Appendix A

EXECUTIVE SUMMARY (DRAFT, 2001)

Surface-water Quality Data Retrievals for Grand Teton National Park and John D. Rockefeller, Jr. Memorial Parkway

This document presents the results of surface-water-quality data retrievals for Grand Teton National Park (GRTE) and John D. Rockefeller, Jr. Memorial Parkway (JODR) from six of the United States Environmental Protection Agency's (EPA) national databases: (1) Storage and Retrieval (STORET) water quality database management system; (2) River Reach File (RF3); (3) Industrial Facilities Discharge (IFD); (4) Drinking Water Supplies (DRINKS); (5) Water Gages (GAGES); and (6) Water Impoundments (DAMS). This document is one product resulting from a cooperative contractual endeavor between the National Park Service's (NPS) Servicewide Inventory and Monitoring Program, the National Park Service's Water Resources Division (WRD), and Horizon Systems Corporation to retrieve, format, and analyze surface water quality data for all units of the National Park System containing significant water resources. The primary goal of the project is to provide descriptive water quality information in a manner and format that is both consistent with the goals of the Servicewide Inventory and Monitoring Program and useable by park resource managers. The document provides: (1) a complete inventory of all retrieved water quality parameter data, water quality stations, and the entities responsible for the data collection; (2) descriptive statistics and appropriate graphical plots of water quality data characterizing period of record, annual, and seasonal central tendencies and trends; (3) a comparison of the park's water quality data to relevant EPA and WRD water quality screening criteria; and (4) an Inventory Data Evaluation and Analysis (IDEA) to determine what Servicewide Inventory and Monitoring Program "Level I" water quality parameters have been measured within the study area. Accompanying the report are disks containing digital copies of all data used in the report, as well as all components of the report (tables, figures, etc.).

The results of the retrievals for the GRTE and JODR study area from the IFD, DRINKS, GAGES, and DAMS databases located two industrial/municipal dischargers; no drinking water intakes; 19 active or inactive U. S. Geological Survey (USGS) water gages (including stream and lake); and seven water impoundments. The results of the STORET retrieval for the study area yielded 25,198 observations for 278 separate parameters collected by the NPS WRD, USGS, EPA, U. S. Bureau of Reclamation, and Yellowstone National Park (YELL) at 679 monitoring stations from 1937 through 1998. Approximately 45 percent of the 25,198 observations collected within the study area were entered by the NPS WRD from data collected from 1937 through 1998. Of the 679 monitoring stations, 387 stations were located within the GRTE park boundary and 20 stations were located within the JODR park boundary (see Station Period of Record Tabulation). Nine YELL stations within the study area (none within the GRTE/JODR park boundaries) were established but contained no data. These nine stations were established by YELL to monitor fish populations and describe physical characteristics such as elevation, stream

length, stream order, and gradient. Forty-one NPS WRD stations within the GRTE park boundary were established but did not contain data appropriate for statistical analysis.

Most of the monitoring stations represent either one-time or intensive single-year sampling efforts by the collecting agencies. Eighteen stations within the study area (16 within the park boundaries) yielded longer-term records consisting of multiple observations for several important water quality parameters (see Station Period of Record Tabulation). The stations yielding the longest-term records within the park boundaries are: (1) Jackson Lake .4 miles west of dam (GRTE 0373); (2) Snake River at the Teton Park Road Bridge at Moose, WY (GRTE 0100); (3) Snake River downstream of Jackson Lake Dam (GRTE 0390); (4) Snake River upstream of Jackson Lake near Flagg Ranch (GRTE 0612); and (5) Jackson Lake 700 feet upstream of the dam at the south bank (GRTE 0384). The stations yielding the longer-term records within the study area, but outside of the park boundaries, are: (1) Ditch Creek downstream of South Fork Ditch Creek (GRTE 0128); and (2) Lower Slide Lake northeast of Jackson (GRTE 0072)".

Screening criteria consisting of published EPA water-quality criteria and instantaneous concentration values selected by the WRD were used to identify potential water quality problems within the study area. While the criteria represent important threshold concentrations of pollutants, it is important to remember that criteria may have been exceeded due to any number of natural or anthropogenic factors, including errors in field, laboratory, and/or recording procedures. The reader is advised to read the Introduction for additional caveats in interpreting the exceeded criteria in this report. The results of the GRTE and JODR water quality criteria screen found 15 groups of parameters that exceeded screening criteria at least once within the study area. Dissolved oxygen, pH, copper, lead, mercury, silver, and zinc exceeded their respective EPA criteria for the protection of freshwater aquatic life. Sulfate, nitrate, chromium, copper, lead, mercury, nickel, and zinc exceeded their respective EPA drinking water criteria. Fecal-indicator bacteria concentrations (total coliform and fecal coliform) and turbidity exceeded the WRD screening limits for freshwater bathing and aquatic life, respectively. Alkalinity was below the threshold used by the NPS Air Resources Division for determining potential sensitivity to acid deposition (buffering capacity).

Dissolved oxygen concentrations were measured 647 times at 127 monitoring stations from 1947 through 1998. Of the 646 observations used in the criteria analysis (see EPA Water Quality Criteria Analysis for Station in the Interpretive Guide To Water Quality Results for explanation), 30 concentrations at 12 stations were less than or equal to the 4 milligrams per liter (mg/L) EPA criterion for the protection of freshwater aquatic life from 1947 through 1996. Twenty-nine of these 30 concentrations were reported at eleven stations within the GRTE park boundary from 1955 through 1996. Of these 29 concentrations within GRTE, 23 were reported at five wetland stations, in Hedrick Wetland (GRTE 0241), Snake River Wetland (GRTE 0336), Signal Mount Wetland (GRTE 0367), Lozier Wetland (GRTE 0391), and AK Ranch Wetland (GRTE 0511), during 1995 and 1996.

"Water quality station location descriptions are verbatim from STORET. Any misspellings and abbreviations in STORET are replicated in this document.

