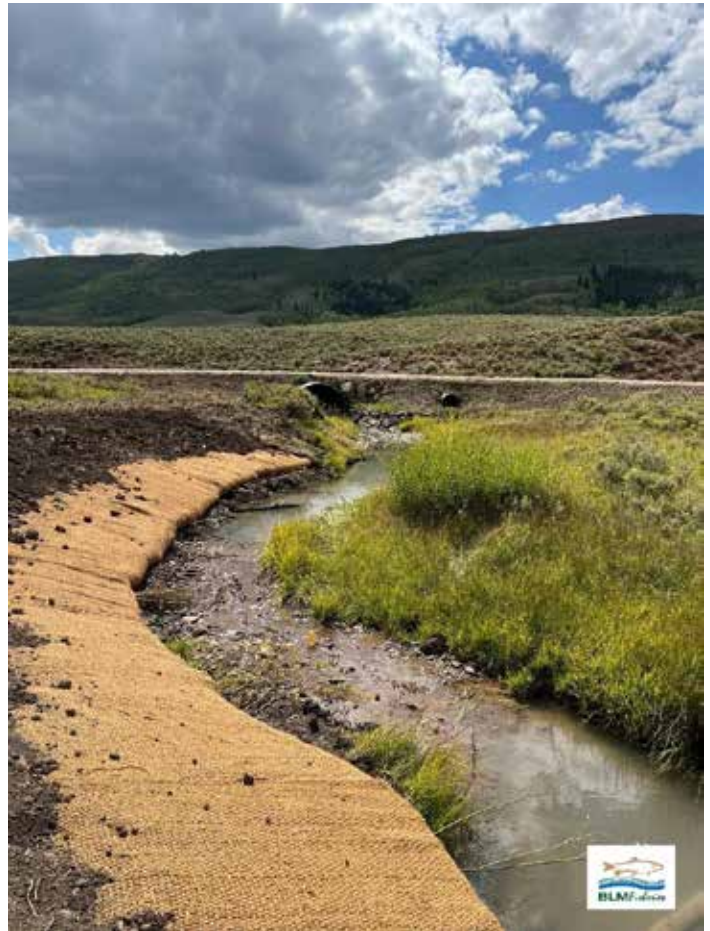
Program: Aquatic Habitat

Project Leads: Jim Wasseen

Project Goals: Goal 2, Goal 3

Funding Partner(s): WLCL, WWNRT

TU and the BLM collaborated to improve fish passage on Dry Fork Smiths Fork Creek and realign the Smith's Fork Road in Lincoln County. Construction commenced in October 2023 but faced delays due to inclement weather and challenging conditions. Despite these setbacks, a new bottomless arched culvert and fencing were successfully installed, and the road was realigned to cross the stream at a perpendicular angle before the onset of severe weather. Oxbow Earthworks completed the project in summer 2024. The old road footprint was removed, and the area was reseeded. Stream restoration measures were implemented along several sections of the channel to enhance habitat and improve stream function by redirecting water flow away from the stream banks. Willows were planted along the stream banks to mitigate erosion, as outlined in the engineering design. Unfortunately, drought conditions throughout the summer and fall of 2024 hindered the success of the reseeding efforts. To address this, it was determined that the area would require reseeding using a hydroseeder in spring 2025. The BLM, having recently acquired a hydroseeding machine, will oversee the seeding process. The remaining funds will be utilized to purchase seeds and mulch.



Constructed bankfull bench along the Dry Fork of the Smith's Fork.

GREEN RIVER: BOUNDARY RESTORATION

Program: Aquatic Habitat

Project Leads: Luke Schultz

Project Goals: Goal 2

Funding Partner(s): Private landowners, Game and Fish Trust Fund

Game and Fish began working with a landowner on the Green River to address bank erosion along a short (~225') reach near the USFS boundary where a 6' high eroding terrace was migrating laterally and eroding towards their house. They had previously inquired with NRCS about addressing the reach, but were very concerned about the hardening that was proposed and, particularly, the cost of the work. Vigorous willows were available on site, so a bio-engineering approach was

proposed that provided much better stream and riparian function. The work was performed by Streamworks, LLC in July 2024 to install ~20 rootwads and willow transplants into a new, lower elevation, bankfull bench. In-stream gravel was used to ballast the rootwads and topsoil from the existing bank was placed atop the bench. Seeding was completed immediately following construction and periodic watering was performed to help re-establish herbaceous vegetation.



GREEN RIVER: HUSTON TO SOMMERS RESTORATION

Program: Aquatic Habitat

Project Leads: Luke Schultz

Project Goals: Goal 2

Funding Partner(s): WWNRT, WGBGLC, USFWS, PAPO, US DEQ, WLCI

This project is being completed in collaboration with TU and several landowners along the Green River west of Pinedale. All told, the work will address nearly 5 miles of the river corridor at 11 individual work areas to address bank instability, channel geomorphology, degraded floodplain wetlands, and riparian vegetation. Construction of one of the work areas (Upper Sommers) was completed in 2023 and the remaining work areas will be constructed as funding and scheduling allow. Site visits to the Upper Sommers Bend were conducted in spring and summer 2024 to observe structure performance through the runoff and facilitate the re-establishment of vegetation on disturbed bankfull benches. Observations post runoff suggested outstanding structure performance with

no needed maintenance. Construction of 4 additional work areas was completed in 2024: Moore-Rizzo Bend, Side Channel Exit, Todd View Bend, and the Grindstone Bar. The Moore-Rizzo Bend was completed in April by the Statewide Habitat and Access crew to stabilize approximately 850' of the river left bank with a bankfull bench that utilized a combination of toe wood, brush bank, rock vanes and shaped benches to provide structural support to the bench. Other work areas were constructed in August and September by a contractor. Collectively, they stabilized nearly 1800' of the channel and created almost an acre of floodplain and riparian wetland. One additional work area will be completed in 2025 and construction of all work areas should be completed by 2028.



Construction of a woody jam on the Green River: Huston to Sommers Restoration.



Construction of a woody jam on the Green River: Huston to Sommers Restoration.

HABITAT ASSESSMENTS AND MONITORING

Program: Terrestrial Habitat

Project Leads: Troy Fieseler

Project Goals: Goal 2

Annually, Pinedale habitat biologists perform vegetation monitoring and assessments across the region to investigate how plant community dynamics, such as changes in plant composition or annual production, may shift in response to current or historical management as well as year to year changes in precipitation. This information assists managers in decision making on where best to conduct restoration efforts or in providing technical assistance to land management agencies. The data also helps to inform processes such as Herd Objective Reviews, and it provides documentation of the status of habitat across herd units that is captured in Job Completion Reports. During 2024, Game and Fish assisted in monitoring four subalpine forb sites located within forage reserves on the Bridger-Teton National Forest (BTNF), including the Triple Peak Forage Reserve and the Wyoming Range Allotment Complex. This data is used by the BTNF and partners to understand how these plant communities are trending based on ground cover and canopy cover objectives. In addition, annual production monitoring was performed on mule deer winter range complexes in both the Wyoming Range and Sublette mule deer herds. Key shrub species such as Wyoming big sagebrush, antelope bitterbrush and true mountain mahogany were monitored across 9 locations. These shrub species are the bulk of



A not so secret place in the high country known for supporting mule deer where a habitat assessment was conducted.

mule deer diets during the winter and the data collected help managers understand the amount of forage that may be available as well as the health and condition of these winter range shrubs. Lastly, numerous RHA were conducted throughout the Pinedale region and were performed in aspen, sagebrush and subalpine forb communities. A total 9 assessments were completed in sagebrush/mixed-mountain shrubs and subalpine forb communities. In total, 4,072 acres were assessed in this effort. RHAs shed light on the current state of priority habitats, especially those utilized by mule deer, and if habitats are meeting management objectives. This data is primarily used during Herd Objective Reviews as well as in identifying restoration opportunities.



MONUMENT RIDGE HABITAT RESTORATION

Program: Terrestrial Habitat
Project Leads: Troy Fieseler
Project Goals: Goal 2
Funding Partner(s): NFWF

The Monument Ridge Habitat Restoration project, proposed by the Sublette County Forest Collaborative in 2016, addresses vegetation management within the wildland urban interface (WUI), wildlife habitat enhancement activities, along with safety and access improvements for recreation. The project occurs entirely on Bridger-Teton National Forest (BTNF), near Bondurant. The importance of the area to wildlife is significant with treatment locations providing critical transitional and summering habitats for mule deer within the Sublette Herd, parturition and crucial winter-year-long habitat for elk, and crucial winter-yearlong habitat for moose. A combination of prescribed fire and mechanical treatments is being utilized for the project and are designed to reduce hazardous fuel loading to reduce the risk of high intensity wildfire in the future. Objectives are to burn in a mosaic pattern producing mixed severity results. These results create a complex mix of patches ranging from unburned to low severity patches where only ground fuels burn, to high severity areas where the removal of the canopy takes place. Project areas were identified for treatment because they lack recruitment of young aspen plants and have a depressed understory or have poor vigor relative to the forage value they could be providing. Increased resource availability in aspen stands provide opportunities for establishment of diverse understory species and young aspen, contributing to higher cover and productivity. Increases in structural diversity, in turn, provides habitat for migratory birds, insects and mammals, creating biodiversity hot spots. Mule deer, as well as oth-



Crews conducting a prescribed fire on Monument Ridge during 2024.
(Photo Credit: USFS)

er species, utilize these plant communities for summer, transitional and parturition habitats and the quality of these communities can influence over-winter survival. For elk, these are typically the first forested habitats they encounter adjacent to winter range and sagebrush habitats and can provide ideal parturition habitat. During 2024, approximately 3,000 acres of broadcast prescribed burns were completed utilizing both aerial and ground crews. In addition, pile burning has taken place across 219 acres and additional units on the southern end of the project area (~1,200 acres) were mechanically slashed for preparation of broadcast burning in future years. This project has been developed in collaboration with the BTNF, Sublette County Conservation District, Sublette County Commission, Sublette County Unified Fire, WySF, BLM, NRCS, Sublette County Weed and Pest, TNC, Game and Fish, and livestock permittees.

MOOSE HABITAT TREATMENT PROJECT

Program: Terrestrial Habitat
Project Leads: Troy Fieseler
Project Goals: Goal 2, Goal 3
Funding Partner(s): WWNRT, WGBGLC, Mary and Charlie Rumsey

The overall goals for this project include the following: 1) Evaluate the effectiveness of willow cutting on stimulating willow growth and nutritional quality; 2) Evaluate behavioral response of moose to treated areas; and 3) Assess the benefits of treatments to moose populations by measuring the effect of willow treatments on nutritional condition and reproduction. Starting in the summer of 2024, 75 plots were established that are divided into controls (no treatment), autumn cuttings, and spring cuttings, to evaluate potential differences between implementing treatments in the spring vs autumn. For four years (1 year pre-treatment and 3 years post-treatment), we will measure willow growth and

nutritional quality at each plot to evaluate how cutting simulates the re-growth of willows and nutritional quality. During the spring of 2024, 15 cow moose were fitted with GPS camera collars. This data will be used to assess if moose prefer to forage in treated areas compared with untreated areas. Further, we will assess if foraging in the treated areas helps moose achieve better nutritional conditions or helps them recruit calves into the population. This work is funded by the Wyoming Wildlife and Natural Resource Trust, Governor's Big Game License Coalition, and Mary and Charlie Rumsey and is being conducted in collaboration with the University of Wyoming Monteith Shop.



Cow moose fitted with GPS collar. Credit: Monteith Shop



Preparation of a 50m x 50m treatment plot.



NEW FORK RIVER: AREA 351 RESTORATION

Program: Aquatic Habitat

Project Leads: Luke Schultz

Project Goals: Goal 2

Funding Partner(s): TU, WWNRT, The WYldlife Fund, Game and Fish Trust Fund

The Area 351 Habitat Restoration was initiated in early 2021 with TU, USFWS, and 3 landowners (two private and Sublette County) to address habitat impairments, irrigation efficiency, high bank erosion, and previous channelization on a roughly 5 mile portion of the Lower New Fork River valley near Highway 351. Collectively, seven work areas have been identified in this area and implementation of the work areas has progressed with the annual completion of one or two work areas as funding and scheduling permit. Completion of the Looney Bend and Johnson Pasture work areas in 2023 necessitated additional management actions in 2024 to help re-establish riparian vegetation, but, overall, structures installed in

2023 performed as designed during spring runoff and objectives of the work were met. Additional seeding and watering of the disturbed bankfull benches was done throughout the summer of 2024 and will likely be necessary for at least another year to fully establish sufficient roots in new wetland plants. In 2024, an additional work area at the Upper Olson/Jaggers Bend was constructed in July and August with the help of a highly skilled local contractor. Work at this nearly 2000' long reach included an 1100' long bankfull bench with toe wood and brush bank treatments, a rock vane, development of a floodplain alcove and the creation of a 0.33 acre riparian wetland.



Construction of a bankfull bench at the New Fork River's Upper Olson work area.

