Wyoming Game and Fish Department FY 18 Annual Report

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Other Locations	Headquarters office is in Cheyenne. Regional offices are in Jackson, Pinedale,
	Cody, Sheridan, Green River, Laramie, Lander, and Casper.

Statutory References:

The Wyoming Game and Fish Commission (Commission) was created and is empowered in Title 23 of Wyoming Statutes. The Wyoming Game and Fish Department (Department) was created and placed under the direction and supervision of the Commission in W.S. § 23-1-401. The responsibilities of the Commission and the Department are defined in W.S. § 23-1-103. The Department is charged with providing "an adequate and flexible system for the control, propagation, management, protection, and regulation of all Wyoming wildlife."

Basic Information:

Number of Employees:

403 (Authorized), 393 Full-time employees as of July 2018.

* Includes permanent, contract, and temporary positions authorized in the FY 18 budget. Any positions added during the budget cycle require Commission authorization or must be funded from supplemental grants.

Clients Served:

The Department's clients include, but are not limited to, Wyoming resident and nonresident hunters, anglers, and wildlife enthusiasts.

Commission:

The Department operates under the direction of the Commission. Seven members are appointed by the Governor for six-year terms with Senate confirmation. The Commission meets six times annually.

Budget Information/Expenditures for FY 18:

The Department budget for FY 18 was \$82,544,637*.

*Includes Wildlife Trust, Access Funds, State Wildlife Grants, competitive grants, and nonrecurring projects.

Core Business/Primary Functions:

- We conserve wildlife by providing wildlife and wildlife habitat management, including scientific data collection, law enforcement, wildlife/human conflict management, research, habitat conservation, and wildlife health services.
- We serve people by managing wildlife populations, providing access for wildlife-associated recreation, and providing information and education about wildlife and wildlife-related issues.

Performance Highlights/Major Accomplishments for FY 18:

Big Game Management:

The Department monitors abundance and diversity of over 800 wildlife species. Managing big game hunting is a major management activity that creates revenue from the sale of big game licenses. In the absence of management, many big game populations can exceed predetermined population objectives and can cause damage to agricultural crops and other human conflicts.

Regional terrestrial wildlife biologists, regional game wardens, and regional terrestrial wildlife administration manage big game species using hunting. Hunting seasons and harvest quotas are the primary tools for managing big game species at or toward their established objectives. Data reported below are from post-season population estimates found in final big game Job Completion Reports (2013-2017).

Performance Measure: Percentage of big game herds within 20 percent of population objective.

Target:

Manage \geq 30 percent of big game herds within 20 percent of their population objectives.



Trend Line:

Of the total 140 herds tracked for this report, five herds (3.6 percent) had incomplete data including two herds with no established objectives. Of the 135 herds with complete data, 71 herds (52.6 percent) were at objective (+/- 20 percent for population or trend objectives), 22 (16.3 percent) were above objective, and 42 (31.1 percent) were below objective.

Population Objective						
	At Objective	Below Objective	Above Objective	Incomplete Data		
Bighorn Sheep	1	2	0	0		
Elk	0	0	7	0		
Moose	0	1	0	0		
White-tailed Deer	1	0	0	2		
Mule Deer	18	16	0	0		
Pronghorn	22	4	7	0		
TOTAL	42	23	14	2		
Trend Count Objective						
Bighorn Sheep	2	0	0	1		
Bison	1	0	0	0		
Elk	12	2	5	2		
Mountain Goat	1	0	1	0		
Moose	0	3	2	0		
Pronghorn	1	0	0	0		
TOTAL	17	5	8	3		
Landowner/Hunter Satisfaction Objective						
Pronghorn	3	3	NA	0		
Elk	4	3	NA	0		
Mule Deer	0	3	NA	0		
White-tailed Deer	1	1	NA	0		
TOTAL	8	10	NA	0		
Limited Opportunity Objective						
Moose	1	3	NA	0		
Bighorn Sheep	3	1	NA	0		
TOTAL	4	4	NA	0		
Grand Totals						
Bighorn Sheep	6	3	0	1		
Elk	16	5	12	2		
Bison	1	0	0	0		
Mountain Goat	1	0	1	0		
Moose	1	7	2	0		
White-tailed Deer	2	1	0	2		
Mule Deer	18	19	0	0		
Pronghorn	26	7	7	0		
TOTALS	71	42	22	5		
PERCENT ¹	52.6%	31.1%	16.3%			

 Table 1. Breakdown of big game herd units "At", "Below", or "Above" objective by species and objective category.