The pH was measured 1,445 times at 500 monitoring stations from 1937 through 1998. Of the 1,434 observations used in the criteria analysis (see Composite Type Screen in the Methodology for explanation), 333 concentrations at 224 stations were outside the pH range of 6.5 to 9.0 standard units (SU) (EPA chronic criteria for freshwater aquatic life) from 1969 through 1997. Two-hundred-seventy-six observations were less than or equal to pH 6.5 from 1969 through 1997 and 57 observations were greater than or equal to pH 9.0 from 1983 through 1996. Approximately 60 percent of the observations outside the pH screening criteria were reported at 91 stations within the GRTE/JODR park boundaries from 1969 through 1997. The highest pH of 10.1 SU was reported within the GRTE park boundary in Jackson Lake at Moran Bay (GRTE 0397) in June 1996. The lowest pH of 4.5 SU was reported within the GRTE park boundary in Glacier Gulch (GRTE 0197) in October 1977.

Turbidity was measured 245 times at 33 monitoring stations from 1975 through 1998. Seventeen concentrations at five stations, within the GRTE park boundary in Spread Creek near the U. S. Route 187 Bridge (GRTE 0298, GRTE 0303, GRTE 0316) and Jackson Lake 700 feet upstream of the dam at the south bank (GRTE 0384) and outside the park boundaries in the Kelly Avenue Diversion Canal in Jackson (GRTE 0001), exceeded the WRD screening criterion of 50 Jackson Candle/Formazin/Nephelometric Turbidity Units (JTU/FTU/NTU) from 1976 through 1990. Fifteen of these 17 observations were reported at the three stations in Spread Creek near the U. S. Route 187 Bridge (GRTE 0298, GRTE 0303, GRTE 0316) during June 1990, including the highest concentration of 650 FTU reported twice upstream of the bridge (GRTE 0298).

Total coliform concentrations were measured 77 times at 12 monitoring stations from 1971 through 1995. Of the 76 observations used in the criteria analysis (see Remark Code Screen in the Methodology for explanation), seven concentrations, ranging from 1,200 Colony Forming Units per 100 milliliters (CFU/100 ml) to 24,000 Most Probable Number per 100 milliliters (MPN/100 ml) at seven stations, within the GRTE park boundary in the Swan Lake inlet (GRTE 0436), Swan Lake (GRTE 0439), and Cygnet Pond (GRTE 0463), and outside the park boundaries in Flat Creek (GRTE 0031, GRTE 0032, GRTE 0035) and Fish Creek at Teton Village (GRTE 0051), exceeded the WRD bathing water screening criterion of 1,000 CFU/MPN/100 ml from 1971 through 1995. The highest value of 24,000 MPN/100 ml was reported in Fish Creek at Teton Village (GRTE 0051) in July 1975. Fecal coliform concentrations were measured 458 times at 54 monitoring stations from 1971 through 1998. Nine concentrations, ranging from 210 CFU/100 ml to 3,500 MPN/100 ml at eight stations, within the GRTE park boundary in the Swan Lake inlet (GRTE 0436) and Swan Lake (GRTE 0439) and outside the park boundaries in Flat Creek (GRTE 0008, GRTE 0009), the Kelly Avenue Diversion Canal in Jackson (GRTE 0001), Spring Creek at the State Route 22 Bridge (GRTE 0003), Lower Cache Creek (GRTE 0005), and Fish Creek at Teton Village (GRTE 0051), exceeded the WRD bathing water screening criterion of 200 CFU/MPN/100 ml from 1975 through 1995. The highest value of 3,500 MPN/100 ml was reported in Fish Creek at Teton Village (GRTE 0051) in July 1975.

Total alkalinity was determined by low-level (less than 10 mg/L as $CaCO_3$) gran analysis three times at three stations (GRTE 0352, GRTE 0553, GRTE 0640) during September 1985. One concentration of 158.3 microequivalents per liter (µeq/L) in Grassy

Lake Reservoir (GRTE 0640) was below the NPS Air Resources Division's 200 µeq/L threshold, indicating sensitivity to acid deposition.

Sulfate concentrations (including dissolved and total as SO_4 and whole water as S) were measured 382 times at 120 monitoring stations from 1962 through 1998. Of the 371 observations used in the criteria analysis (see Composite Type Screen in the Methodology for explanation), four total concentrations, ranging from 590 mg/L to 990 mg/L at four stations, within the GRTE park boundary at three springs (GRTE 0531, GRTE 0533, GRTE 0536) and outside the park boundaries in Alkali Creek (GRTE 0052), exceeded the secondary drinking water criterion of 250 mg/L during 1973 and 1977. The highest concentration of 990 mg/L was reported in Alkali Creek (GRTE 0052) in September 1973.

Nitrate concentrations (including dissolved and total as N and dissolved as NO_3) were measured 414 times at 91 monitoring stations from 1964 through 1996. Of the 399 observations used in the criteria analysis (see Remark Code Screen in the Methodology for explanation), one total NO_3-N concentration of 10 mg/L in the Kelly Avenue Diversion Canal in Jackson (GRTE 0001) equaled the drinking water criterion of 10 mg/L NO_3-N in September 1976.

Chromium concentrations (including dissolved, hexavalent, and total) were measured 116 times at 98 monitoring stations from 1973 through 1998. Five concentrations, ranging from 504 micrograms per liter (µg/L) to 6,000 µg/L at five stations, in the Kelly Avenue Diversion Canal in Jackson (GRTE 0001), Lower Cache Creek (GRTE 0005), Flat Creek north of Jackson (GRTE 0006), Fish Creek (GRTE 0027), and an unnamed stream southwest of Teton Village (GRTE 0046), exceeded the drinking water criterion of 100 µg/L in September 1976. The highest concentration of 6,000µg/L was reported twice, in Lower Cache Creek (GRTE 0005) and Flat Creek north of Jackson (GRTE 0006).