NEW FORK GAS WELLS HABITAT RESTORATION

Program: Aquatic Habitat

Project Leads: Luke Schultz

Project Goals: Goal 2

Funding Partner(s): JIO, WWNRT, Central Utah Project, WGBGLC, US DEQ, WLCI, BOR, Game and Fish Trust Fund

The New Fork Gas Wells Boat Access and Habitat Enhancement was conceived in the mid-2000s to address channel instability, poor quality habitat and the loss of a boat ramp on the New Fork River at a ~2-mile long segment managed by the Pinedale Field office of BLM. This reach represents nearly half of all the publicly held river corridor on the New Fork River between Boulder and its confluence with the Green River. Phase I of this work was completed in May 2021 and work in subsequent years has focused on evaluating structure perfor-

mance from phase I during runoff to inform designs for the remaining 1.5 miles of channel in Phase II. Designs for phase II were completed in 2023 and mobilization of materials for Phase II were initiated in the same year. In 2024, all additional materials were mobilized and a contractor (Oxbow Earthworks, LLC) was hired to complete the work. Bids for the project were much lower than expected, but scheduling conflicts with the contractor and BLM precluded completion of the project until August 2025.



NEW FORK RIVER AREA 351 OLSEN

Program: Aquatic Habitat

Project Leads: Jim Wasseen

Project Goals: Goal 2

Funding Partner(s): US DEQ, WLCI, WWNRT, TU

The New Fork River downstream of Pinedale, Wyoming, currently does not fully support a coldwater fishery due to high sediment inputs from multiple sources, poor in-channel habitat conditions (over-widened and shallow), and suboptimal water quality. Improving the degraded habitat conditions and enhancing stream function in the lower New Fork River will benefit a wide range of species, including fish, aquatic organisms and riparian-obligate organisms. TU, in collaboration with partners, developed conceptual plans to directly address these impairments and improve habitat limitations. This year, TU successfully completed 2,000 feet of streambank restoration along the Olsen property. The installation of toewood created bankfull benches and narrowed the channel. The work improved floodplain and riparian connectivity, and allows better sediment transport through the reach. This project will reduce annual sediment inputs by approximately 85% through the effective application of Natural Channel Design techniques.



New Fork River bank stabilization.

NORTH CORA HABITAT PROJECT

Program: Terrestrial Habitat

Project Leads: Troy Fieseler, Mac Foos

Project Goals: Goal 2

Funding Partner(s): PAPO

As part of the Pinedale Anticline Project Area (PAPA), this project entails mechanically treating decadent mountain big sagebrush communities to improve habitat quality and diversity. For habitat managers the word decadent refers to the overall condition of a plant, in this case mountain big sagebrush, and is defined as more than half of the plant consisting of dead limbs or stems. These plants, or communities with an overabundance of decadent plants, provide poor annual leader growth and therefore lower quality and quantity of forage for species like mule deer. Health of sagebrush is the number one priority for most of these treatments, and periodic disturbances such as mowing provide an opportunity to maintain shrub vigor and age class diversity into the future by setting back succession. More short-term responses follow-

ing a mowing treatment typically are increases in herbaceous cover and diversity, which become increasingly important on transitional and summer ranges. This response can provide needed nutritional requirements to migrating ungulates that use these sites as transitional habitats where animals are seeking out more grasses and forbs as part of their diet as opposed to ones dominated by shrubs. In 2024, actual treated acres equaled 275.75 across a project area of approximately 864 acres resulting in a 32% mosaic. This mosaic strategy results in more areas of intact sagebrush, maintaining a higher canopy cover to aid in avoiding negative impacts to non-target species. This project is a result of long-term planning with the BLM and has been supported financially by the PAPO.



Immediate post-mowing.



BIG MESA AND WEST CHIMNEY PASTURES IMPROVEMENTS

Program: Terrestrial Habitat

Project Leads: Jim Wasseen

Project Goals: Goal 2

Funding Partner(s): JIO, Permittees, Sublette County Conservation District, WLCI

The Sublette County Conservation District (SCCD) and its partners are undertaking a cost-share initiative to enhance livestock water distribution within the North LaBarge Allotment. By upgrading existing water infrastructure, the aim is to improve livestock distribution across the landscape, leading to more efficient grazing and improved rangeland health. These upgraded water sources are crucial for the future implementation of virtual fencing technology, which will provide livestock permittees with greater control over grazing patterns, allowing more

precise management of grazing timing, intensity, and duration throughout the grazing season. In 2024, the SCCD, in collaboration with permittees and partners, prioritized and implemented improvements at two wells and a pipeline. These upgrades directly benefit two pastures within the Common Allotment: Big Mesa Pasture: The Chevron Well and the Twin Peaks Well received upgrades, including the installation of solar arrays and tire tanks. West Chimney Pasture: The Dry Basin Pipeline was enhanced with the installation of three fiberglass tanks.



Chevron Well installation of a new solar array and tire tank.



Twin Peaks well new solar array and two tire tanks.

PINEDALE REGION FEEDGROUND MAINTENANCE

Program: Habitat and Access

Project Leads: Miles Anderson, Kyle Berg, Kade Clark, Jacob West

Project Goals: Goal 1

The Pinedale Region feedground maintenance encompasses 11 of the 22 Game and Fish managed elk feedgrounds. In 2024 Habitat and Access personnel performed annual repairs and maintenance to feedground structures and haysheds, corrals, stackyards, elk migration fences, stock fences, access roads and harrowing at Black Butte and Soda Lake Feedgrounds. Eleven hayshed uprights were replaced, many gate and stackyard posts replaced and stackyards reinforced with woven wire. A new insulated steel tractor storage shed was constructed at Black Butte Feedground to aid in cold weather starting and maintenance of department equipment. The access road to Franz feedground was improved with gravel to facilitate hay hauling. Also, With help from the Statewide Habitat and Access crew, one of the Bench Corral Feedground haysheds received major roof repairs due to severe weather damage.



Insulated equipment storage -Black Butte Feedground.



PINEDALE REGIONAL PAA ANNUAL MAINTENANCE

Program: Habitat and Access

Project Leads: Miles Anderson, Kyle Berg, Jacob West

Project Goals: Goal 1

Annual maintenance on the the 23 PAAs in the Pinedale region was performed in 2024. This included sign installation and replacements, maintenance of parking areas and three miles of access roads, as well as maintenance of comfort stations, boat ramps, docks, camping facilities and fences. At the New Fork Remmick access, the boat launch area was graveled and ramp was improved with Geoweb pavers. A new comfort station and ADA parking pad was installed at the New Fork Boulder Bridge PAA. On Green River Fear-Ferry Island PAA, wildlife friendly fencing was installed around the parking area, and concrete boat ramp extensions were installed at both Ferry Island and Reardon Draw PAA's. Needed access road improvements continued with gravel being hauled by Habitat and Access crews and BLM personnel blading and shaping the road at the Fear fishing access areas.



New comfort station and parking area New Fork Boulder Bridge.

PINEDALE REGION WHMA MAINTENANCE

Program: Habitat and Access

Project Leads: Miles Anderson, Kyle Berg, Jacob West

Project Goals: Goal 1

Annual maintenance and improvements continued on five WHMAs in the Pinedale Region in 2024. Soda Lake, Half Moon, Black Butte, Fall Creek and Luke Lynch WHMAs received annual fence maintenance and repairs. A total of 59 miles of fencing reduces trespass livestock and facilitates annual wild-

life migrations. Habitat and Access personnel performed sign replacements, maintenance and repairs to over 23 miles of roads, as well as maintenance to comfort stations, boat ramps and docks, parking areas, wetlands, WHMA structures, wildlife watering systems and public campsites.



New area information sign installed Half Moon WHMA.



Project monitoring and maintenance for Soda Lake wetlands in 2024.



SUBLETTE COUNTY CHEATGRASS

Program: Terrestrial Habitat

Project Leads: Troy Fieseler

Project Goals: Goal 2

Funding Partner(s): WLCI, Game and Fish Invasive Annual Grass

Likely the most prevalent and widespread issue facing Wyoming's wildlife, IAGs are a top priority to treat and control due to their ability to negatively alter forage quality and quantity, increase fire return intervals and decrease overall species diversity. Since 2011, collaborators throughout Sublette County, WY have worked together as part of the Sublette Invasives Taskforce to map and treat IAGs. Cheatgrass, the primary species of concern in the region, has been treated across 103,000 acres to date. During 2024, treatments took place across many landownerships with priority given to re-treatment blocks on USFS lands, Game and Fish WHMAs, and private land. Newly identified sites throughout the county were also targeted for treatment. A total of 13,652 acres were treated with both aerial and on-the-ground applications. Rejuvra, the preferred herbicide, was used on all landownerships currently approved for the chemical. A major component of the Invasives Taskforce is the monitoring program that investigates treatment effectiveness and assists with informing future management decisions. Through this monitoring effort, consisting of more than 50 transects spread across multiple ecological sites, partners have learned that Rejuvra has been effective at controlling cheatgrass for up to 5 years and that we have a resilient native plant community that recovers well following treatment.



Vegetation monitoring following cheatgrass treatments on Halfmoon WHMA.



Photo of a fence with typical Wildlife Friendly Fencing standards applied.

SOAPHOLES GILLIGAN WILDLIFE FRIENDLY FENCE

Program: Terrestrial Habitat

Project Leads: Jim Wasseen

Project Goals: Goal 3

Funding Partner(s): WLCI

The Sublette County Conservation District (SCCD) successfully implemented a project to enhance wildlife connectivity by converting 10.5 miles of fences to wildlife-friendly standards within key antelope and mule deer migration passages. This collaborative effort involved private landowners, the BLM, and the USFS. While unforeseen circumstances prevented the conversion of the entire planned mileage, the SCCD proactively utilized remaining WLCI funds to procure and stockpile materials, ensuring the potential for an additional 5 miles of fence conversion in the future.



SUBLETTE MULE DEER AND PRONGHORN COLLARING STUDY

Program: Terrestrial Habitat

Project Leads: Dean Clause, Brandon Scurlock, Sydney Simmerman

Project Goals: Goal 3

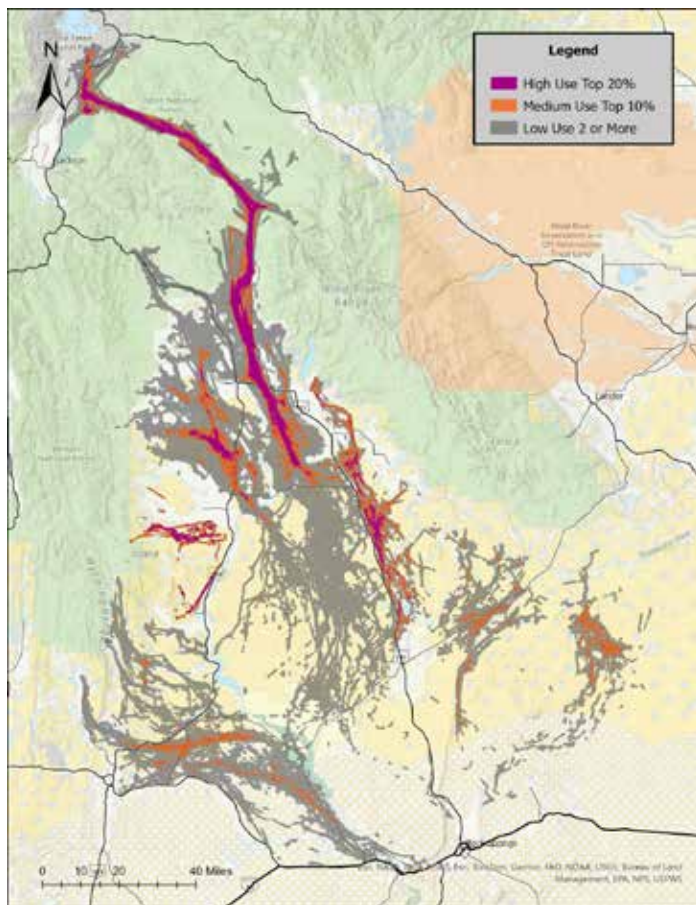
Funding Partner(s): PAPO

The Red Desert to Hoback Migration Assessment is ongoing research led by Dr. Matthew Kauffman in collaboration with Game and Fish and the BLM. The study focuses on understanding the migratory strategies of the Sublette Mule Deer Herd, particularly those wintering in the southern portion of the herd's range. The project maintains 90 GPS-collared doe mule deer, with captures conducted each March and December. Additionally, Game and Fish deployed a total of 45 GPS collars between March 2022 and March 2023 in the flank areas of the Pinedale Anticline Project Area. In December 2024, all previously deployed collars were retrieved before their transmitter batteries were expected to expire through a single capture session. The primary goal of the study is to monitor the survival and migration strategies of animals from the northern portion of the Sublette Mule Deer Herd, which is significantly affected by natural gas extraction activities within the Pinedale Anticline Project Area. This research aims to better characterize the annual movements and survival of these animals, particularly in areas where the biological boundaries between sub-herd units are unclear. In November 2023, Game and Fish deployed 20 GPS collars on adult doe pronghorn in the northern portion of the Sublette Prong-

horn Herd. This area has been heavily impacted by *Mycoplasma bovis*. The study aims to monitor survival and disease prevalence in conjunction with energy development activities in the Pinedale Anticline Project Area. In 2024, these collars continued collecting valuable data for future analysis, with retrieval occurring as needed following naturally occurring mortality events.