¹ There are 135 herds with complete data. Percentages presented for herds "At", "Below", and "Above" objective are based on herds with complete data.

Many elk populations remain above objective despite liberal antlerless harvest in recent years, while substantial percentages of deer and moose herds remain below objective. Drought and severe winters impact productivity of deer and pronghorn and can severely reduce adult and juvenile overwinter survival. Moose and bighorn sheep populations have been affected by disease and poor habitat conditions and are below objective. The Department manages some herds below objective in drought years because invasive species and urban development have combined to decrease available habitat for wildlife. At best, it will likely take several consecutive years of normal to above normal precipitation to improve habitat to levels that can support current objectives.

Major Accomplishments:

The trend line for at objective herds has increased with the additional objective categories (trend count, landowner/hunter satisfaction, and limited opportunity including the post-hunt population objective). Most population objectives have been reviewed and modified in the last five years to reflect current habitat capacities.

A total of eleven herd objectives were reviewed in 2017, with objectives changed in three herds, and eight were left unchanged. Wildlife biologists and game wardens reviewed population objectives and made recommendations to regional and statewide Wildlife Division administrations, and then to the public for their review. The final step in the review process was review and approval by the Commission.

Three elk herd objectives were changed.

- Fall Creek (103) from 4,400 population to 4,400 trend count objective.
- Piney (106) from 2,400 population to 2,400 trend count objective.
- Fortification (320) from 150 population to 150 trend count objective with private land management.

Additionally, Rawhide elk (730) retained a hunter/landowner satisfaction objective, but had the management strategy changed from "Special" to "Private Land".

Aquatic Management:

The quality of Wyoming's fisheries is a direct reflection of the quality of Wyoming's lakes, rivers, and streams. Stream and lake surveys are conducted to determine the general condition of fisheries.

Performance Measure: Number of stream and lake surveys completed.

Target:

Work to complete at least 540 stream and lake surveys per year.

Trend Line:



In FY 18, a total of 551 stream and lake surveys were completed (362 stream surveys and 189 lake surveys). The number of surveys exceeded the target of 540 for the fourth consecutive year and was within 10 percent of the number of surveys completed in FY 17 and within 10 percent of the average of the previous five years. A large decrease in the number of stream surveys conducted by regional management crews (down by 99 stream surveys) was due primarily to extremely high stream runoff in western Wyoming in 2017. High flows continued in many drainages throughout most of the summer and fall, forcing many activities to be cancelled. This reduction in sampling effort; however, was largely offset by a nearly commensurate increase in the number of stream surveys conducted by the statewide Aquatic Assessment Crew (up by 95 surveys) in eastern Wyoming where flows were often conducive to fieldwork. The small overall decline in the total number of stream and lake surveys completed was due largely to a 50% decline in the number of lake surveys in the Casper Region. This decrease was due to the fact that the crew was short-staffed for a large portion of the field season.

Major Accomplishments:

- There was a widespread increase in the number of stream surveys that were conducted using environmental DNA (eDNA) sampling. If this technique proves to be a suitable surrogate for traditional fish sampling techniques to determine species presence/absence, there are likely to be additional decreases in the total number of stream and lake surveys conducted in the future. In FY 18, this tool was used to detect presence of numerous fish (sturgeon chub, brook trout, bluehead sucker, and leatherside chub) and amphibian species.
- A mini-Missouri benthic trawl was tested on stream surveys throughout the state to assess the utility of the gear for collecting small bodied fish species. The gear proved to be very effective and captured 137 sturgeon chub in the mainstem Bighorn River. Sturgeon chub, a native Species of Greatest Conservation Need, had not been sampled for many years and was thought to have been extirpated from the Bighorn River. This new gear also proved to be more effective than traditional gear at sampling rare fishes in large rivers in eastern Wyoming.
- Additional surveys were conducted to assess the distribution of illegally introduced fishes. These included efforts to describe the current distribution of introduced northern pike in the Little Snake River. No pike were captured, suggesting that the Stateline Diversion Dam near Baggs, Wyoming may prevent the movement of pike into areas upstream. Other surveys indicated that brook stickleback, an aquatic invasive species, is likely more widespread in waters in the Laramie and Casper Regions than previously believed.
- Streams throughout the Sweetwater River drainage were surveyed to better describe the current distribution of native fish species. Eleven sites were sampled and 16 fish species (11 native and 5 nonnative) were documented. A few of these sites were identified as suitable areas for establishing additional populations of native hornyhead chub.
- Numerous stream and lake surveys were conducted to describe native Yellowstone cutthroat trout populations. Nine wilderness streams were surveyed in the South Fork Little Wind River drainage to collect samples needed to assess the genetic purity of cutthroat trout. Six additional surveys were conducted to assess the potential to restore Yellowstone cutthroat trout to Sand Creek, a headwater tributary to the North Fork Popo Agie River.
- Lake trout monitoring efforts on Flaming Gorge Reservoir showed that the abundance of this species continues to exceed management goals and average size continues to decline. Monitoring results prompted an increase in the lake trout creel limit that will go into effect in 2019.

Other significant accomplishments did not translate into significant numbers of stream and lake surveys. A few of those accomplishments are summarized below.

• Piscicide treatments were completed on several waters to secure populations of native game fish or for native nongame fish population restoration.

- Piscicide treatments continued on Muddy Creek (Little Snake River Drainage) to restore populations of native flannelmouth and bluehead suckers as well as roundtail chub.
- Dime Lake, located in the Jackson Region, was successfully chemically treated to remove nonnative trout. Future monitoring efforts will assess the impact of trout removal on populations of amphibians at this lake.
- The North Fork of West Pass Creek in the Sheridan Region was chemically treated to remove nonnative brook and brown trout and to secure an important population of native Yellowstone cutthroat trout.
- Several road culverts were replaced in tributaries to LaBarge Creek to facilitate fish passage. Native Colorado River cutthroat trout have been restored to this Wyoming Range watershed.
- Colorado River cutthroat trout were transplanted from Maki Creek to Bare Creek, a Wyoming Range stream that was chemically treated in FY 17.

Habitat Conservation

The abundance and diversity of Wyoming's wildlife, including game and nongame species, is dependent upon the amount and quality of available habitat. The Department conserves and improves habitats independently and with other state agencies as well as with federal and private partners. Habitat work includes habitat protection efforts, habitat assessments and inventories, the development and designing of projects, on-the-ground projects/enhancements and restorations, maintenance of existing structures or projects, and the monitoring of completed projects.

Performance Measures¹

Acres of habitat conserved, enhanced, and restored annually. Stream miles restored, enhanced, or protected annually.

Targets

Personnel in this program strive to achieve 500,000 acres of habitat conserved, enhanced, and restored annually.

Personnel in this program strive to achieve 100 miles of stream protection, enhancement, or restoration annually.







Major Accomplishments

- 5 stream restorations or bank enhancements on 1.4 stream miles
- 36,824 trees or shrubs planted
- 42 stream structures installed
- 5,607 acres of mowing, chopping, or Lawson aeration
- 40,080 acres of herbicide weed treatments
- 92.9 stream miles made accessible via fish passage
- 1,967 acres of wetland development
- 5,448 acres of Department managed lands irrigated

The Department's 2017 Annual Report on Strategic Habitat Plan (SHP) accomplishments provides details on many of these habitat projects.