Copper concentrations (including dissolved and total) were measured 141 times at 108 monitoring stations from 1964 through 1998. Sixteen concentrations at 16 stations equaled or exceeded the acute freshwater criterion of 18 µg/L from 1968 through 1977. Three of these 16 concentrations also exceeded the drinking water criterion of 1,300 µg/L in September 1976. The highest concentration of 5,000 µg/L was reported in the Kelly Avenue Diversion Canal in Jackson (GRTE 0001).

Lead concentrations (including dissolved and total) were measured 40 times at 18 monitoring stations from 1973 through 1998. Of the 39 observations used in the criteria analysis (see EPA Water Quality Criteria Analysis for Station in the Interpretive Guide To Water Quality Results for explanation), five concentrations, ranging from 20 µg/L to 47,000 µg/L at four stations, in the Kelly Avenue Diversion Canal in Jackson (GRTE 0001), Lower Cache Creek (GRTE 0005), Flat Creek north of Jackson (GRTE 0006), and within the JODR park boundary in the Snake River upstream of Jackson Lake near the Flagg Ranch (GRTE 0612), exceeded the drinking water criterion of 15 µg/L during 1976 and 1990. Four of these five concentrations also exceeded the acute freshwater criterion of 82 µg/L in September 1976. The highest concentration of 47,000 µg/L was reported in Lower Cache Creek (GRTE 0005).

Mercury concentrations (including dissolved and total) were measured 34 times at 16 monitoring stations from 1976 through 1998. Three total concentrations at three stations, 1,400 µg/L in the Kelly Avenue Diversion Canal in Jackson (GRTE 0001) and 1,200 µg/L in Lower Cache Creek (GRTE 0005) and Flat Creek north of Jackson (GRTE 0006), exceeded the drinking water criterion of 2 µg/L and the acute freshwater criterion of 2.4 µg/L during September 1976.

Dissolved nickel concentrations were measured 88 times at 83 monitoring stations from 1976 through 1990. Three concentrations, ranging from 117 µg/L to 297 µg/L at three stations, in two unnamed tributaries to Fish Creek (GRTE 0019, GRTE 0046) and Fish Creek (GRTE 0027), exceeded the drinking water criterion of 100 µg/L during September 1976. The highest concentration of 297 µg/L was reported in Fish Creek (GRTE 0027).

Dissolved silver concentrations were measured 91 times at 86 monitoring stations from 1973 through 1990. Twelve concentrations at 12 stations exceeded the acute freshwater criterion of 4.1 µg/L during 1976 and 1977. The highest concentration of 7 µg/L was reported in South Twin Creek (GRTE 0012) in September 1976.

Zinc concentrations (including dissolved and total) were measured 128 times at 103 monitoring stations from 1969 through 1998. Eighteen concentrations at 17 stations exceeded the acute freshwater criterion of 120 µg/L during 1976 and 1977. Three of these 18 concentrations also exceeded the drinking water criterion of 5,000 µg/L in 1976. The highest concentration of 110,000 µg/L was reported in Lower Cache Creek (GRTE 0005) in April 1976.

The IDEA conducted for GRTE and JODR indicates that STORET data exist for all 13 Level I parameter groups in the study area. For two groups (Alkalinity and Sulfates/Total Dissolved Solids/Hardness) less than 19 percent of the observations were recorded since 1985. Overall, approximately 42 percent of the observations for Level I parameter groups were recorded since 1985. Data for ten groups (Alkalinity, Dissolved Oxygen, Flow, Clarity/Turbidity, Nitrate/Nitrogen, Phosphate/Phosphorus, Chlorophyll, Sulfates/Total Dissolved Solids/Hardness, Bacteria, and Toxic Elements) were recorded at less than half of the 670 monitoring stations with data. Relative to other groups, data were limited for the group Chlorophyll. Results for 15 of the 126 EPA priority toxic pollutants (consisting of inorganic parameters, metals, and pesticides) were retrieved from STORET.

Surface water resources in the GRTE and JODR study area include the Snake and Gros Ventre Rivers; Fish, Glade, Spread, and numerous other creeks; Jackson, Grassy, and other impoundments; Lower Slide, Two Ocean, and many other lakes and ponds; Hedrick, Snake, and other wetlands; Hominy, Peterson, Huckleberry, and many other cold and hot springs; and some canals and ditches. The data inventories and analyses contained in this report indicate that surface waters within the study area are generally of good quality. Potential natural sources of contaminants include erosion from seasonal flooding. Potential anthropogenic sources of contaminants include municipal and industrial wastewater discharges; storm water runoff; mining, gravel pit, and quarrying operations; ranching activities; recreational use; and atmospheric deposition.

Appendix B

Grand Teton National Park- Species Lists and T&E Monitoring Program

SENSITIVE, THREATENED AND ENDANGERED SPECIES INVENTORY AND MONITORING IN GRAND TETON NATIONAL PARK

INTRODUCTION

The requirement for the National Park Service to conserve rare species is specifically stated in *NPS Management Policies*: "Consistent with the purposes of the Endangered Species Act, the National Park Service will identify and promote the conservation of all federally listed threatened, endangered, or candidate species within park boundaries and their critical habitats...Active management programs will be conducted as necessary to perpetuate the natural distribution and abundance of threatened or endangered species...The National Park Service also will identify all state and locally listed threatened, endangered, rare, declining, sensitive, or candidate species that are native to and present in the parks, and their critical habitats...(p. 4:11).

Furthermore, *NPS-77 Natural Resources Management Guideline*, states as the first major program objective: "Inventory and monitor sensitive, candidate, and listed species. This includes mapping species' distribution in the park, identifying critical habitats (if any), and determining numbers of individuals, threats to the species, and population trends" (p. 270).

BACKGROUND

Currently, the Park contains small breeding populations of one endangered (peregrine falcon) and two threatened species (grizzly bear and bald eagle). One species listed as experimental (gray wolf) uses the Park on occasion, but is not a resident at this time. Two additional resident species, the lynx and northern goshawk, are under review for listing by the U.S. Fish and Wildlife Service. The Park lists 33 avian species and 9 mammals as "Species of Special Concern". The Wyoming Natural Diversity Database lists 66 "Plant Species of Concern" as occurring in the Park.