A pronghorn collar collected from the field.



Sublette Pronghorn migration corridor.

SUBLETTE PRONGHORN MIGRATION CORRIDOR

Program: Terrestrial Habitat

Project Leads: Daryl Lutz, Jill Randall, Brandon Scurlock, Cheyenne Stewart, Sean Yancey

Project Goals: Goal 3

The Sublette Antelope herd has undergone extensive internal evaluation and stakeholder outreach to work through the identification process outlined in the Wyoming Mule Deer and Antelope Migration Corridor Protection Executive Order. This is the first herd Game and Fish has taken through this process. GPS collar data has been collected from 2002 through 2022 that was analyzed, in partnership with Dr. Jerod Merkle at the University of Wyoming, with the line buffer and Brownian Bridge Movement Model to develop high, medium and low use level polygons as well as stopovers for this migration corridor. A Threat Evaluation was then written by regional personnel and presented to the public during three public meetings as well as various other individual stakeholder contacts with landowners, agency partners, elected officials and industry representatives. In March 2024, the Commission reviewed the materials and public comment then directed Game and Fish to take the next steps towards designation of the Corridor. The Risk Assessment was drafted which included additional analysis and identifying bottlenecks and will be provided for public review in 2025.



UPPER GREEN FENCE INITIATIVE

Program: Terrestrial Habitat

Project Leads: Troy Fieseler, Sydney Simmerman

Project Goals: Goal 3

Funding Partner(s): BOW, JIO, NFWF, Knobloch Family Foundation

A major threat to Wyoming's migratory ungulate and greater sage-grouse populations are fences that restrict movements and pose a risk of entanglement and mortality. The focus of this project is to work with private landowners and public land permittees to replace or modify existing fences with designs that facilitate the movement of wildlife, while maintaining effective livestock containment. During 2024, Pinedale Region Game and Fish personnel assisted in converting approximately 23 miles of fence, including 1 mile of complete removal, and the installation of 10 fence crossing structures across 10 separate projects. In addition, Game and Fish and BLM partners installed 1 mile of fence markers to reduce sage grouse collisions and removed 0.34 miles of fence within the Sublette Mule Deer Migration Corridor that was non-functional. In collaboration with the Upper Green Fence Initiative, numerous NGO and federal



Buck pronghorn using newly installed X-gate crossing structure.

partners, cumulative efforts in Sublette county area have resulted in the conversion of almost 750 miles of fencing to wildlife-friendlier standards since 2010. Numerous funding partners and volunteers have contributed over the years with NFWF, WWNRT, Game and Fish, PAPO, JIO, USFWS, Knobloch Family Foundation, the WYldlife Fund and private landowners providing project dollars for the most recent accomplishments.

GREY'S RIVER AND KEMMERER RANGER DISTRICT CHEATGRASS CONTROL

Program: Terrestrial Habitat

Project Leads: Jim Wasseen

Project Goals: Goal 2

Funding Partner(s): MDF, USFS, WLCI, WWNRT

The USFS' Kemmerer and Grey's River Ranger Districts have observed an increase in cheatgrass infestations. In response, a collaborative effort was initiated between the BLM, Game and Fish, and the Lincoln County Weed and Pest to identify and prioritize treatment areas on

public lands. This year, the USFS successfully completed 3,360 acres of aerial inventory and treatment of cheatgrass. Treatment efforts focused on areas along popular recreation sites near the Grey's River and along the western boundary around Afton.



Vegetation plot showing amount of cheatgrass.
(Photo courtesy USFS).



Same vegetation plot post treatment, no cheatgrass was observed.
(Photo courtesy: USFS).



WET MEADOW RESTORATION

Program: Terrestrial Habitat

Project Leads: Troy Fieseler

Project Goals: Goal 2

Funding Partner(s): Private donor

On semiarid rangelands in the western U.S., water is life. Wet habitats—like riparian areas, streams, and meadows—comprise less than 2% of the landscape but are vitally important for wildlife. These areas provide the green groceries many species need to thrive. Unfortunately, nearly half of these scarce resources are considered degraded. Traditional approaches to restoring riparian areas and wet meadows are often intensive and expensive, limiting the extent to which they can be applied. Zeedyk structures, on the other hand, are simple hand-built rock and wood structures that are installed to improve hydrologic function of wet meadows and intermittent streams. These structures slow down flowing water to spread it across the landscape in order to reduce erosion, improve soil health, increase water storage capacity, expand upon the

mesic plant community and prevent further loss of intact wet meadow systems. Across the Pinedale region, Game and Fish and partners have installed dozens of Zeedyk structures across several projects in order to kick-start regeneration of ecological process and reverse the trend of degradation and erosion in these systems. During 2024, construction and maintenance occurred on 54 structures and additional rock material was hauled to 8 sites for future efforts. These projects have been made possible by many partners and individuals including the Sublette County Conservation District, Sage Grouse Local Working Groups, BOW, Private Funders, BLM, NRCS, Youth Groups, State Lands, private landowners and numerous volunteers providing both labor and equipment.



Active Head-cut



Zuni Bowl Constructed in Head-cut

Comparison of active head-cut vs. a head-cut that a zuni bowl was constructed in. Red arrow is pointing to loss of soil.



WYOMING RANGE MULE DEER RESEARCH

Program: Wildlife Research

Project Leads: Troy Fieseler, Jeff Short, Gary Fralick

Project Goals: Goal 3

Funding Partner(s): Game and Fish Commission

The Wyoming Range mule deer research project has been a collaborative research project with UW since 2012. This project attempts to investigate the nutritional relationships between mule deer population dynamics, energy development and disturbance, habitat conditions, and climate to provide a mechanistic approach to monitoring and management of mule deer. While this project has been ongoing, the focal herd research project was initiated in December 2022 and is collecting additional population data which will be compared to four other herds in the state. Overwinter survival of mule deer was one of the highest in the last 15 years. Survival of radio-collared adult does was estimated at over 80% for the 2023-24 winter. Concurrently with high mule deer survival rates, UW researchers reported December 2024 body fat percentages of lactating and non-lactating females at 11% and 16%, respectively. In 2024, UW personnel captured and radio-collared 100 neonatal fawns from 58 females. The Focal Herd research reported on December 5, 2024 that 144 (73%) mule deer of the 198 deer in the Wyoming Range herd that entered the winter in December 2023 were alive. An additional 73 deer (7 bucks, 5 does, 61 fawns) were captured in De-



Collecting body condition of a collared deer. Credit: Chris Martin

cember 2024 to supplement deer lost to mortality events in 2024. High over-winter mule deer survival in 2024 resulted in the highest doe:fawn ratios in over 20 years. December 2024 doe:fawn ratios increased from 34 fawns: 100 does in 2023 to 83 fawns:100 does in 2024. Concurrently buck ratios were 28 bucks: 100 does, which increased from 24 bucks:100 does in 2023.

WYOMING RANGE MULE DEER HABITAT PROJECT

Program: Terrestrial Habitat

Project Leads: Troy Fieseler

Project Goals: Goal 2

The Wyoming Range Mule Deer Habitat Project is a cooperative project between Game and Fish and Pinedale BLM targeting improvements to mule deer habitat in the Big Piney and LaBarge areas. This habitat project is intentionally landscape-scale and has been conducted over a



Crews conducting a prescribed burn during 2024. Photo courtesy of the BLM.

10 year period, which started in 2014. Winter and transitional ranges are targeted with this project that totals over 30,000 acres of vegetation treatments and over 25,000 acres of cheatgrass treatments. Projects have targeted many vegetation types including Wyoming and mountain big sagebrush, antelope bitterbrush, true mountain mahogany, salt desert shrub, and aspen. Implementation techniques have included mowing, Lawson aerator, seeding, Spike, herbicide application, fencing, conifer thinning, and prescribed burning. During 2024, a total of 196 acres of prescribed burns were conducted within aspen-conifer forests. Conifer often threatens the persistence of aspen communities in seral communities by limiting resources leading to a decrease in overall stand diversity and quality. Aspen stands can contain a rich diversity of forbs, grasses, and shrubs that provide important forage and cover used by mule deer and other species. With prescribed fire, this project sets back succession creating the opportunity for more palatable new growth along with the likelihood of the aspen community providing higher quality nutrition into the future. Cumulative project accomplishments (2014-2024) include: 18,963 acres of sagebrush thinning, 3,232 acres of aspen mechanical preparation, 1,899 acres of aspen prescribed burns, 27,000 acres of cheatgrass herbicide application, 2,032 acres of cheatgrass hand grubbing, 19 livestock riders hired for grazing rest, 11 miles of fence construction, 5 miles of temporary electric fencing installed, virtual fence (3 towers and 441 collars) deployed, and one reservoir renovated to influence livestock distribution. Partners for 2024 accomplishments include BLM, Sublette County Conservation District and the North Labarge Allotment permittees.



SHERIDAN REGION

The Sheridan Region covers much of northeast Wyoming, from the summit of the Bighorn Mountains, east to the Black Hills and from the Montana/Wyoming state line, south to the northern portions of Natrona and Converse counties. It encompasses the Powder, Tongue, Little Bighorn, Belle Fourche, Little Missouri and Cheyenne River drainages.

Terrestrial habitat projects in the Sheridan Region this year focused on native grassland improvements as well as addressing the ongoing threat of invasive annual grasses such as cheatgrass, ventenata and medusahead. Through the efforts of multiple public, private and nonprofit partners, 2,868 acres of rangeland were treated for medusahead and ventenata in Sheridan County and more than 1,000 acres of noxious weeds were treated on Game and Fish Commission-owned WHMAs. Additionally, close to 80 low-tech Zeedyk structures were installed near Ranchester to address early degradation of Sixmile Creek by capturing silt and reducing erosion.

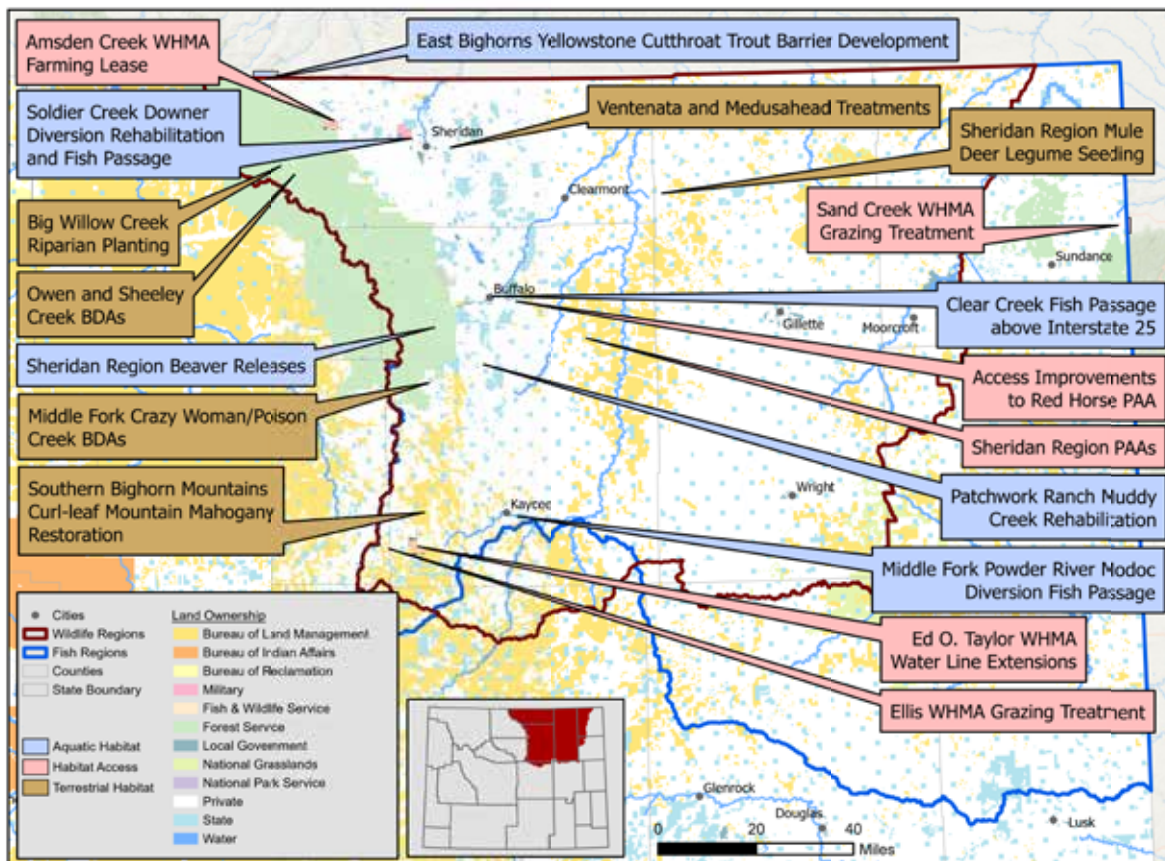
Aquatic habitat improvements saw continued focus on using beavers or beaver dam analogs to restore aquatic habitat in the Bighorn Mountains and in the Black Hills. Twenty-five beavers were live trapped from nuisance situations and rehomed into four creeks on the Bighorn National Forest and private land. The Sheridan Region aquatic habitat biologist also consulted with the Black Hills National Forest on additional beaver releases in that area. More than 100 BDAs were constructed in the region in 2024. These structures simulate the water-saving benefits of beaver dams such as slowing water movement, building soil moisture and raising the water table.