Wildlife Recreation:

Hunting and fishing provide high quality outdoor recreational opportunities, for Wyoming residents and visitors. Hunting and fishing license sales financially support the Department's operations and help to manage game populations within the carrying capacity of their habitat and at levels to minimize agricultural damage and other types of human conflict. Hunting and fishing are a central part of Wyoming's outdoor culture and provide important revenue to the state through tourism.

Performance Measure: Number of days in the field by hunters and anglers.

Target:

Provide at least 1.1 million hunter days and 2.3 million angler days per year.

¹ For measurement and tracking consistency, acres and miles are calculated annually during compilation of the annual SHP report. All biologists contribute project information related to accomplishments that can include assessments, implementation, and monitoring. Habitat program managers compile and report the summary data in the SHP report.

Trend Line:



For the period FY 14 - FY 18, Wyoming residents and nonresidents have expended an average of 1,248,355 hunter days and 2,651,653 angler days. In FY 18, 1,201,921 hunter recreation days and 2,695,080 angler recreation days were provided. Values reflect lifetime license holders included in the estimate of hunter and angler recreation days. Hunter days in FY 18 were 13.5 percent above the target of 1.1 million hunter days. Angler days in FY 18 were 14.7 percent above the target of 2.3 million angler days.

Hunter days decreased approximately 5.9 percent between FY 17 and FY 18. Trophy game (+21,784) and furbearers (+15,471) days increased while big game (-47,381), small game (-12,559), upland game (-16,568), and migratory game bird (-36,337) days all decreased. The decrease in big game days resulted from decreased populations following the severe winter in western Wyoming. Re-instatement of a hunting season for gray wolves helped increase hunter days for trophy game. Decreases in small game, upland game, and migratory game bird hunter days were partially due to changes in how Pioneer and Lifetime license hunters participation was calculated¹. Fluctuations in recreation days for other categories reflected annual variations in game populations, and thus hunter interest.

The number of angler days decreased slightly after five years of increases. The decrease in fishing was due largely to reduced numbers of daily fishing license sales to both resident and nonresident anglers. The number of annual resident licenses sold also decreased. In terms of license sales, the number of all fishing license types sold decreased by 2.4 percent.

Major Accomplishments:

The Access Yes Program, formerly known as the Private Lands Public Wildlife (PLPW) Access Program, enhances and/or maintains public hunting and fishing access onto Wyoming's private and landlocked

¹ For a detailed explanation of this calculation change see project statement in the 2017 Annual Report of Small Game, Upland Game Bird, Waterfowl, Furbearer, Wild Turkey, and Falconry Harvest.

public lands. This is accomplished by enrolling private landowners into one of the three access programs: Hunter Management Area (HMA), Walk-in Hunting Area (WIHA), and/or Walk-in Fishing Area (WIFA). The landowner and Department personnel negotiate the terms of an agreement including: agreement length (one to five years), the species that can be harvested, the geographic location, dates access will be allowed, and any other specific rules or stipulations. In return for access, landowners benefit in several ways including:

- A modest monetary payment based on the number of acres or stream length enrolled;
- Increased law enforcement presence;
- Increased wildlife management (population control and damage prevention); and,
- Assistance in managing sportsmen such as alleviating phone calls and other disruptions to landowners (access maps, hunter instruction on ranch rules, etc.).

The Access Yes Program assists landowners through the management of hunters and anglers, providing sportsmen and sportswomen places to hunt and fish and reducing agricultural damage through hunter harvest. The Department benefits through increased wildlife management opportunities, increased license sales, reduced agricultural damage, and providing quality hunting and fishing access to the public. During 2017, the Access Yes Program experienced many successes, including, but not limited to:

- Providing access to 2,661,439 acres (1,683,329 acres of enrolled private and state lands, and 978,110 acres of public lands) for hunting within the boundaries of the WIHA and HMA Programs. This included land in every county within Wyoming.
- Providing additional access to 175,755 acres of public lands located outside the boundaries of WIHAs and HMAs which would not have been accessible without the Access Yes Program.
- Providing fishing access to 3,845 lake acres and 88 stream miles through the WIFA Program.
- Worked with Department IT personnel to ensure the online permission slip process continues to be user-friendly for sportsmen and problems associated with obtaining permission slips for HMAs and the National Elk Refuge (NER) are reduced.
- Issued 26,670 online permission slips to 15,072 individual hunters for access to the HMA Program and the NER.
- Provided free hunting and fishing access on Walk-in Areas to anyone with the proper licenses. Many of the participants are families, contributing to the maintenance and enhancement of hunting and fishing traditions.
- Responded to 105 emails received through the Access Yes Program website regarding hunting, fishing, or the Access Yes Program. The majority of these emails (74 percent) were responded to within one day of receipt.
- Successfully implemented the first year of the Voluntary Public Access and Habitat Incentive Program (VPA-HIP) grant. The Department was awarded \$1,198,122 over three years to be used for contract personnel time, supplies, promotion of the Access Yes Program, Access Yes easements, and long-term easements.
- Hunters surveyed during the 2016 hunting season for harvest results indicated 20 percent of antelope hunters (23 percent of nonresident, 18 percent of resident), 17 percent of deer hunters (15 percent of nonresident, 17 percent of resident), and 14 percent of elk hunters (12 percent of nonresident, 14 percent of resident) used either a WIHA or HMA for hunting. This would equate to an estimated 9,166 antelope, 10,780 deer, and 8,913 elk hunters having used either a WIHA or HMA to hunt.
- Increased hunting access translates into improved wildlife population management and decreased agricultural damage through harvest.
- Increased license sales in hunt areas with difficult public access.

• Hunters surveyed during the 2017 hunting season who indicated they were satisfied or very satisfied with the opportunity provided through the WIHA or HMA Programs were 82.3 percent for antelope hunters, 75.4 percent for deer hunters, and 73.7 percent for elk hunters.

The Access Yes Program is funded by Department funds and Access Yes donations. Department funds, primarily from license sales, fund the daily operations of the program including personnel. Revenue for the Access Yes Program is generated from the sale of lifetime and annual conservation stamps, donations from organizations, individual hunters and anglers, state restitution fees from court-imposed fines from wildlife violations, and interest. Besides for a few exemptions, every hunter and angler must purchase an annual conservation stamp, unless a lifetime conservation stamp has been purchased previously. A portion of the sale of these stamps is deposited into the Access Yes account (\$2.50 per annual stamp and half of each lifetime stamp). These two sources generate the majority of the funds each year, and in FY 17 they generated \$622,250.

Donations to Access Yes provide another valuable source of funds. During FY 17, direct donations from conservation groups and organizations totaled \$27,149, indicating the importance these groups place on access. Hunters and anglers can also make donations to Access Yes when applying for or purchasing licenses, either in person at a license selling agent, or when purchasing a license through the internet. These sportsmen contributed a total of \$157,113 in FY 17. Additionally, several private individuals made personal contributions. Overall, during FY 17, the Access Yes Program received \$913,366, which is an increase from FY 16.

Easement payments made to landowners are funded through the Access Yes Program. Authorized by state statute, funds collected through Access Yes donations may only be utilized for acquiring easements from landowners. In 2017, every dollar spent provided approximately 3.1 acres of access.

Sensitive Species:

Wyoming is blessed with an abundance and diversity of wildlife species. Many species, including those that are not hunted or fished, have high value for Wyoming residents and visitors for wildlife viewing and photography and play an important ecological role within the habitats where they reside. Population declines which result in listings under the Endangered Species Act (ESA) can have negative consequences on Wyoming natural resource industries through increased land use restrictions.

Performance Measure: Number of Species of Greatest Conservation Need (SGCN)² surveyed annually.

Target:

Maintain adequate data on all SGCN to understand population trends and respond to ESA listing petitions.

² The SGCN designation is intended to identify species whose conservation status warrants increased management attention and funding, as well as consideration in conservation, land use, and development planning in Wyoming. The SGCN designation can be derived from known population or habitat threats or a lack of sufficient information to adequately assess a species' status.