Threatened and Endangered (T & E) Species

As a rare species, the bald eagle has the longest history of monitoring within Grand Teton National Park, with efforts beginning in 1968 (detailed histories of all species addressed can be found in the Resources Management Plan). Studies were conducted on the population by various researchers until 1989. Since that time, Park biologists have maintained a monitoring and banding program in coordination with the U.S. Fish and Wildlife Service and the Wyoming Game and Fish Department (WGFD). Bald eagle territories increased from 3-4 in the Park in 1968 to 10 in 1997.

The Park was active in a peregrine falcon reintroduction program from 1980 to 1986, with 52 birds released during a hacking program. The first documented nesting

attempt was observed in 1987. That territory has been active every year since that time. In 1990 and 1991, extensive surveys for peregrines were performed, funded by a regional NRPP initiative. No additional eyries were found. A new territory was located in the Park in 1995, and a third in 1996.

Grizzly bear research and monitoring within the Park has been conducted primarily by WGFD through the Interagency Grizzly Bear Committee (IGBC). In 1994, the first grizzly bear mauling in the Park occurred, when a runner was attacked injured in the Two Ocean Lake area. In 1995, grizzly bears were responsible for several domestic cattle depredations within Park boundaries in the Elk Ranch grazing allotment. The following year (1996), depredations continued, and the offending grizzly bear was caught and killed by WGF in accordance with IGBC guidelines. Three additional grizzly bears were caught by Park biologists, one for human habituation, and two for habituation to human attractants. In 1997, grizzly bears again preyed upon domestic cattle in the Elk Ranch allotment, however losses were acceptable and no action was taken. During this situation, WGFD personnel verbally stated that they were relinquishing all responsibility for grizzly bear management within Park boundaries due to staffing constraints. A second grizzly bear mauling occurred in the fall of 1997 in the Parkway during the moose archery season.

Gray wolves have been documented within the Park prior to the 1994 reintroduction effort in Yellowstone National Park, however they did not become established. In 1996, a pair reintroduced in Yellowstone began using areas immediately adjacent to the Park in Buffalo Valley, but finally settled down north of Dubois. In 1997, an entire pack from the Heart Lake area traveled south and began using areas within Park boundaries in the Two Ocean Lake area. They have since returned to Yellowstone, but are expected to use Park lands on a more frequent basis now that they are familiar with the area. Wolf biologists expect pack establishment within Park boundaries in the unspecified future.

Sensitive Species

Monitoring of a variety of sensitive species has occurred in the Park since the early 1960's when the monitoring of trumpeter swan nests began. Surveys of great blue heron rookeries began in 1968, and the monitoring of osprey nests began in 1972, and both continue on an annual basis. A monitoring program for amphibians was begun in 1991 by an outside researcher, but has since been maintained by Park biologists. Annual harlequin duck surveys began in 1984 but ceased in 1995 due to staffing constraints. Annual sage grouse counts have occurred since the late 1980's. A radiotelemetry research project on bighorn sheep was initiated in 1994 and is maintained by Park biologists, along with helicopter and ground surveys.

Processes

Aside from formal surveys, additional information on sensitive species is collected through the Park Natural History Field Observation reporting process whereby visitors and staff report observations of sensitive species. Significant observations are followed up with verbal or written interviews and/or site visits to better assess to accuracy and importance of the report.

CURRENT STATUS

The current Inventory and Monitoring (I & M) program is the primary responsibility of the Project Biologist, with direction from the Senior Wildlife Biologist. Since 1995, a Resource Management Biologist has not been availed to the park. These duties (both I & M related and otherwise) have been reapportioned upon existing staff, reducing the effectiveness of the current I & M program.

Further Park status changes include an increase in:

a) the number of T & E species (the addition of the gray wolf, possible additional listing of the lynx and the northern goshawk)
b) the population of all resident T & E species (grizzly bear, bald eagle, peregrine falcon)
c) the complexity of management of T & E species (grizzly bear depredations, maulings, human habituation)
d) the complexity of non-T & E wildlife related issues (brucellosis, bison management, black bear management)

Due to decreased staffing and funding levels, some I & M projects had to be eliminated, while the information gained in other projects was severely reduced, resulting in inadequate information in some instances. For example, following the periodic changes in nest trees, the locations of two of the ten bald eagle nests in the Park are currently unknown due to insufficient resources to locate the nests. Although peregrine falcons are expanding in the Park, thorough surveys to search for new sites have not been instituted since 1991.

RESOURCE NEEDS

- An additional seasonal biologist position, devoted to the I & M program, would enable the Park to better respond to its mandates on rare species conservation.
- To assist in locating the two missing bald eagle nests, funding for the rental helicopter.

Appendix B

CHECKLIST OF THE VASCULAR PLANTS OF GRAND TETON NATIONAL PARK

Prepared for Grand Teton National Park
Dept. of Science and Resource Management

by Stuart Markow September, 2000

The following checklist identifies those vascular plant taxa* documented to occur within Grand Teton National Park (GTNP). The occurrence of each taxon was confirmed by specimens deposited in the Rocky Mountain Herbarium, the GTNP Herbarium, the Teton Science School collection, and other smaller collections. Thus, each taxon is represented by at least one collection from within Park boundaries. Vague reports, unvouchered species lists, and specimens collected from nearby locations were not used as sources of information for compiling this checklist.

Undoubtedly, many species currently known to occur outside of the Park also occur within, but have not yet been documented to do so. It is also likely that specimens deposited in collections that were not examined will someday disclose the presence of additional taxa. Thus, this list represents an initial attempt to catalogue the flora of the Park, with the assumption being that it will be continually updated as future collections and herbarium searches help to more completely portray the Park's floristic diversity.

* Nomenclature follows Nelson and Hartman's Checklist of the vascular plants of Wyoming, 1997.