In June 2024, the Sheridan Region Habitat and Access personnel received assistance from more than 30 other employees from the Habitat and Access Branch and the statewide construction crew, for a week of intensive work on Ellis WHMA in the southern Bighorn Mountains.

In just a few days, two miles of woven wire fence were removed that originally secured sheep within the property, but now prevented safe movement of wildlife. Crews then refitted or constructed new fencing to wildlife-friendly measurements, allowing elk and deer to jump over the fence, while the bottom strand height allows pronghorn safe passage underneath. Other crews applied herbicide to treat invasive weeds such as houndstongue and thistle. A third crew improved or constructed road and trail access from the existing parking lot to fishing locations on Sullivan Creek and the Middle Fork of the Powder River, both of which traverse the property.

The movement study of mule deer in Hunt Area 10 came to an end in 2024, with data analysis expected in 2025. Phase 1 of the movement study of pronghorn northeast of Gillette was completed and the project will expand with additional GPS collars fitted on animals in 2025.

The roadway fencing project along Interstate 25 north of Kaycee was completed in early 2024. Seventeen miles of game-proof fencing on either side of the interstate now funnels wildlife into existing underpasses to reduce wildlife-vehicle collisions that impact the Upper Powder River and Pumpkin Buttes mule deer herds.



AMSDEN CREEK WHMA FARMING LEASE

Program: Habitat and Access
Project Leads: Nathan Lindsey
Project Goals: Goal 1

The Amsden Creek WHMA has historic hay meadows and a gravity fed irrigation system that allows for the successful growing of an alfalfa/grass crop. To fully benefit and utilize these lands and water rights Game and Fish has determined it most beneficial to lease the farming/hay rights to a single annual cutting. The lessee irrigates

and harvests a single hay cutting annually and irrigates for a second growth of forage left for wildlife. The lessee compensates Game and Fish through an Area Improvement Plan Agreement, whereas the lessee provides an agreed amount of goods and/or services in return for the farming lease.

BIG WILLOW CREEK RIPARIAN PLANTING

Program: Terrestrial Habitat
Project Leads: Todd Caltrider, Travis Cundy
Project Goals: Goal 2
Funding Partner(s): BOW, RMEF, USFS, Game and Fish Trust Fund

Game and Fish, in partnership with the Bighorn National Forest and the Wyoming Backcountry Hunters and Anglers, is planning a large riparian restoration project on upper Big Willow Creek in the northern Bighorn Mountains. Big Willow Creek contains some of the best willow stands on the forest within the lower stream reach, but upstream, willow stands greatly decrease. In efforts to improve the deciduous woody riparian plant community in upper Big Willow Creek, Game and Fish and USFS have installed BDAs to capture spring flows and spread

water out across the floodplain, which should improve water availability to willows. Game and Fish and USFS also are planning on planting 6,000 aspen and willow trees in sections of Big Willow Creek that are devoid of aspen and willow. To protect the future plantings from herbivory, 3,000 feet of steel jack fence was purchased and the fence was installed by the Wyoming Conservation Corp in Upper Big Willow Creek. The willow and aspen plantings will take place during the summer(s) of 2025 and 2026.



Steel Jack fence installed on upper Big Willow Creek.



CLEAR CREEK FISH PASSAGE ABOVE I-25

Program: Aquatic Habitat

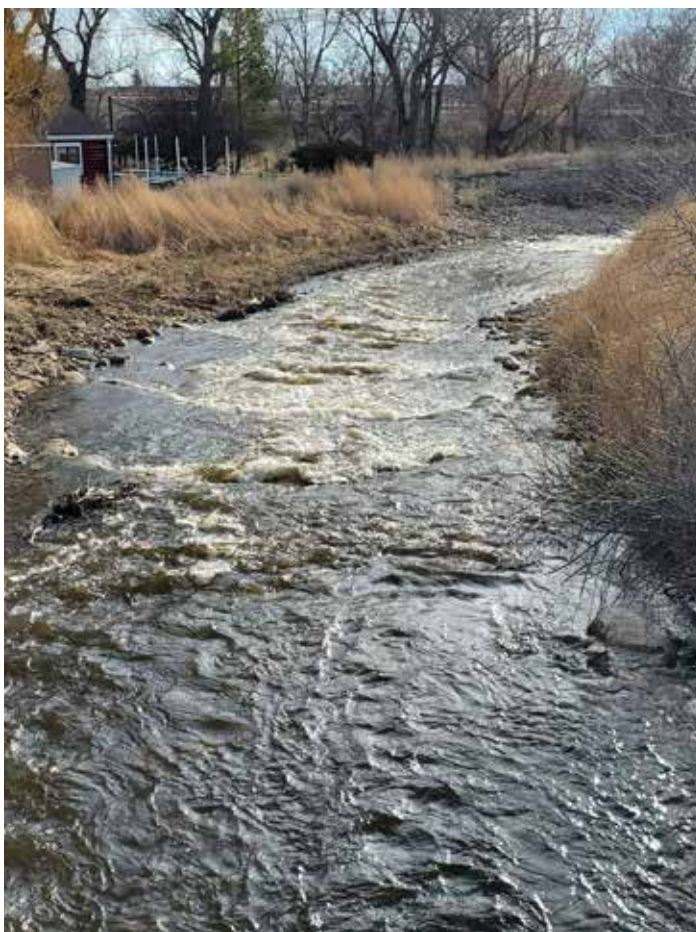
Project Leads: Travis Cundy

Project Goals: Goal 2, Goal 3

Funding Partner(s): Wyoming Sportmen's Group, Barnum Construction

Upstream fish passage to about 10 miles of Clear Creek near Buffalo was restored in 2021 with the removal of a 1964-built concrete grade control structure located upstream of the Interstate 25 culvert crossing. Concurrently, a series of alternating riffle structures and pool features were built to offset the removal of the concrete grade control structure and restore fish passage through the reach. Previously, trout and native suckers could swim downstream past the structure, but were blocked from swimming upstream to spawn or seek refuge from warm stream temperatures. In June 2023, rain and snowmelt runoff that produced a

peak flow exceeding 1,470 cubic feet per second (10 year event) altered most riffle structures and pool features along the reach. Repairs were undertaken with Barnum Construction, the original contractor, in March 2024 to stabilize boulder grade control features that shifted during high flows and add bank protection along eroding bank segments. Additional spot reseeded occurred as the spring runoff subsided to aid vegetation development on the narrow floodplain margins along the channel. Funding from the Sportsman's Group and work-time contributed by Barnum Construction were used to complete the repairs.



Clear Creek above I25 vane and bank maintenance.



Clear Creek above I25 vane and bank maintenance.



EAST BIGHORNS YELLOWSTONE CUTTHROAT TROUT BARRIER DEVELOPMENT

Program: Aquatic Habitat

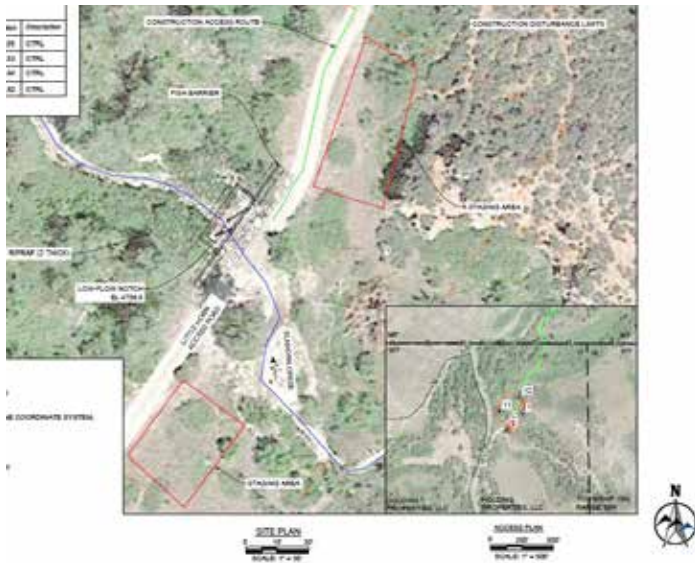
Project Leads: Travis Cundy

Project Goals: Goal 2

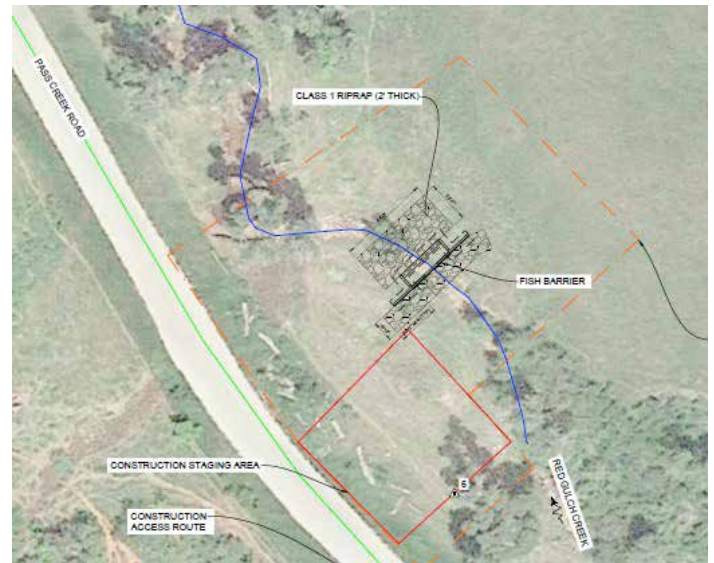
Funding Partner(s): WGBGLC, Game and Fish Trust Fund, WWNRT, USFWS, Wyoming Sportsman's Group

WWC Engineering finalized designs for the Elkhorn and Red Gulch creek native trout conservation barriers in October. The Sheridan Region Aquatic Habitat biologist completed permitting for the structures in November. Yellowstone Cutthroat Trout populations occupy 4.3 miles of these streams. Constructing both barriers will protect these populations from encroaching nonnative trout in the Little Bighorn River and facilitate future native trout expansion efforts in drainages along the east side of the Bighorn Mountains. Cost estimates to construct the Elkhorn and Red

Gulch creek barriers are \$324,000 and \$211,000, respectively. Funding to construct the Elkhorn Creek structure was secured from Game and Fish Trust Fund, USFWS State Wildlife Grant program, WWNRT and Wyoming Sportsman's Group. Additional funding is being sought from the Wyoming Water Development Commission small water projects program. Bidding to construct both barriers will occur in 2025. Concurrently, funding is being sought to begin constructing the Red Gulch Creek structure immediately following the Elkhorn Creek structures completion.



Design for the Elkhorn Creek barrier.



Design for the Red Gulch Creek barrier.

ED O. TAYLOR WHMA WATER LINE EXTENSIONS

Program: Habitat and Access

Project Leads: Nathan Lindsey

Project Goals: Goal 1

Ed O. Taylor WHMA lies along the southern end of the Bighorn Mountains in an arid environment with limited water and shallow soils depth. A solar well and 4 guzzlers have previously been installed to provide elk, mule deer, antelope and other wildlife with additional water sources across the unit. In 2024, we installed 10,000 feet of poly pipe in two different locations, one on the south and one on the northern portions of the unit so that we can add two additional guzzlers and utilize all of our allotted water rights that were originally filed on. These water sources will help to disperse ungulates and others users across the landscape, reducing the demand on the present water locations to help reduce disease potential within congregating wildlife.



Poly pipe installation provides dispersed water options, Ed O. Taylor WHMA.



ELLIS WHMA ACCESS DEVELOPMENT

Program: Habitat and Access
Project Leads: Nathan Lindsey
Project Goals: Goal 1, Goal 2

To better manage and control access to Ellis WHMA, two parking lots were constructed to provide users with places to park and enter the WHMA by foot or horseback during open hunting seasons. The goal is to limit vehicle access with the intent to help hold animals in the area during open seasons to increase harvest, as well as control and reduce habitat and vegetation destruction during wet periods. Cattle guards were also installed to eliminate gates and control livestock in the pastures when they are present during the off seasons. Roads were bladed

and improved for drainage and road base added to surfaces to improve access to the designated fishing access points for fisherman to access Sullivan Creek and Middle Fork of the Powder River which bisect the property. Two miles of woven wire fence were removed and replaced with wildlife friendly stock fence to help control grazing on the unit, reduce wildlife conflicts, and control trespass livestock from neighboring properties. Approximately 300 acres of noxious weeds were treated to improve forage and reduce competition with native forage.



Parking and access development for the recently acquired Ellis WHMA.



Parking and access development for the recently acquired Ellis WHMA.