The 2017 State Wildlife Action Plan (SWAP) identifies 80 birds, 51 mammals, 28 fish, 9 amphibians, and 24 reptiles as SGCN. During FY 18, 56 bird, 27 mammal, 27 fish, 6 amphibian, 11 reptile, and 4 mollusk/crustacean SGCN were surveyed at varying levels of intensity.

Major Accomplishments:

Project funding was largely received from the Wyoming Game and Fish Commission, U.S. Fish and Wildlife Service's (USFWS) State Wildlife Grants Program, Governor's Endangered Species Account Fund, Governors Big Game License Coalition, and private foundations.

- The Department in collaboration with the USFWS reintroduced black-footed ferrets (a SGCN and federally endangered species) to the Meeteetse area in 2016. In 2017, an additional 23 ferrets were released at Meeteetse. A minimum of seven wild born kits were observed in 2017, from 3-4 litters. Documentation of wild born kits the year following release is considered noteworthy by the USFWS ferret recovery coordinator. Plague management was conducted at the Meeteetse ferret recovery site in the spring of 2018. DeltaDust[®], an insecticide, was applied to approximately 3,000 acres, and sylvatic plague vaccine was applied to approximately 1,000 acres.
- The Department completed the revision of the 2010 SWAP in 2017. Bird and mammal species accounts were developed for all proposed SGCN in coordination with the Wyoming Natural Diversity Database (WYNDD). Accounts will be revised annually in a "living" format to ensure all information is kept up-to-date.
- The Department and WYNDD completed the first thorough inventory of freshwater snails in the Snake and Green River basins.
- The Department captured sturgeon chub in the Bighorn River for the first time since 2001. Believed to potentially be extirpated in the river, the species appears to be doing well but is difficult to capture due to habitat preference.
- The Department, with the University of Wyoming, completed a project that will guide managers in finding refugia for hornyhead chub outside their current extremely limited distribution in the state.

The Wildlife Division initiated and continued several projects in FY 18 to determine abundance, habitat associations, life history, distribution, and potential threats to SGCN:

Projects Completed in FY 18

- Multi-state occupancy analysis of wolverine (SGCN).
- Evaluating distribution and trends of juniper-obligate species (many SGCN).
- Harlequin duck (SGCN) monitoring and satellite tracking.

Projects Initiated in FY 18

- Raptor nest data programming for WYNDD's Observational Database (many SGCN).
- Compiling historic industry data sets for SGCN (many SGCN).
- Great gray owl (SGCN) habitat selection and analysis.
- Black-footed ferret (SGCN and federally endangered) scent dog evaluation.
- Monitor bats in Wyoming using the North American bat monitoring protocol (many SGCN).

Ongoing Projects in FY 18

- Coordinated range-wide occupancy surveys for white-tailed prairie dog (petitioned species, SGCN).
- Integrated monitoring in Bird Conservation Regions (many SGCN).
- Wyoming and Nebraska bat zone of integration survey (many SGCN).
- Spotted skunk (ESA petitioned species, SGCN) distribution and genetics.
- Black-footed ferret (SGCN) recovery assistance.
- Black rosy-finch (SGCN) distribution, abundance, and habitat.
- Effects of climate on nongame sagebrush bird demography and populations (many SGCN).
- Thunder Basin National Grassland raptor surveys (many SGCN).
- Linking environmental drivers and energy development to the abundance and distribution of the Wyoming pocket gopher (SGCN).
- Small mammals with unknown conservation status (many SGCN) at risk of ESA activity.
- Long-billed curlew (SGCN) reproductive success, migration, and habitat use.
- Occupancy and productivity surveys for Preble's meadow jumping mouse, bald eagles, trumpeter swans, peregrine falcons, great gray owls, northern goshawks, common loons, mountain plover, burrowing owl, and long-billed curlew (all SGCN).