Numerical summary:

Families	88
Genera	349
Species	853
Total taxa	893

PTERIDOPHYTES

Equisetaceae	
Equisetum arvense L.	field horsetail
Equisetum fluviatile L.	water horsetail
Equisetum hyemale L. var. *affine* (Engelm.) A. A. Eat.	scouringrush horsetail
Equisetum laevigatum A. Br.	smooth horsetail
Equisetum variegatum Schleich. ex Weber & Mohr var. *variegatum*	variegated scouringrush
Isoëtaceae	
Isoëtes bolanderi Engelm. var. *bolanderi*	Bolander's quillwort
Isoëtes bolanderi Engelm. x *I. echinospora* Dur.	hybrid quillwort
Lycopodiaceae	
Huperzia selago (L.) Bernh. ex Mart. & Schrank var. *selago* (*Lycopodium selago* L.)	fir club-moss
Lycopodium annotinum L. var. *annotinum*	shining club-moss
Marsileaceae	
Marsilea oligospora Goodd.	Pacific waterclover
Ophioglossaceae	
Botrychium multifidum (S. G. Gmel.) Trevisan	leathery grapefern
Botrychium virginianum (L.) Sw. var. *virginianum*	rattlesnake fern

Appendix B

Aspleniaceae	
Asplenium trichomanes-ramosum L.	green spleenwort
Dryopteridaceae	
Athyrium alpestre Clairv. var. *americanum* Butters	alpine ladyfern
Athyrium filix-femina (L.) Roth	subarctic ladyfern
Cystopteris fragilis (L.) Bernh. var. *fragilis*	brittle bladderfern
Dryopteris expansa (Presl) Frazer-Jenkins & Jermy	spreading woodfern
Dryopteris filix-mas (L.) Schott	male fern
Gymnocarpium disjunctum (Rupr.) Ching	Pacific oakfern
Gymnocarpium dryopteris (L.) Newm.	western oakfern
Polystichum lonchitis (L.) Roth	northern hollyfern
Woodsia scopulina D. C. Eat.	Rocky Mountain woodsia
Dennstaedtiaceae	
Pteridium aquilinum (L.) Kuhn var. *latiusculum* (Desv.) Underw. ex Heller	western brackenfern
Pteridium aquilinum (L.) Kuhn var. *pubescens* Underw.	hairy brackenfern
Pteridaceae	
Adiantum pedatum L.	northern maidenhair fern
Aspidotis densa (Brack.) Lellinger	Indian's dream
Cryptogramma acrostichoides R. Br.	American rockbrake
Pellaea breweri D. C. Eat.	Brewer's cliffbrake
Selaginellaceae	
Selaginella densa Rydb.	lesser spikemoss
GYMNOSPERMS	
Cupressaceae	
Juniperus communis L. var. *depressa* Pursh	common juniper
Juniperus scopulorum Sarg.	Rocky Mountain juniper
Pinaceae	
Abies lasiocarpa (Hook.) Nutt. var. *lasiocarpa*	subalpine fir
Picea engelmannii Parry ex Engelm.	Engelmann's spruce
Picea pungens Engelm.	blue spruce
Pinus albicaulis Engelm.	whitebark pine
Pinus contorta Dougl. ex Loud. var. *latifolia* Engelm. ex Wats.	tall lodgepole pine
Pinus flexilis James	limber pine
Pseudotsuga menziesii (Mirb.) Franco var. *glauca* (Beissn.) Franco	Rocky Mountain Douglas-fir
ANGIOSPERMS	
Aceraceae	
Acer glabrum Torr. var. *glabrum*	Rocky Mountain maple
Alismataceae	
Sagittaria cuneata Sheld.	arumleaf arrowhead
Anacardiaceae	
Toxicodendron rydbergii (Small ex Rydb.) Greene	western poison ivy
Apiaceae	
Angelica arguta Nutt.	Lyall's angelica
Angelica grayi (Coult. & Rose) Coult. & Rose	Gray's angelica
Angelica pinnata Wats.	smallleaf angelica
Angelica roseana L. Henderson	rose angelica
Bupleurum americanum Coult. & Rose	American thorow wax
Cicuta maculata L. var. *angustifolia* Hook.	spotted water hemlock
Conium maculatum L.	poison hemlock

Cymopterus longilobus (Rydb.) W. A. Weber	Henderson's cymopterus
Cymopterus longipes Wats.	longstalk springparsley
Cymopterus terebinthinus (Hook.) T. & G. var. *albiflorus* (T. & G.) Jones	smoothshore springparsley
Heracleum sphondylium L. var. *lanatum* (Michx.) Dorn	common cowparsnip
Ligusticum canbyi Coult. & Rose	Canby's licoriceroot
Ligusticum filicinum Wats.	fernleaf licoriceroot
Lomatium ambiguum (Nutt.) Coult. & Rose	Wyeth biscuitroot
Lomatium cous (Wats.) Coult. & Rose	cous biscuitroot
Lomatium dissectum (Nutt.) Math. & Const. var. *multifidum* (Nutt.) Math. & Const.	carrotleaf biscuitroot
Lomatium triternatum (Pursh) Coult. & Rose ssp. *platycarpum* (Torr.) Cronq.	Great Basin desertparsley
Orogenia linearifolia Wats.	Great Basin Indian potato
Osmorhiza chilensis H. & A.	sweetcicely
Osmorhiza depauperata Phil.	bluntseed sweetroot
Osmorhiza occidentalis (Nutt. ex T. & G.) Torr.	western sweetroot
Perideridia bolanderi (Gray) Nels. & Macbr. ssp. *bolanderi*	Bolander's yampah
Perideridia montana (Blank.) Dorn	common yampah
Sium suave Walt.	hemlock waterparsnip