ELLIS WHMA GRAZING TREATMENT

Program: Habitat and Access
Project Leads: Nathan Lindsey
Project Goals: Goal 1, Goal 2

Ellis WHMA was purchased in late 2022. Historically, the property has been used for agricultural livestock grazing with sheep and cattle. In 2023 Game and Fish took over management and converted grazing to cattle only. In 2024, a light yearly grazing regime was conducted, grazing one of the two pastures, while resting the second pasture, allowing

full regrowth and a year of rest between grazings. Grazing utilization was light with approximately 500 AUMs from mid June to late August. This light grazing pattern should remove decadent old growth, while stimulating new regrowth for wildlife, and creating healthier ecosystems with abundant forage.

GILLETTE PRONGHORN

Program: Wildlife Research
Project Leads: Erika Peckham
Project Goals: Goal 3
Funding Partner(s): WGBGLC

Northeast Wyoming has some of the highest densities of pronghorn in Wyoming. Because they appear to be prolific, they can often be overlooked as a conservation priority. In recent years, however, numbers have fallen due to prolonged extreme drought and disease impacts from *Mycroplasma bovis*, epizootic hemorrhagic disease and bluetongue virus outbreaks. Game and Fish is implementing a GPS collaring project with pronghorn in the North Black Hills Herd Unit that began in November

2022. The goal is to understand movement patterns and survival rates of pronghorn in this herd unit. The final year for Phase I of the Gillette Pronghorn Project was in 2024. Collars were programmed to drop in November of 2024. All collars successfully dropped and only one collar in Montana was unable to be procured for detailed data download. Collar data is in the process of being analyzed by Hall Sawyer of W.E.S.T. Additional collars will be deployed in 2025 for an additional two years of the study.



MIDDLE FORK CRAZY WOMAN/POISON CREEK BDAS

Program: Terrestrial Habitat

Project Leads: Todd Caltrider, Travis Cundy

Project Goals: Goal 2

Funding Partner(s): National Wild Turkey Federation, RMEF, WGBGLC, Game and Fish Mule Deer Initiative

In August 2024, Game and Fish hired a contractor specialized in low-tech riparian restoration to install 26 BDAS on .75 miles the Middle Fork Crazy Woman Creek and 10 on Poison Creek on the Reub Ranch. This project complements earlier work completed by Game and Fish in 2020. In 2020, Game and Fish installed 10 BDAs downstream of the proposed project on the Middle Fork Crazy Woman Creek on the Rueb Ranch. Following installation of the BDAs, Game and Fish released three nuisance beavers into Poison Creek in hopes of establishing a population of beavers.



BDA complex on Poison Creek.

MIDDLE FORK POWDER RIVER MODOC DIVERSION FISH PASSAGE

Program: Aquatic Habitat

Project Leads: Travis Cundy

Project Goals: Goal 2

During spring 2024, funding was secured from Game and Fish Habitat Trust Fund to develop designs to replace the head gate serving the Modoc Diversion ditch and provide upstream fish passage past the Middle Fork Powder River Diversion structure. Building on previous reconnections, restoring fish passage at the Modoc Diversion dam will reconnect 3.5 miles of the Middle Fork Powder River, 2.4 miles of the North Fork Powder River and 1.9 miles of the mainstem Powder River downstream of the Modoc Diversion to about 45 miles of the Middle Forks Powder River upstream of the diversion. Cumulatively, this equals about 53 miles of river connectivity. The Powder River Conservation District sought additional design funding from the WGBGLC and Plank Stewardship Foundation, but was unsuccessful. Unfortunately, the Elm Ranch owner passed away during July, though the trustees of the ranch remain interested in proceeding with design development. Further planning during 2024 was postponed until additional design funding can be secured.



Modoc Diversion dam on the Middle Fork Powder River.

MULE DEER LEGUME SEEDINGS

Program: Terrestrial Habitat

Project Leads: Todd Caltrider

Project Goals: Goal 2

Funding Partner(s): Game and Fish Trust Fund

185 acres of alfalfa were planted in the spring of 2024 in Campbell County on the Kretschman and Mooney Ranch. The plantings will provide high quality forage for mule deer. This project was funded in part through the statewide Game and Fish Shrub, Grass and Legume Seeding Program.



Mule Deer foraging in alfalfa stand.



NORTHEAST WYOMING MEDUSAHEAD AND VENTENATA TREATMENTS

Program: Terrestrial Habitat

Project Leads: Todd Caltrider

Project Goals: Goal 2

Funding Partner(s): WWNRT, Sheridan County Weed and Pest, Game and Fish Invasive Annual Grass

Ventenata and medusahead grass were discovered recently in northeast Wyoming. Medusahead and ventenata are highly invasive annual grasses that are a huge concern to land managers in the west. Similar to cheatgrass, they are winter annuals that reproduce rapidly, decrease rangeland productivity and increase the risk of wildfire. What separates ventenata and medusahead from invasive brome grasses like cheatgrass is their extremely aggressive rate of invasion and limited palatability. Ventenata and medusahead have been known to outcompete monoculture stands of cheatgrass and quickly become the dominant species. Ventenata and medusahead have very limited forage value to livestock or wildlife, due to their high silica content. Since their discovery in northeast Wyoming, a group of local, state & federal land managers, private landowners and researchers concerned about these newly discovered invasive annual

grasses formed the Northwest Wyoming Invasive Grass Working Group (NEWIGWG). The group collaborated on developing strategies to manage these new invasive annual grasses, in particular, through mapping, education, outreach, research, management & control and possible eradication through early detection and rapid response. Those efforts have been paying off with aggressive management campaigns and increased awareness across the state. As a partner in NEWIGWG, Game and Fish provides funding to treat known infestations in high priority locations. In 2024, this funding was used to treat 2,868 acres of high priority medusahead and ventenata in Sheridan County. Treatments occurred via helicopter with indaziflam (Rejuvra) herbicide applied at a rate of 5 oz/acre. Funding for this project was provided by Game and Fish Invasive Grass Account, WWNRT, and Sheridan County Weed and Pest.



Aerial contractor conducting ventenata herbicide treatment.

OWEN AND SHEELEY CREEK BDAS

Program: Terrestrial Habitat

Project Leads: Todd Caltrider, Travis Cundy

Project Goals: Goal 2

Funding Partner(s): USFS, WWNRT

Beaver populations in the Bighorn National Forest are declining. Recent beaver surveys conducted by the department have noticed a steadily declining beaver population in the last twenty years. In efforts to boost populations in the Bighorn National Forest, Game and Fish and Bighorn National Forest have worked on improving riparian habitat to improve conditions for beaver occupancy. Increasing beaver populations in the Bighorn National Forest will help improve habitat for a variety of other wildlife species. Beavers, due to their dam building behavior, can have a large impact in water distribution in mountain meadows. Beaver dams are able to slow floodwater and distribute it throughout the riparian system, thus reconnecting riparian floodplains, increasing the size of mesic areas, and providing habitat for aspen and willow trees. As of the last survey, there are no known active populations of beaver in the South Tongue River drainage. Owen Creek and Sheeley Creek are two streams that make up the headwaters of the South Tongue River. Game and Fish contracted construction of 60 BDA treatment complexes in Owen Creek and 20 BDA treatment complexes in Sheeley Creek. The purpose of



BDA complex on Owen Creek.

these structural treatments is to emulate the action of beaver dams, and to retain and redistribute water during high flows to increase the size of the mesic riparian area which should increase aspen and willow growth. The structures also provide security cover and dam starting material if beavers are to either be released or emigrate to these streams. If beaver can eventually be restored into this section of the stream, they will maintain the water table to provide high quality riparian areas and habitats for a wide variety of wildlife species. Future phases will look to locate other suitable streams in the Upper Tongue River watershed where BDAs could be used to improve riparian habitat for beavers.



PATCHWORK RANCH MUDDY CREEK REHABILITATION

Program: Aquatic Habitat

Project Leads: Travis Cundy

Project Goals: Goal 2

In 2023, WWC Engineering and 5 Smooth Stone Restoration provided recommendations to rehabilitate channel incision along a three mile segment of Muddy Creek on the Patchwork Ranch south of Buffalo. Partners in the assessment and design included the Patchwork Ranch, Clear Creek Conservation District, Game and Fish, WGBGLC and NGPJV. Rehabilitation goals were to identify affordable alternatives to reduce channel incision and instability, and increase floodplain connectivity and mesic riparian communities. Irrigation withdrawals limit restoration potential along the incised channel. Remaining rehabilitation options recommended for further consideration included applying beaver mimicry treatments to provide grade control and channel roughness elements that boost the riparian water table, adapting gully plug techniques to spread water to constructed channels and increase floodplain connectivity while retaining the ability to manage irrigation water conveyance, reconnecting abandoned oxbows, and planting woody riparian vegetation. The ranch owners decided not to pursue further rehabilitation planning, though were open to revisiting options in 2025. Further efforts will focus on gaining consensus among stakeholders on next steps. These rehabilitation design efforts dovetail with a Wyoming Coopera-

tive Fish and Wildlife Research Unit led effort, which began in 2022, to evaluate beaver dam analog and woody debris placement treatment effects on fish communities along Muddy Creek. Field work concluded in 2024. Findings from the research will be available in 2025. The work was funded through a Climate Adaptation Science Center grant. Additionally, Game and Fish and UW personnel planted about 1,200 willow live-stakes and UW personnel maintained the beaver dam analog treatments during spring and summer respectively.



Muddy Creek BDA's and willows.

SHERIDAN REGION PAAs

Program: Habitat and Access

Project Leads: Nathan Lindsey

Project Goals: Goal 1

Habitat and Access personnel performed annual maintenance and monitoring of the 14 Sheridan Region PAAs. These PAAs serve as critical recreational areas for the public and sportsmen. Yearly maintenance and upgrades are crucial to preserve these habitats and the PAA infrastructure. All public access boundary fences were maintained and signed to protect Commission property rights and habitats. Vandalism is an ongoing issue and many signs were replaced across the region on most of the PAAs. Muddy Guard 1 & 2 received significant road blading and contouring with help from Johnson County Road and Bridge. Red Horse received a much needed top coat of road base and was

contoured to improve water management and runoff. Black Elk PAA received a safety netting on the northern third of the pond to protect sportsmen from the adjacent tee box and fairways. Healy PAA received significant road blading and the dock was updated with pipe pilons and brackets to accommodate continually changing water levels in the reservoir. Tongue River Canyon parking was improved with volunteers from the Dayton Rotary Club. All trees were trimmed, trash and brush were picked up and removed, and bear food storage boxes were installed at TR Canyon designated campsites. In addition, noxious weed spraying occurred where weeds were present and needed control.

Management of Public Access Areas is a continual effort and benefits the sporting public.

Management of Public Access Areas is a continual effort and benefits the sporting public.



RED HORSE PAA ACCESS IMPROVEMENTS

Program: Habitat and Access
Project Leads: Nathan Lindsey
Project Goals: Goal 1

Red Horse PAA was established to allow access to thousands of acres of landlocked state land for hunting and recreational opportunities. The road has had little improvement since it was established so we have phased this project in to several segments by improving drainage to

reduce erosion, grading and crowning roadway, and top dressing with road base to ensure home owners and the public who utilize this road have better access throughout the year.

SAND CREEK WHMA GRAZING TREATMENT

Program: Habitat and Access
Project Leads: Nathan Lindsey
Project Goals: Goal 1

A spring grazing treatment was conducted on Sand Creek WHMA in 2024 to manage noxious weeds. This is the 10th year of this agreement. Spring grazing in conjunction with herbicide applications during the growing seasons, helps to control noxious weeds and allow preferred perennial forage to establish and promote growth. The grazing strategy employed is a high intensity, short duration program with approximately 140 AUMs over a 10 day period. The added hoof action helps incor-

porate and reduce litter, and stimulate growth without allowing plants to be continually grazed and any new growth removed. In exchange for grazing, the neighboring ranch allows access to 2.5 miles of Sand Creek for public access. This partnership between Game and Fish and neighboring land owners is a great example of how private landowners can help Game and Fish better manage lands and wildlife while also providing the public with increased access at no charge to either party.

SHERIDAN REGION BEAVER RELEASES

Program: Aquatic Habitat
Project Leads: Todd Caltrider, Travis Cundy
Project Goals: Goal 2

Habitat personnel released beavers along four streams in the Sheridan region during 2024 in cooperation with the Bighorn National Forest and a private landowner. The streams included Owen Creek near Burgess Junction, Muddy and Sourdough creeks west of Buffalo, and Poison Creek near Hazelton. In total, 25 beavers live trapped from Prairie Dog Creek near Sheridan, the Powder River near Arvada, the Green River on the Seedskaadee National Wildlife Refuge, and a pond near Cody contributed to the releases. Consultations also occurred with the Bear-

lodge Ranger District of the Black Hills National Forest on the release of eight beavers along the East Fork Blacktail Creek. These beavers were caught in South Dakota to address nuisance situations. Responses desired through promoting the dam building activities of beavers include reducing high flow velocities, increasing floodplain flows and channel diversity, elevating streamside water tables, increasing soil moisture availability, and improving riparian vegetation communities to benefit fish, amphibians and riparian dependent wildlife.



Beaver dam complex located on Muddy Creek.



Beavers being released in Owen Creek.