The Fish Division initiated and continued several projects in FY 18 to determine abundance, habitat associations, life history, distribution, and potential threats to SGCN:

Projects Completed in FY 18

- Inventorying aquatic snails (all SGCN) in the Snake and Green River drainages.
- Determining habitat requirements and best possible translocation sites for hornyhead chub (SGCN).
- Inventory of native fishes in the Sweetwater River basin including numerous SGCN.
- Investigation into the life history of illegally introduced burbot in the Green River and how they may impact sport and nongame (many SGCN) fishes.
- Investigation into spatial distribution of Yellowstone cutthroat trout (SGCN) spawning in the North Fork Shoshone River drainage.

Projects Initiated in FY 18

- Distribution, habitat use, and evaluation of potential reintroduction sites for finescale dace (SGCN) in Wyoming.
- Movement and habitat use of roundtail chub (SGCN) in the Blacks Fork and Hams Fork drainages.
- Determine if and where sturgeon chub (SGCN) are present within the Bighorn River drainage Phase II.

Ongoing Projects in FY 18

- Investigating why stocked Colorado River cutthroat trout (SGCN) have performed poorly in restored habitats on LaBarge Creek.
- Investigating the relationship between bedrock geology and amphibian (multiple SGCN) presence and decline.
- Investigating potential impacts of grazing and chytrid fungus on boreal toads (SGCN).
- Inventory and habitat use associations of freshwater mussels (many SGCN) in under surveyed areas of Wyoming.
- Inventory of habitats occupied by leatherside chub (SGCN) in the Gros Ventre River drainage using eDNA detection.
- Inventory and habitat use association for snakes and lizards (many SGCN) in southeast Wyoming.

Wolf Management:

Wolves were first introduced from Canada into Yellowstone National Park (YNP) in January 1995 and again in 1996. The USFWS defined criteria for a recovered wolf population in the northern Rocky Mountains in its 1987 Wolf Recovery Plan and again in the 1994 Environmental Impact Statement (EIS) on introducing wolves into YNP and Central Idaho. Those criteria included 10 breeding pairs and approximately 100 wolves in each recovery area, equating more or less to 30 breeding pairs and 300 wolves equitably distributed. The recovery criteria had to be met for three consecutive years before wolves could be removed from the federal list of endangered and threatened wildlife.

On September 23, 2014, U.S. Federal District Court in Washington, D.C. released a ruling that overturned the 2012 Wyoming wolf delisting rule. This ruling returned ESA protections for wolves throughout Wyoming and transferred wolf monitoring and management authority back to the USFWS. Additionally, the USFWS determined the court's ruling directed wolf protection under the 1994 10(j) rule. Because of this ruling, the Department had no role in monitoring wolf populations in Wyoming, nor did it have management authority for dealing with conflicts associated with wolves until April 26, 2017 (see below section on major accomplishments for additional information).

Performance Measure: Number of breeding pairs of wolves in Wyoming

Target:

Maintain the number of wolf breeding pairs at a level that meets the requirements of Wyoming statutes and complies with the Wyoming Gray Wolf Management Plan.





Number of breeding pairs of wolves in the Greater Yellowstone Wolf Recovery Area and in Wyoming outside YNP. ("Breeding pair" is defined by W.S. 23-1-304(c) as an adult male and an adult female gray wolf raising at least two pups of the year until December 31).

At the end of 2017, the gray wolf population in Wyoming remained above minimum delisting criteria; making 2017 the 16th consecutive year Wyoming has exceeded the numerical, distributional, and temporal delisting criteria established by USFWS. At least 347 wolves in \geq 53 packs (including \geq 23 breeding pairs) inhabited Wyoming on December 31, 2017. Of the total, there were \geq 97 wolves and \geq 11 packs (including \geq 3 breeding pairs) in YNP, \geq 12 wolves and \geq 2 packs (\geq 1 breeding pair) in the Wind River Reservation (WRR), and \geq 238 wolves and \geq 40 packs (including \geq 19 breeding pairs) in Wyoming outside YNP and the WRR.