Apocynaceae

Apocynum androsaemifolium L.	spreading dogbane

Asclepiadaceae

Asclepias speciosa Torr.	showy milkweed

Asteraceae

Achillea millefolium L. var. *lanulosa* (Nutt.) Piper	western yarrow
Agoseris aurantiaca (Hook.) Greene	orange agoseris
Agoseris glauca (Pursh) Raf. var. *glauca*	pale agoseris
Agoseris glauca (Pursh) Raf. var. *dasycephala* (T. & G.) Jeps.	pale agoseris
Agoseris glauca (Pursh) Raf. var. *laciniata* (D. C. Eat.) Smiley	false agoseris
Agoseris lackschewitzii D. Henderson & Moseley	Mill Creek agoseris
Anaphalis margaritacea (L.) Benth. & Hook.	western pearlyeverlasting
Antennaria anaphaloides Rydb.	pearly pussytoes
Antennaria corymbosa E. Nels.	flattop pussytoes
Antennaria dimorpha (Nutt.) T. & G.	low pussytoes
Antennaria luzuloides T. & G.	rush pussytoes
Antennaria media Greene	Rocky Mountain pussytoes
Antennaria microphylla Rydb.	littleleaf pussytoes
Antennaria monocephala DC.	pygmy pussytoes
Antennaria parvifolia Nutt.	smallleaf pussytoes
Antennaria pulcherrima (Hook.) Greene	showy pussytoes
Antennaria racemosa Hook.	raceme pussytoes
Antennaria rosea Greene	rosy pussytoes
Antennaria umbrinella Rydb.	umber pussytoes
Anthemis cotula L.	stinking chamomile
Anthemis tinctoria L.	golden chamomile
Arctium minus Bernh.	lesser burrdock
Arnica chamissonis Less. var. *foliosa* (Nutt.) Maguire	Chamisso arnica
Arnica cordifolia Hook.	heartleaf arnica
Arnica fulgens Pursh	foothill arnica
Arnica gracilis Rydb.	smallhead arnica
Arnica latifolia Bong.	broadleaf arnica
Arnica longifolia D. C. Eat.	spearleaf arnica
Arnica mollis Hook.	hairy arnica
Arnica parryi Gray var. *parryi*	Parry's arnica
Arnica rydbergii Greene	Rydberg's arnica
Arnica sororia Greene	twin arnica
Artemisia abrotanum L.	southernwood
Artemisia absinthium L.	absinth sagewort
Artemisia arbuscula Nutt. var. *arbuscula*	gray low sagebrush
Artemisia arbuscula Nutt. var. *longiloba* (Osterh.) Dorn	alkali sagebrush
Artemisia cana Pursh var. *viscidula* Osterh.	silver sagebrush

Artemisia dracunculus L.	wormwood
Artemisia frigida Willd.	fringed sagewort
Artemisia longifolia Nutt.	longleaf sagebrush
Artemisia ludoviciana Nutt. var. *ludoviciana*	foothill sagewort
Artemisia ludoviciana Nutt. var. *incompta* (Nutt.) Cronq.	mountain sagewort
Artemisia ludoviciana Nutt. var. *latiloba* Nutt.	gray sagewort
Artemisia michauxiana Bess.	Michaux's sagewort
Artemisia nova A. Nels.	black sagebrush
Artemisia scopulorum Gray	alpine sagebrush
Artemisia tridentata Nutt. var. *vaseyana* (Rydb.) Boivin	mountain big sagebrush
Artemisia tripartita Rydb. var. *tripartita*	Idaho threetip sagebrush
Aster alpigenus (T. & G.) Gray var. *haydenii* (Porter) Cronq.	alpine aster
Aster ascendens Lindl.	Chile aster
Aster bracteolatus Nutt.	bract aster
Aster conspicuus Lindl.	showy aster
Aster engelmannii (D. C. Eat.) Gray	Engelmann aster
Aster foliaceus Lindl. ex DC. var. *canbyi* Gray	Canby's aster
Aster foliaceus Lindl. ex DC. var. *parryi* (D. C. Eat.) Gray	Parry's aster
Aster glaucodes Blake var. *glaucodes*	gray aster
Aster integrifolius Nutt.	thickstem aster
Aster junciformis Rydb.	rush aster
Aster occidentalis (Nutt.) T. & G. var. *occidentalis*	western aster
Aster perelegans Nels. & Macbr.	elegant aster
Balsamorhiza sagittata (Pursh) Nutt.	arrowleaf balsamroot
Bidens cernua L.	nodding beggartick
Brickellia grandiflora (Hook.) Nutt. var. *grandiflora*	tasselflower brickellbush
Carduus nutans L.	musk thistle
Centaurea maculosa Lam.	spotted knapweed
Chaenactis douglasii (Hook.) H. & A. var. *montana* Jones	Douglas' dustymaiden
Chrysanthemum balsamita L.	costmary
Chrysanthemum leucanthemum L.	oxeye daisy
Chrysothamnus nauseosus (Pall. ex Pursh) Britt. var. *nauseosus*	rubber rabbitbrush
Chrysothamnus nauseosus (Pall. ex Pursh) Britt. var. *oreophilus* (A. Nels.) Hall	----
Chrysothamnus viscidiflorus (Hook.) Nutt. var. *lanceolatus* (Nutt.) Greene	green rabbitbrush
Cichorium intybus L.	chicory
Cirsium arvense (L.) Scop. var. *horridum* Wimm. & Grab.	Canada thistle
Cirsium eatonii (Gray) Robins.	Eaton's thistle
Cirsium subniveum Rydb.	Jackson Hole thistle
Cirsium vulgare (Savi) Tenore	bull thistle
Conyza canadensis (L.) Cronq. var. *canadensis*	Canadian horseweed
Crepis acuminata Nutt.	longleaf hawksbeard
Crepis atribarba Heller	slender hawksbeard
Crepis runcinata (James) T. & G.	fiddleleaf hawksbeard
Crepis tectorum L.	narrowleaf hawksbeard
Dugaldia hoopesii (Gray) Rydb.	sneezeweed
Erigeron acris L. var. *debilis* Gray	bitter fleabane
Erigeron compositus Pursh var. *discoideus* Gray	cutleaf daisy
Erigeron corymbosus Nutt.	longleaf fleabane
Erigeron divergens T. & G. var. *divergens*	spreading fleabane
Erigeron eatonii Gray var. *eatonii*	Eaton's fleabane
Erigeron glabellus Nutt. var. *glabellus*	streamside fleabane
Erigeron leiomerus Gray	rockslide yellow fleabane
Erigeron lonchophyllus Hook.	short-rayed daisy
Erigeron peregrinus (Banks ex Pursh) Greene ssp. *callianthemus* (Greene) Cronq.	subalpine fleabane
Erigeron pumilus Nutt. var. *concinnus* (H. & A.) Dorn	Navajo fleabane
Erigeron speciosus (Lindl.) DC.	showy fleabane
Erigeron ursinus D. C. Eat.	Bear River fleabane
Eriophyllum lanatum (Pursh) Forbes var. *integrifolium* (Hook.) Smiley	common woollysunflower
Gnaphalium palustre Nutt.	western marsh cudweed
Gnaphalium viscosum H.B.K.	sticky cudweed
Grindelia squarrosa (Pursh) Dunal var. *squarrosa*	curlycup gumweed
Gutierrezia sarothrae (Pursh) Britt. & Rusby	broom snakeweed