SHERIDAN REGION NOXIOUS WEED CONTROL

Program: Habitat and Access
Project Leads: Nathan Lindsey
Project Goals: Goal 2

Annually around 1,000 acres of invasive plants are treated each year by Sheridan Region Habitat & Access personnel and local Weed and Pest districts on the 6 WHMAs within the region. These invasive species are treated using chemical, mechanical, and biological methods to

help reduce the occurrence of these species. Control of these invasive species will enhance wildlife habitats by reducing competition with native forage and desired annual and perennial plants, allowing desired species to thrive.

SHERIDAN REGION WHMAS

Program: Habitat and Access
Project Leads: Nathan Lindsey
Project Goals: Goal 1

Annual maintenance and improvements continued on the six WHMAs in the Sheridan Region in 2024. The Kerns, Amsden, Bud Love, Ed O. Taylor, Ellis and Sand Creek WHMAs received annual fence maintenance on a total of 40 miles to reduce trespass livestock and minimize wildlife conflicts with private landowners. 104 acres of irrigation wa-

ter rights were spread on the Amsden and Bud Love WHMAs. Annual parking lot and road maintenance was performed. Over 20,000 acres of Commission managed property rights were monitored. Approximately 300 acres of noxious weeds were treated by Game and Fish personnel and contract applicators.



Performing annual maintenance on Sheridan Region WHMAs.



Performing annual maintenance on Sheridan Region WHMAs.



Performing annual maintenance on Sheridan Region WHMAs.



SIXMILE CREEK LOW-TECH HABITAT RESTORATION

Program: Terrestrial Habitat

Project Leads: Todd Caltrider

Project Goals: Goal 2

Funding Partner(s): Sheridan Land Trust, Game and Fish Trust Fund

Sixmile Creek is an ephemeral stream that lies northeast of Ranchester. This drainage provides excellent habitat for a variety of wildlife species, including sharp-tailed grouse, turkeys, and white-tailed and mule deer. The landowners on Sixmile Creek noticed that some of the intermittent draws at the head of Sixmile Creek were starting to exhibit early signs of incision and headcutting. In effort to preserve the hydrologic function of the Sixmile drainage, the Masters Ranch partnered with the Sheridan Community Land Trust (SCLT) and Game and Fish to install Zeedyk structures in the degraded draws in the Sixmile drainage. The purpose of these structures is to collect sediment, and reduce erosion impacts associated with drainage channeling and headcutting. In the late fall of 2024, the SCLT hired the Montana Conservation Corps to build 78 Zeedyk structures in impaired drainages in Sixmile Creek. Next year, SCLT plans on installing another 23 structures in the Sixmile Creek drainage to complete the project. Funds for this project were provided by Game and Fish and the SCLT.



Zuni bowl in Sixmile Creek Drainage.

SOLDIER CREEK DOWNER DIVERSION REHABILITATION AND FISH PASSAGE

Program: Aquatic Habitat

Project Leads: Travis Cundy

Project Goals: Goal 3

Funding Partner(s): Private landowners, Wyoming Dept of Agriculture Water Quality, WGFD Trust Fund, NRCS, WWNRT, SCCD

During fall and early winter 2024, a roughened fish passage ramp was constructed to provide upstream fish passage at the Soldier Creek Downer Diversion. A new diversion intake structure will be completed in 2025. The ramp reconnected 2.4 stream miles downstream of the diversion to 3.7 miles upstream of the diversion. This reconnection benefits Brown Trout and native fishes that pass between Soldier and Goose creeks. The Sheridan County Conservation District administered the rehabilitation funding efforts and the Downer Ditch Company led the

construction with additional oversight from the NRCS. Wagner Ranch Services was contracted to complete construction. Funding partners included the Downer Ditch Company landowners, Sheridan County Conservation District, WY Department of Agriculture, Game and Fish through the habitat trust fund, WWNRT, Wyoming Water Development Commission Small Waters Grant program, and USDA EQIP program and WY Association of Conservation District design assistance funding administered through the NRCS.



Fish passage ramp constructed downstream of the Downer Diversion on Soldier Creek (photo courtesy of the Sheridan County Conservation District).



BEAVER CREEK SLOPE CURL-LEAF MOUNTAIN MAHOGANY RESTORATION II

Program: Terrestrial Habitat

Project Leads: Todd Caltrider

Project Goals: Goal 2

Funding Partner(s): BLM, WBGGLC, Game and Fish Mule Deer Initiative

The Southern Bighorn Mountains Curl-leaf Mahogany Restoration project is a long term effort initiated by Game and Fish and the BLM. This project started in 2011 as a response to the Outlaw Cave Fire in 2006, where 815 acres of curl-leaf mountain mahogany stands were lost due to wildfire. Although wildfire is a natural part of the ecosystem, increased conifer encroachment in curl-leaf mountain mahogany stands increased the ability of wildfire to effectively burn and kill large stands of curl-leaf mountain mahogany. Following the fire, there has been observed regeneration of curl-leaf mountain mahogany, but recruitment is slow and sparse in density compared to the original stands. Jellison et al. (1997) found curl-leaf mountain mahogany to be crucial winter forage for mule deer within the Middle Fork Powder River Management Area (part of this project area). Protecting curl-leaf mountain mahogany stands from catastrophic wildfires is critical to protecting mule deer winter forage resources in the southern Bighorn Mountains. Since 2011, a total of 3,542 acres of mountain mahogany habitat has been treated by removing conifer encroachment. Conifers have been mechanically removed by chainsaw hand crews. This project is

a continuation of past efforts to reduce fuel loads in curl-leaf mountain mahogany stands. During the summer of 2018, the BLM Worland fuels crew removed 256 acres of conifer encroachment along the Slip Road area. In summer of 2019, Game and Fish hired contractors to remove conifers from 532 acres of curl-leaf mountain mahogany on the south end of Gardner Mountain. Additional conifer removal was completed in 2020 on Gardner Mountain, with a total of 167 acres of curl-leaf mountain mahogany treated for conifer encroachment. In 2021, 857 acres of curl-leaf mountain mahogany was treated for conifer encroachment on EK Mountain. Due to the high levels of conifer density on EK Mountain, slash was piled instead of lopped and scattered to reduce ground fuels in the project area. During the winter of 2023, 400 acres of slash piles were burned on State and BLM land on EK Mountain, further reducing fuel loading and wildfire risk on winter range for mule deer. In addition, conifer removal took place in 349 acres of curl-leaf mountain mahogany stands on Beaver Creek Slope during the summer of 2023. In the spring of 2024, an additional 227 of conifer removal occurred in curl-leaf mountain mahogany stands.



Conifer Removal on Beaver Creek Slope.



APPENDIX A

STATEWIDE HABITAT PLAN IMPLEMENTATION

The SHP is implemented annually by biologists and managers from throughout Game and Fish. The Habitat Technical Advisory Group, comprised of program managers, is responsible for updating the plan, annually reviewing project proposals, making funding recommendations, and ensuring that WGFD activities are directed toward achieving SHP goals, strategies, and actions. To track progress toward achieving SHP actions, in 2021 the HTAG began assessing progress on goals as a standing agenda item for each meeting. The team started by reviewing progress toward Goal 1, Strategies I-III in March and progressed through Goal 2, Strategy II at the December meeting. Meeting notes document discussions and status. The team identified progress occurring on 23 of the 30 Strategies or Actions reviewed (77%). This includes progress on seven of nine actions considered especially relevant to address climate change resiliency. Actions for which little to no progress has occurred include:

- Goal 1.IV.C. Identify IF segments for assessment to determine if they have been impacted by junior water users.
- Goal 1.V.A. Create or re-assign a position devoted to water management issues.
- Goal 1.V.C. Work with partners and legislators to find and implement water management solutions.
- Goal 1.V.E. Pursue acquisition of water rights as water law and public acceptance allow.
- Goal 2.I.B. Conduct a statewide riparian habitat assessment to determine resilience and climate vulnerability.
- Goal 2.I.C. Conduct a widespread stream channel assessment to locate and characterize incisions and other functional aspects and identify areas with significant departure from functioning condition.
- Goal 2.I.F. Promote and support the development and refinement of stream, riparian and wetland GIS data products like the National Hydrography Database.

Lack of progress on the Goal 1 actions above is unlikely until additional staff time can be secured with a new position or with re-assignment of duties. The Goal 2 actions should be considered prospects for research projects. In 2022-25 the HTAG will continue reviewing and pushing for progress on all SHP actions.



APPENDIX B

HABITAT PROGRAM EXPENDITURES

Game and Fish funds (figures rounded to the nearest \$1,000.00) expended for the on-the-ground projects primarily directed at implementation of Strategic Habitat Plan (SHP) goals and management on Game and Fish Commission lands during calendar year 2024 (these figures do not include personnel salaries, supplies, materials and equipment used for routine Game and Fish maintenance and operation an Game and Fish Commission property tax and lease payments):

Game and Fish Funds Expended on SHP Goals: \$4,127,000

Non-Game and Fish funds expended for implementation of SHP goals for calendar year 2024 from or in collaboration with various sources including: 1) Wyoming Wildlife and Natural Resources Trust (WWNRT), 2) USDA Farm Bill federal government funds, 3) other federal government funding programs, 4) other state and local government funding sources, 5) non-governmental organizations, 6) Wyoming Governors Big Game License Coalition (WGBGLC), 7) private landowner contributions (including in-kind), 8) corporations and businesses, 9) private donors, and 10) Wyoming State Legislative Capitol Construction funds:

Non-Game and Fish Funds Expended on SHP Goals: \$10,989,000

Grand Total for SHP Goals: \$15,116,000

Game and Fish applied funding from outside sources amounting to approximately \$2.67 for each Game and Fish dollar expended for on-the-ground fish and wildlife habitat activities. This outside funding is critical for implementing the SHP and conserving our wildlife resources. Overall, personnel directly involved in implementing SHP goals oversaw spending of approximately \$10,425,000 of Game and Fish regular maintenance and operating funds, State Wildlife Grants from US Fish and Wildlife Service and Game and Fish Trust Fund monies. This figure includes wages, benefits, equipment, operation expenses, supplies and on-the-ground improvement material expenses allocated as follows: approximately 45% for personnel, which includes habitat inventories, monitoring, project contract oversight, project design and implementation and promoting collaborative habitat management efforts with the general public, conservation partners, private landowners and land management efforts with the general public, conservation partners, private landowners and land management agencies. Without the dedication and passion of field personnel, none of these habitat projects would happen. The remainder of the funding was allocated as follows: 4% for vehicles and heavy equipment and 51% for materials and supplies.

Personnel overseeing the Game and Fish Education, Information and Publications Programs spent approximately 12.5% of their time in 2024 on SHP activities totaling just over \$427,000 of regular Game and Fish maintenance and operating funds. Information and education efforts are critical for maintaining current and future, social, political and financial support for wildlife habitat program related efforts.

Lastly, personnel within the Lands Administration Branch conduct Game and Fish Commission property rights monitoring, property rights acquisition and disposal, payment of Game and Fish Commission property taxes on each county and lease payments to the Office of State Lands and Investments (OLSI). Property taxes paid to counties by the Game and Fish Commission in 2024 totaled approximately \$1,004,833. These taxes include Game and Fish Commission owned state offices, fish hatcheries, bird farms, houses, Wildlife Habitat Management Areas (WHMA) and Public Access Areas (PAA). During 2024, Game and Fish costs for leases totaled approximately \$1,464,572. The majority of lease payments were made to the OLSI involving State Land leases associated with the WHMAs and PAAs.



APPENDIX C

HPP WER TABLES

During the calendar year 2024, HPP completed 527 Wildlife Environmental Reviews (WERs) for federal, state, local government and private sector proponents. The majority of these reviews were completed for private sector and state proponents (46% and 33%, respectively). HPP completed 216 WERs for SGEO and MCEO compliance. The project types most frequently reviewed by HPP were related to roadwork/fences, mining, telecommunications, oil and gas, and renewable energy.

Federal WERs

Sender	# of WERs	Percentage	Percentage of Total
Bureau of Land Management	31	58%	6%
Bureau of Reclamation	2	4%	<1%
Federal Energy Regulatory Commission	2	4%	<1%
National Park Service	1	2%	<1%
U.S. Army Corps of Engineers	4	8%	1%
U.S. Fish and Wildlife Service	3	6%	1%
U.S. Forest Service	10	19%	2%

State WERs

Sender	# of WERs	Percentage	Percentage of Total
Wyoming Department of Environmental Quality	20	11%	4%
Wyoming Office of State Lands and Investments	61	35%	12%
Wyoming State Engineer's Office	8	5%	2%
Wyoming Department of Transportation	77	44%	15%
Wyoming Game and Fish Department	9	5%	2%

Local Government WERs

Sender	# of WERs	Percentage	Percentage of Total
City/Town	35	60%	7%
County	23	40%	4%

Private Sector WERs

Sender	# of WERs	Percentage	Percentage of Total
Company	201	83%	38%
Consultant	37	15%	7%
Landowner	3	1%	1%



APPENDIX D

HABITAT PROGRAM ACCOMPLISHMENTS: THE NUMBERS

Activities resulting in on-the-ground accomplishments and promotion of collaborative habitat efforts, directed toward the habitat program during the calendar year 2024 are summarized below.