Major Accomplishments:

A total of 168 wolf mortalities were documented statewide in Wyoming in 2017: 162 in Wyoming outside YNP and the WRR, 5 in YNP, and 1 in the WRR. Causes of mortality included: human-caused = 150 (89% of mortalities), natural = 12 (7%), and unknown = 6 (4%). Seventy-two wolves were captured and radio-collared for monitoring purposes in 2017. Eighty-three radio-collared wolves in 33 packs were being monitored at the end of 2017 in Wyoming (24% of the year-end population). A total of \$677,114 was spent to monitor and manage wolves in Wyoming by all jurisdictions combined, not including livestock depredation compensation.

In 2017, the Wyoming Game and Fish Department instituted a wolf hunting season with the biological objective to reduce the wolf population by approximately 24% in the Wolf Trophy Game Management Area. A mortality quota of 44 wolves was divided between 12 hunt areas in Wyoming. Wolf hunting seasons were open from October 1, 2017 through December 31, 2017 with the exception of hunt area 12, which opened on October 15, 2017. Individual hunt areas closed if the mortality quota for that hunt area was reached prior to the December 31, 2017 closing date. A total of 43 wolves were legally harvested and one wolf was illegally killed during the hunting season. Wolves could also be taken in any legal manner in Wyoming where they are designated as predatory animals. Thirty-three wolves were taken under predatory animal status in 2017.

Wolves were confirmed to have killed 194 head of livestock (113 cattle and 81 sheep) and 1 dog statewide in Wyoming in 2017. An additional five cattle were injured by wolves but survived. Of the 29

packs involved in ≥ 1 depredation statewide, 21 packs were involved in ≥ 2 depredations, and 19 packs were involved in ≥ 3 depredations. Control efforts lethally removed 62 depredating wolves statewide in an effort to reduce livestock losses due to wolves. A combined minimum of \$528,328 was spent on wolf damage management in Wyoming by Wildlife Services (\$216,714) and livestock depredation compensation by the State of Wyoming (\$311,614) in 2017.

Aquatic Invasive Species:

The purpose of the program is to prevent the spread of Aquatic Invasive Species (AIS) to and within Wyoming waters through public outreach, watercraft inspections, and monitoring. The 2010 Wyoming Aquatic Invasive Species Act and subsequent Commission regulation established the Wyoming AIS Program. Amendments in 2012 to the AIS statute mandated that all conveyances (watercraft, water hauling trucks, etc.) entering Wyoming by land would be inspected for AIS before contacting or entering a Wyoming water. In addition, check stations were authorized to be placed at Wyoming Department of Transportation ports of entries and rest areas. The AIS regulation (Chapter 62) was revised and signed by the Governor in January 2013. In 2017, the regulation was revised to require removal of aquatic vegetation on all watercraft leaving a water and that bilge, ballast, and live well plugs be removed and out while in transport through Wyoming.

Performance Measure: Number of watercraft inspected for aquatic invasive species.

Target:

Work to provide at least 30,000 watercraft inspections per year.



Trend Line:

The goal of watercraft inspections is to intercept watercraft transporting AIS and to educate boaters on AIS threats, thereby preventing the spread of invasive species. In 2017, the program conducted a total of 46,164 watercraft inspections.

Major Accomplishments:

- Since the program began in 2010, over 340,000 watercraft inspections have been conducted.
 - In 2017, 3,359 high risk inspections were conducted and 706 watercraft were decontaminated.
 - Nine of the decontaminated watercraft had dead zebra or quagga mussels attached.
 - For boats inspected, 2,950 had last visited waters considered positive for zebra/quagga mussels.
- Watercraft inspected in 2017 originated in 49 states (none were registered in Hawaii), five Canadian provinces (Alberta, British Columbia, Ontario, Quebec, and Saskatchewan), and in Australia, Denmark, Ecuador, France, Japan, New Zealand, Sweden, Switzerland, and the United Kingdom.
- Twenty two watercraft inspection trainings were conducted in 15 different locations.
 - In 2017, 138 individuals were certified as AIS inspectors, bringing the total number of inspectors since 2010 to over 1,450.

Wyoming Game and Fish Department Organization Chart