Haplopappus acaulis (Nutt.) Gray	stemless goldenweed
Haplopappus suffruticosus (Nutt.) Gray	singlehead heathgoldenrod
Helianthella quinquenervis (Hook.) Gray	fivenerve helianthella
Helianthella uniflora (Nutt.) T. & G. var. *uniflora*	oneflower helianthella
Heterotheca depressa (Rydb.) Dorn	low goldenaster
Heterotheca villosa (Pursh) Shinners var. *villosa*	hairy goldenaster
Hieracium albiflorum Hook.	white hawkweed
Hieracium aurantiacum L.	orange hawkweed
Hieracium cynoglossoides Arv.-Touv.	houndstongue hawkweed
Hieracium gracile Hook. var. *gracile*	slender hawkweed
Hieracium pratense Tausch.	meadow hawkweed
Hieracium scouleri Hook. var. *scouleri*	Scouler's woolyweed
Hymenoxys grandiflora (T. & G. ex Gray) Parker	graylocks hymenoxys
Iva axillaris Pursh var. *robustior* Hook.	povertyweed
Lactuca oblongifolia Nutt.	blue lettuce
Lactuca serriola L.	prickly lettuce
Machaeranthera canescens (Pursh) Gray var. *canescens*	cutleaf goldenweed
Madia glomerata Hook.	mountain tarweed
Matricaria maritima L. ssp. *maritima*	scentless mayweed
Matricaria matricarioides (Less.) Porter	pine-appleweed
Microseris nutans (Hook.) Schultz-Bip.	nodding microseris
Rudbeckia occidentalis Nutt. var. *occidentalis*	western coneflower
Senecio amplectens Gray var. *holmii* (Greene) Harrington	Holm's ragwort
Senecio canus Hook.	woolly groundsel
Senecio crassulus Gray	thickleaf groundsel
Senecio dimorphophyllus Greene var. *paysonii* T. M. Barkl.	Payson's groundsel
Senecio fremontii T. & G. var. *fremontii*	Fremont's groundsel
Senecio hydrophilus Nutt.	water groundsel
Senecio hydrophiloides Rydb.	sweet-marsh butterweed
Senecio integerrimus Nutt. var. *exaltatus* (Nutt.) Cronq.	Columbia groundsel
Senecio pauperculus Michx.	balsam groundsel
Senecio serra Hook. var. *serra*	tall ragwort
Senecio streptanthifolius Greene var. *rubricaulis* (Greene) Bain	Rocky Mountain groundsel
Senecio streptanthifolius Greene var. *streptanthifolius*	cleftleaf groundsel
Senecio triangularis Hook.	arrowleaf groundsel
Senecio werneriifolius (Gray) Gray var. *alpinus* (Gray) Dorn	Porter's groundsel
Solidago canadensis L. var. *salebrosa* (Piper) Jones	Canada goldenrod
Solidago missouriensis Nutt. var. *extraria* Gray	Missouri goldenrod
Solidago missouriensis Nutt. var. *fasciculata* Holz.	Missouri goldenrod
Solidago multiradiata Ait. var. *scopulorum* Gray	northern goldenrod
Solidago nana Nutt.	baby goldenrod
Solidago sparsiflora Gray	threenerve goldenrod
Stephanomeria fluminea	flume wirelettuce
Stephanomeria tenuifolia (Raf.) Hall	narrowleaf wire-lettuce
Tanacetum vulgare L.	common tansy
Taraxacum laevigatum (Willd.) DC.	red-seeded dandelion
Taraxacum officinale Weber	common dandelion
Tetradymia canescens DC.	spineless horsebrush
Townsendia alpigena Piper var. *alpigena*	mountain townsendia
Tragopogon dubius Scop.	yellow salsify
Viguiera multiflora (Nutt.) Blake var. *multiflora*	showy goldeneye
Wyethia amplexicaulis (Nutt.) Nutt.	mulesears wyethia

Berberidaceae

Mahonia repens (Lindl.) G. Don	Oregon-grape

Betulaceae

Alnus incana (L.) Moench var. *occidentalis* (Dippel) C. L. Hitchc.	thinleaf alder
Alnus viridis (Vill.) Lam. & DC. var. *sinuata* Regel	Sitka alder
Betula glandulosa Michx.	bog birch
Betula occidentalis Hook.	water birch