Aquatic habitat

Activity	Metric	2024	2020-2024 Average
Benthic Invertebrate Samples	Count	15	15.00
Fish barrier installed	Count	0	0.40
Fish screens installed	Count	1	0.60
Fish tracking or entrainment investigations	Count	1	5.40
Instream flow segments filed	Count	0	1.40
	Miles	0.0	5.39
Instream flow studies (new 2020)	Count	7	2.40
Post-stream project reach channel/ riparian monitoring	Miles	16.6	20.92
Project monitoring - detailed stream channel (combined abv '24)	Count	26	24.60
	Miles		15.37
Public Fishing access projects (Boating access improvements)	Count	6	7.20
Stream flow measurements	Count	48	34.60
Stream reach assessment (Rosgen survey, HQL, passage, or restoration topo survey/assessment)	Count	43	35.80
	Miles	8.3	8.10
Stream restoration or fish passage design	Count	47	31.00
	Miles	6.1	4.40
Stream restoration projects maintained (New 2020)	Count	6	3.60
	Miles	2.1	1.62
Stream restorations or bank enhancements	Count	20	19.40
	Miles	4.4	4.08
Stream structures installed	Count	5	29.80
Stream structures maintained (Stream Restoration Structures)	Count	2	2.20
Stream temperature monitoring sites	Count	53	36.40
Suspended Sediment Sampling (New 2021)	Count	0	13.50
Water temperature measurements	Count	53	42.80
Watershed stream assessments (WHAM)	Count	6	18.00
	Miles	10.5	70.00
Total stream miles		116.2	212.0



Terrestrial habitat

Activity	Metric	2024	2020-2024 Average
Annual Vegetation Production/Utilizations Sites	Count	33	24.00
Aspen Rapid Habitat Assessment	Count	5	34.40
	Acres	66.00	3,089.24
Aspen ripping	Acres	0.00	1.00
Aspen, cottonwood, willow browse monitoring	Count	0	0.60
	Miles	0.00	1.58
	Acres	0.00	1,011.20
BDAs Installed	Count	58	47.40
	Miles	2.65	3.62
BDAs Maintained	Count	135	73.40
Beaver transplanted (Assuming 100 feet of direct impact per beaver)	Count	15	15.60
	Miles	15.30	7.29
BLM RMP or USFS Cooperator Status	Count	2	3.80
Conservation Easements Acquired	Count	1	0.60
	Acres	4,000.00	1,651.30
Conservation easements in process, coordinated with partners	Count	0.00	0.60
	Acres	0.00	29.78
Exclosures Maintained	Count	24.00	25.20
Feedground Maintenance	Count	23.00	21.40
Fee Title Land Acquisition	Count	1	0.60
	Acres	2,660.00	1,155.94
Fence maintenance	Count	30	37,027.60
	Miles	85.95	124.83
Fences installed or converted	Miles	1.06	60.43
Field Cooperative Research Projects	Count	31	55.80
Funding Applications Prepared for Other Entities (number)	Count	48.00	27.20
Funding Sources/Contracts/Grants Administered	Count	148.00	192.60
Group training and continuing education	Count	13.00	18.80
Herbicide vegetation to thin sagebrush	Acres	0.00	245.90
Herbicide weed treatments	Acres	32,834.00	80,169.64
Hunting Access Development or Improvement (New 2021)	Count	4	1.50
Land management plan participation (BLM, RMP, USFS Cooperator)	Count	0	0.80
Livestock Grazing Management Plans or Wildlife Habitat Stewardship Plans	Count	6	13.20
	Acres	11,090.00	117,331.00
Major collaborative effort	Count	16	31.00
Management monitoring - detailed riparian (Riparian habitat assessment < 0.5 mile wide (along stream))	Count	0	5.08
	Miles	0.00	0.62
Mechanical shrub treatment (new 2020)	Acres	971.75	1,699.32
Mechanical tree removal	Acres	9,262.00	5,846.00
Monitor livestock trailing easements/ trespass livestock	Count	5	69.60
Mowing, chopping, and Lawson aerator treatments	Acres	1,006.00	2,495.80



Activity	Metric	2024	2020-2024 Average
Noxious weed control	Acres	30.00	52,052.56
Post-management prescription monitoring	Count	15	15.60
	Acres	99,331.00	95,173.60
Post-vegetation treatment monitoring (new 2020)	Count	70	95.00
	Acres	106,743.00	136,766.98
Pre-treatment monitoring (new 2020)	Count	25	92.60
	Acres	25,848.00	33,728.52
Prescribed burns	Acres	4,013.00	1,180.00
Private landowner contacts	Count	201	236.80
Private landowner/permittee contacts yielding projects	Count	82	84.60
Rangeland Rapid Habitat Assessment	Count	10	36.20
	Acres	4,293.00	17,355.94
Riparian habitat protection, enhancement, management	Count	22	7.40
	Miles	1.00	1.35
	Acres	0.00	10.07
Riparian Rapid Habitat Assessment	Count	3	11.20
	Miles	0.00	1.16
	Acres	106.00	839.71
Riparian research studies	Count	0	2.20
Special Rapid Habitat Assessment	Count	4	9.20
	Acres	500.00	2,758.72
Spring developments	Count	0	0.00
Technical assistance requests	Count	104	83.00
Trees or shrubs planted	Count	219	7,293.60
	Acres	8.20	3,059.65
Upland exclosure developed (new 2020)	Count	1	4.00
	Acres	0.94	11.83
Upland grass, forb and food plot seeding	Acres	152.00	260.00
Upland habitat inventories (GIS) (Landscape level habitat inventory (GIS, etc.))	Count	0	19.60
	Acres	0.00	80,420.80
Upland Vegetation/Habitat treatment Monitoring Sites	Count	0	0.00
USDA Farm Bill Program Contract Involvement	Count	10	9.20
Water guzzlers or water tanks installed	Count	6	5.80
Water pipelines installed	Miles	3.62	1.34
Water wells converted to solar pumps	Count	0	1.20
Water wells drilled	Count	1	1.80
Wetland delineations	Count	5	4.00
	Acres	3.70	6.15
Wetland development or major renovation	Count	1	4.00
	Acres	1.00	176.40
Zeedyk Structure	Count	103	53.50
	Feet	3,317.00	1,733.50
Total acres		262,044.19	685,126.80



Migration

Activity	Metric	2024	2020-2024 Average
Fish ditch entrainment (Fish entrainment assessments)	Count	7	7.00
Fish movement monitoring	Count	1	3.40
Fish passage barriers inventoried (Fish Passage Inventory)	Count	9	161.60
Fish passage structures installed	Count	13	10.00
Fish Passage structures maintained	Count	29	13.60
Fish Passage structures monitored	Count	11	19.60
Fish passage upstream miles connected	Miles	49.30	73.61
Wildlife crossing assessment	Count	7	3.80
Wildlife Crossing Maintenance	Count	24	
Wildlife crossing monitoring	Count	6	9.80
Wildlife crossing structure installed and enhanced	Count	0	8.60
Wildlife Crossing Structure Installed or Enhanced, Over or Underpass	Count	0	4.50
	Miles	0.00	8.35
Wildlife Crossing Structure Installed or Enhanced, fence only	Count	14	7.50
	Miles	28.34	15.26



APPENDIX E

ACCOMPLISHMENTS ON WYOMING GAME AND FISH DEPARTMENT-OWNED LAND

Game and Fish accomplished the following metrics on Commission-owned land in 2024.

Activity	Metric	2024	2020-2024 Average
Game and Fish Managed Lands Access Improvements	Count	24	13.80
Game and Fish Managed Lands Farming Contract	Count	1	9.20
	Acres	58.00	902.60
Game and Fish Managed Lands Feedground Construction	Count	1	1.00
Game and Fish Managed Lands Fence Maintained	Count	23	56.20
	Miles	77.70	218.88
Game and Fish Managed Lands Fences Installed or Converted	Count	5	4.00
	Miles	8.74	8.78
Game and Fish Managed Lands Food Plot	Count	6	10.60
	Acres	6.00	192.60
Game and Fish Managed Lands Forage Reserve	Count	0	0.20
	Acres	0.00	7,600.00
Game and Fish Managed Lands Grazed	Acres	14,037.00	37,146.00
Game and Fish Managed Lands Irrigated	Acres	50.00	840.00
Game and Fish Managed Lands Irrigation Upgrades	Count	9	4.60
	Feet	156.00	40,327.20
Game and Fish Managed Lands livestock/Forage Reserve/ Meadow Rejuvenation Grazing Administered	Count	0	11.00
	Acres	0.00	47,787.40
Game and Fish Managed lands meadow enhancement	Count	1	3.25
	Acres	40.00	124.75
Game and Fish Managed Lands Meadow Mowed / Farmed	Count	19	18.20
	Acres	1,178.00	1,155.60
Game and Fish Managed Lands Noxious Weed Control	Count	40	82.00
	Acres	44,470.60	13,045.80
Game and Fish Managed Lands Prescribed Burn (new 2020)	Acres	0.00	73.20
Game and Fish managed lands spring developments	Count	0	1.40
Game and Fish managed lands water control structures	Count	9.00	10.80
Game and Fish managed lands weed treatment	Count	0	21.80
	Acres	0.00	38,165.60
Game and Fish managed lands wells converted	Count	0	0.80
Game and Fish Property Right Monitoring	Count	103	87.80
	Acres	6,028.00	74,800.40
Game and Fish Road Maintenance (New 2020)	Count	19	63.00
	Miles	83.90	94.45
Game and Fish sign installation	Count	6	125.20



APPENDIX F

SHP REPORT MILES AND ACRES SUMMARY METHODOLOGY

Miles and acres summaries reported in the annual Statewide Habitat Plan Report, and used for reporting progress toward department state-wide plan goals, are generated from information provided by aquatic, terrestrial and habitat and access biologists. Biologists, as part of their annual reporting duties, enter information into the SHP Habitat Plan project database (also referred to as the Project Viewer). This web-based database was developed and is maintained by the Wyoming Geographic Information Science Center at the University of Wyoming. Project data entry occurs in February and covers activities from the previous calendar year. Entries are solicited via an early January email request, typically from the Statewide Habitat Manager Office Manager, to employees who work on habitat issues. Biologist enter information about projects (project defined as an effort requiring at least three days effort), and “widgets” (efforts less than 3 days or items that are not project-related). The entry information for projects includes text and photos to use in the annual printed report. Other entered information identifies the project lead, funding partners and amount expended in the calendar year, and goals.

Source data for miles and acres is from project activities and widgets entered by biologists. Biologists identify a category for each project entry: Assessment and Inventory, Habitat Protection, Maintenance, Monitoring, Project Implementation, Research, and Technical Assistance. Within each category, biologists choose project activity type. The entry is completed by entering a point, or drawing a line or polygon indicating project location and extent. Depending on activity type, the user is prompted to indicate a count (e.g. number of structures), and an amount (e.g. stream miles of restoration). The program also calculates counts and amounts from the number and extent of points, lines or areas. Most miles and acres come from projects; however, there are a few monitoring activities under widgets that also contribute. These include: “Post-stream project reach channel/riparian monitoring” (miles), “post-management prescription monitoring” (acres), “post-vegetation treatment monitoring” (acres), and “post-treatment monitoring” (acres).

Three individuals, consisting of the aquatic and terrestrial program managers, and the habitat and access section chief, review all entries

from the employees in their respective programs. Reviewers edit report text and ensure all the fields are fully completed. This includes ensuring adequate photos are attached and shape files were created or attached. Entries are examined to ensure the proper category and activities are identified for the given project. For example, if a project is entered under the “Project Implementation” category, but no on-the-ground work occurred in the calendar year, the category might be changed to “Assessment and Inventory.” For individual biologists, program managers review projects and widgets to ensure that the same activity is not counted twice. When done reviewing, program managers either send the project back to the biologist for further editing or approve it. Approving the project signals the Office Manager that the report text is ready for compilation into the annual report, and the funding and activity information is ready for summarization.

The terrestrial and aquatic program managers perform independent summaries of miles and/or acres activities, focused on the activities that largely occur within their respective programs. The terrestrial program manager compiles the acres summary and the aquatic program manager completes the miles of stream summary. Summaries are generated through a reporting feature in the SHP database that generates a CSV file containing all project and widget activities.

For compilation of aquatic miles, the CSV file is sorted by the Aquatic Habitat Program manager to isolate the ten stream length activities to be summed (Table 1). Entered stream distances, rather than stream distances calculated from traced line segments, were used to determine overall total stream mileage. Ideally, calculated values would be used because they can easily be verified. However, biologists commonly already have previously measured stream distances that accurately represent lengths. In fact, these are often directly measured in the field. Therefore, only entered values were used.

For compilation of riparian and upland habitat acres, the CSV file is sorted by the Terrestrial Habitat Program manager to isolate the 27 activities to be summed (Table 2). Entered acres, rather than acreage calculated from traced polygons, were used to determine overall total acres treated.

Table 1. Categories and activities summed to generate miles of stream habitat activity.

Category	Activity
Assessment and inventory	Stream reach assessment (Rosgen survey, HQL, etc.)
	Stream restoration or passage design
	Watershed assessment (WHAM)
Project implementation	Beaver dam analogs installed (stream distance influenced)
	Beaver restoration (stream distance influenced)
	Fish passage miles connected
	Stream restoration or bank enhancement
	Riparian protection, enhancement or management (<0.5 mile wide alongstream)
Monitoring	Post-stream project reach channel/riparian monitoring
Habitat protection	Instream flow filing segments



Use the following tables for acres.

Table 2. Categories and activities summed to generate acres of riparian and upland habitat activity.

Category	Activity
Assessment and inventory	Aspen Rapid Habitat Assessment
	Rangeland Rapid Habitat Assessments
	Riparian Rapid Habitat Assessments
	Special Rapid Habitat Assessments
Project implementation	Herbicide treatment to thin sagebrush
	Herbicide weed treatments
	Livestock grazing management plans or wildlife habitat stewardship plans
	Mechanical shrub treatment
	Mechanical tree removal
	Mowing, chopping, and Lawson aerator treatments
	Noxious weed control
	Prescribed burns
	Riparian habitat protection, enhancement, and management
	Trees or shrubs planted
	Upland exclosure developed
	Upland grass, forb, and food plot seeding
	Upland habitat assessment (GIS)
	Wetland development or major renovation
	WGFC managed lands farming contract
	WGFC managed lands food plot
	WGFC managed lands forage reserve
	WGFC managed lands grazed
	WGFC managed lands irrigated
	WGFC managed lands meadow mowed/farmed
	WGFC managed lands noxious weed control
	WGFC managed lands weed treatment
	WGFC prescribed burns
Monitoring	Aspen, cottonwood, and willow browse monitoring
	Post-management prescription monitoring
	Post-vegetation treatment monitoring
	Pre-vegetation treatment monitoring
Habitat protection	Conservation easements in process and acquired
	Fee title acquisition



PERSONNEL DIRECTORY

Employee	Division	Region	Position	Phone number
Janet Milek	Communications	Casper	Public Information Specialist	307-233-6404
Tara Hodges	Communications	Cody	Information and Education Specialist	307-586-2866
Regina Dickson	Communications	Green River	Information and Education Specialist	307-870-7461
Amanda Fry	Communications	Statewide	Public Information Officer	307-777-4637
Raegin Akhtar	Communications	Jackson, Pinedale	Public Information Specialist	307-249-5811
Rene Schell	Communications	Lander	Information and Education Supervisor	307-332-2688
Hannah Smith	Communications	Laramie	Information and Education Specialist	307-262-0229
Christina Schmidt	Communications	Sheridan	Public Information Specialist	307-672-7418
Erin Leonetti	Fish	Cody	Fish Passage Biologist	307-527-7322
John McCoy	Fish	Cody	Aquatic Habitat Biologist	307-473-3424
Laura Burckhardt	Fish	Cody	Aquatic Habitat Biologist	307-250-1213
Travis Cundy	Fish	Cody	Aquatic Habitat Biologist	307-672-7418
Lara Gertsch	Fish	Cody	Aquatic Habitat Biologist Supervisor	307-248-8068
Jim Wasseen	Fish	Green River	Wyoming Landscape Conservation Initiative Coordinator	307-352-0313
Del Lobb	Fish	Statewide	Instream Flow Biologist	307-777-4673
Paul Dey	Fish	Statewide	Aquatic Habitat Manager	307-777-4505
Sydney McAndrews	Fish	Statewide	Fish Technician	307-777-4555
Holden Reinert	Fish	Jackson	Aquatic Habitat Biologist	307-249-5818
Carli Baum	Fish	Lander	Aquatic Habitat Biologist	307-335-2645
Nick Scribner	Fish	Lander	Fish Passage Coordinator	307-335-2641
Steve Gale	Fish	Laramie	Aquatic Habitat Biologist	307-721-1381
Wendy Estes-Zumpf	Fish	Laramie	Statewide Herpetological Coordinator	307-745-4046
Luke Schultz	Fish	Pinedale	Aquatic Habitat Biologist	307-367-5633
Chris Henkel	HPP	Statewide	Staff Biologist	307-777-2533
Lauren Throop	HPP	Statewide	Staff Biologist	307-777-4509
Will Schultz	HPP	Statewide	HPP Supervisor	307-777-4587
Ross Crandall	HPP	Pinedale	Staff Biologist	307-367-4347
Angelique Curtis	HPP	Statewide	Staff Biologist	
Mac Foos	Services	Casper	Statewide Habitat Access Crew, Biologist	307-233-6404
Matthew Pollock	Services	Casper	Habitat and Access, Coordinator	307-473-3426
Stryker Davies	Services	Casper	Statewide Habitat and Access Biologist	307-473-3400
Todd Grosskopf	Services	Cheyenne	Statewide Habitat Access Crew, Supervisor	307-777-4537
Brad Sorensen	Services	Cody	Habitat and Access Supervisor	307-527-7322
Craig Swanson	Services	Cody	Habitat and Access Biologist	307-527-7322
Eric Shorma	Services	Cody	Habitat and Access Biologist	307-527-7125
Sam Lockwood	Services	Green River	Habitat and Access Coordinator	435-729-0951
Crystal Turley	Services	Statewide	Lands Administration, Land Coordinator	307-777-4508
Darby Schock	Services	Statewide	Sr. Professional Land Surveyor	307-777-4622



Employee	Division	Region	Position	Phone number
Loren Woodin	Services	Statewide	Conservation Engineering Branch Chief	307-777-4582
Ray Bredehoft	Services	Statewide	Deputy Chief, Services Division	307-777-4682
Roy Weber	Services	Statewide	Lands Branch Chief	307-777-3356
Derek Lemon	Services	Jackson	Habitat and Access Coordinator	307-249-5820
Jacob West	Services	Jackson	Habitat and Access Specialist	307-254-0249
Kade Clark	Services	Jackson	Statewide Habitat Access Crew, Coordinator	307-259-5812
Brian Parker	Services	Lander	Habitat and Access Supervisor	307-335-2612
Brian Rognon	Services	Lander	Lands Administration, Appraisal Reviewer	307-335-2606
Justin Rhine	Services	Lander	Habitat and Access Biologist	307-332-2688
Kevin Howard	Services	Lander	Habitat and Access Biologist	307-455-2421
Tyler Westlake	Services	Lander	Statewide Habitat and Access Specialist	308-430-5282
Miles Proctor	Services	Lander	Habitat and Access Biologist	307-455-2421
Jerry Cowles	Services	Laramie	Habitat and Access Supervisor	307-721-1378
John Henningsen	Services	Laramie	Habitat and Access Specialist	307-721-7939
Micah Morris	Services	Laramie	Habitat and Access Biologist	307-721-1388
Nathan Baas	Services	Laramie	Habitat and Access Facility Maintenance Specialist	307-721-7935
Mark Cufaude	Services	Laramie	Habitat and Access Biologist	307-326-3225
Jacob Sorensen	Services	Laramie	Habitat and Access Biologist	307-532-2387
Daniel McGillivray	Services	Pinedale	Project Engineer	307-367-4347
Kyle Berg	Services	Pinedale	Habitat and Access Biologist	307-367-4347
Miles Anderson	Services	Pinedale	Habitat and Access Supervisor	307-367-4347
Nathan Lindsey	Services	Sheridan	Habitat and Access Coordinator	307-675-5483
Brandon Werner	Wildlife	Casper	Wildlife Management Coordinator	307-262-9203
Justin Binfet	Wildlife	Casper	Deputy Chief of Wildlife	307-757-5914
Willow Bish	Wildlife	Casper	Terrestrial Habitat Biologist	307-436-9617
Corey Class	Wildlife	Cody	Wildlife Management Coordinator	307-527-7125
Jerry Altermatt	Wildlife	Cody	Terrestrial Habitat Biologist	307-527-7125
Sam Stephens	Wildlife	Cody	Wildlife Biologist	307-272-2470
Ashleigh Rhea	Wildlife	Cody	Wildlife Biologist	307-323-8243
Catrina Johnson	Wildlife	Green River	Wildlife Technician	307-870-433
Kevin Spence	Wildlife	Green River	Terrestrial Habitat Biologist	307-875-3225
Sean Yancey	Wildlife	Green River	Wildlife Management Coordinator	307-875-3223
Jeff Short	Wildlife	Green River	Wildlife Biologist	307-782-6810
Chelsea Ramage	Wildlife	Statewide	Office Manager	307-777-4576
Ian Tator	Wildlife	Statewide	Terrestrial Habitat Supervisor	307-777-4565
Aly Courtemanch	Wildlife	Jackson	Wildlife Biologist	307-249-5807
Ben Wise	Wildlife	Jackson	Wildlife Disease Biologist	307-723-2383
Cheyenne Stewart	Wildlife	Jackson	Wildlife Management Coordinator	307-249-5810
Gary Fralick	Wildlife	Jackson	Wildlife Biologist	307-883-2998
Amy Anderson	Wildlife	Lander	Terrestrial Habitat Biologist	307-335-2604
Daryl Lutz	Wildlife	Lander	Wildlife Management Coordinator	307-335-2616
Zach Gregory	Wildlife	Lander	Wildlife Biologist	307-455-3205



Employee	Division	Region	Position	Phone number
Embere Hall	Wildlife	Laramie	Science, Research and Analytical Support Unit Supervisor	307-721-2921
Keaton Weber	Wildlife	Laramie	Wildlife Biologist	307-399-2507
Lee Knox	Wildlife	Laramie	Wildlife Management Coordinator	307-721-1386
Ryan Amundson	Wildlife	Laramie	Terrestrial Habitat Biologist	307-331-0787
Britt Burdett	Wildlife	Laramie	Terrestrial Habitat Biologist	307-760-0489
Teal Cufaude	Wildlife	Laramie	Wildlife Biologist	307-326-3020
Brandon Scurlock	Wildlife	Pinedale	Wildlife Management Coordinator	307-367-5631
Dean Clause	Wildlife	Pinedale	Wildlife Biologist	307-367-6755
Jill Randall	Wildlife	Pinedale	Statewide Migration Coordinator	307-367-5628
Sydney Simmerman	Wildlife	Pinedale	Habitat Mitigation Biologist, JIO	307-367-4347
Troy Fieseler	Wildlife	Pinedale	Wildlife Biologist	307-367-5617
Tim Thomas	Wildlife	Sheridan	Wildlife Management Coordinator	307-675-5475
Erika Peckham	Wildlife	Sheridan	Wildlife Biologist	307-670-8164
Todd Caltrider	Wildlife	Sheridan	Terrestrial Habitat Biologist	307-689-3327



ACRONYMS

Acronym	Name
ADA	Americans with Disabilities Act
AHAB	Aquatic Habitat Biologist
ATV	All-terrain vehicle
AUMs	Animal Unit Month
BANCS	Bank assessment for non-point source consequences of sediment
BDA	Beaver dam analog
BLM	Bureau of Land Management
BOR	Bureau of Reclamation
BOW	Bowhunters of Wyoming
CFS	Cubic Feet per Second
CWD	Chronic Wasting Disease
DBH	Diameter at breast height
DU	Ducks Unlimited
GPS	Global Positioning System
H&A	Habitat and Access
HPP	Habitat Protection Program
HTAG	Habitat Technical Advisory Group
I-80	Interstate 80
IAG	Invasive Annual Grass
JIO	Jonah Interagency Office
MDF	Mule Deer Foundation
MDI	Mule Deer Initiative
MFF	Muley Fanatics Foundation
NAWCA	North American Wetlands Conservation Act
NEPA	National Environmental Policy Act
NFWF	National Fish and Wildlife Foundation
NGOs	Non-governmental organization
NRCS	National Resources Conservation Service
PAA	Public Access Area
PAPO	Pinedale Anticline Project Office
PIT Tags	Passive Integrated Transponder
RHA	Rapid habitat assessment
RMEF	Rocky Mountain Elk Foundation
SGCN	Species of Greatest Conservation Need
SHP	Statewide Habitat Plan
THAB	Terrestrial Habitat Biologist
TNC	The Nature Conservancy
TU	Trout Unlimited
US DEQ	US Department of Environmental Quality



Acronym	Name
USFS	U.S. Forest Service
USFWS	US Fish and Wildlife Service
USGS	US Geological Services
UTV	Utility Task Vehicle
UW	University of Wyoming
WER	Wildlife Environmental Reviews
WFW	Water for Wildlife
WGBGLC	Wyoming Governor's Big Game License Coalition
WGFC	Wyoming Game and Fish Commission
WGFD	Wyoming Game and Fish Department
WHAM	Wyoming Habitat Assessment Methodology
WHMA	Wildlife Habitat Management Area
WLCI	Wyoming Landscape Conservation Initiative
WMA	Wildlife Management Area
WSQT	Wyoming Stream Quantification Tool
WWF	Wyoming Wildlife Federation
WWNRT	Wyoming Wildlife and Natural Resource Trust
WY OSLI	Wyoming Office of State Lands and Investments
WyDEQ	Wyoming Department of Environmental Quality
WYDOT	Wyoming Department of Transportation
WySF	Wyoming State Forestry
WyWSF	Wyoming Wild Sheep Foundation