Boraginaceae	
Cryptantha affinis (Gray) Greene	quill catseye
Cryptantha ambigua (Gray) Greene	basin catseye
Cryptantha torreyana (Gray) Greene var. *torreyana*	Torrey's catseye
Cynoglossum officinale L.	hound's tongue
Eritrichum nanum (Vill.) Schrad. ex Gaudin var. *elongatum* (Rydb.) Cronq.	arctic alpine forget me not
Hackelia floribunda (Lehm.) I. M. Johnst.	manyflower stickseed
Hackelia micrantha (Eastw.) J. Gentry	Jessica sticktight
Hackelia patens (Nutt.) I. M. Johnst. var. *patens*	spotted stickseed
Lappula redowskii (Hornem.) Greene	desert stickseed
Lithospermum ruderale Dougl. ex Lehm.	western gromwell
Mertensia ciliata (James ex Torr.) G. Don var. *ciliata*	tall fringe bluebells
Mertensia oblongifolia (Nutt.) G. Don	oblongleaf bluebells
Mertensia viridis (A. Nels.) A. Nels.	greenleaf bluebells
Plagiobothrys scouleri (H. & A.) I. M. Johnst. var. *hispidulus* (Greene) Dorn	sleeping popcornflower
Brassicaceae	
Alyssum alyssoides (L.) L.	pale madwort
Arabis confinis Wats. var. *confinis*	spreading pod rockcress
Arabis drummondii Gray	Drummond's rockcress
Arabis glabra (L.) Bernh. var. *glabra*	tower mustard
Arabis hirsuta (L.) Scop. var. *pycnocarpa* (M. Hopk.) Roll.	creamflower rockcress
Arabis holboellii Hornem. var. *secunda* (Howell) Jeps.	secund (second) rockcress
Arabis lyallii Wats. var. *lyallii*	Lyall's rockcress
Barbarea orthoceras Ledeb.	American yellowrocket
Berteroa incana (L.) DC.	hoary false madwort
Capsella bursa-pastoris (L.) Medic.	shepherd's purse
Cardamine breweri Wats. var. *breweri*	Brewer's bittercress
Chorispora tenella (Pall.) DC.	blue mustard
Descurainia incana (Bernh. ex Fisch. & Mey.) Dorn var. *incana*	mountain tansymustard
Descurainia incana (Bernh. ex Fisch. & Mey.) Dorn var. *macrosperma* (O. E. Schulz) Dorn	mountain tansymustard
Draba albertina Greene	slender whitlowgrass
Draba apiculata C. L. Hitchc.	beavertip whitlowgrass
Draba crassifolia Grah.	snowbed whitlowgrass
Draba fladnizensis Wulf. var. *pattersonii* (O. E. Schulz) Roll.	Austrian whitlowgrass
Draba lonchocarpa Rydb. var. *lonchocarpa*	lancepod whitlowgrass
Draba nemorosa L.	woodland whitlowgrass
Draba oligosperma Hook. var. *oligosperma*	fewseed whitlowgrass
Erysimum capitatum (Dougl. ex Hook.) Greene var. *capitatum*	sanddune wallflower
Erysimum cheiranthoides L. ssp. *altum* Ahti	wormseed wallflower
Lepidium campestre (L.) R. Br.	field pepperweed
Lepidium densiflorum Schrad. var. *densiflorum*	common pepperweed
Lepidium densiflorum Schrad. var. *macrocarpum* Mulligan	bigseed pepperweed
Lepidium densiflorum Schrad. var. *pubicarpum* (A. Nels.) Thell.	babyseed pepperweed
Lepidium latifolium L.	broadleaved pepperweed
Lepidium perfoliatum L.	clasping pepperweed
Lepidium virginicum L. var. *pubescens* (Greene) C. L. Hitchc.	hairy pepperweed
Lesquerella carinata Roll.	Idaho bladderpod
Lesquerella paysonii Roll.	Payson's bladderpod
Malcolmia africana (L.) R. Br.	African mustard
Physaria integrifolia (Roll.) Lichvar var. *integrifolia*	Snake River twinpod
Rorippa curvipes Greene var. *curvipes*	bluntleaf yellowcress
Rorippa curvipes Greene var. *alpina* (Wats.) Stuckey	alpine yellowcress
Rorippa curvipes Greene var. *integra* (Rydb.) Stuckey	----
Rorippa curvisiliqua (Hook.) Bessey ex Britt. var. *curvisiliqua*	curvepod yellowcress
Rorippa palustris (L.) Bess. var. *hispida* (Desv.) Rydb.	hispid yellowcress
Sisybrium altissimum L.	tall tumblemustard
Sisymbrium loeselii L.	small tumbleweed mustard
Smelowskia calycina (Steph. ex Willd.) C. A. Mey var. *americana* (Regel & Herd.) Drury & Roll.	American false candytuft
Subularia aquatica L.	water awlwort

Thlaspi arvense L.	field pennycress
Thlaspi montanum L. var. *montanum*	alpine pennycress
Thlaspi parviflorum A. Nels.	meadow pennycress
Cactaceae	
Opuntia fragilis (Nutt.) Haw. var. *fragilis*	pygmy pricklypear
Opuntia polyacantha Haw. var. *polyacantha*	hairspine pricklypear
Callitricaceae	
Callitriche palustris L.	vernal waterstarwort
Campanulaceae	
Campanula rotundifolia L.	bluebell bellflower
Porterella carnosula (H. & A.) Torr.	fleshy porterella
Cannabaceae	
Humulus lupulus L. var. *neomexicanus* Nels. & Ckll.	common hop
Caprifoliaceae	
Linnaea borealis L. var. *longiflora* Torr.	longtube twinflower
Lonicera involucrata (Richards.) Banks ex Spreng. var. *involucrata*	twinberry honeysuckle
Lonicera utahensis Wats.	Utah honeysuckle
Sambucus racemosa L. var. *melanocarpa* (Gray) McMinn	black elderberry
Symphoricarpos albus (L.) Blake var. *laevigatus* (Fern.) Blake	common snowberry
Symphoricarpos occidentalis Hook.	western snowberry
Symphoricarpos oreophilus Gray var. *utahensis* (Rydb.) A. Nels.	Utah snowberry
Caryophyllaceae	
Arenaria congesta Nutt. var. *congesta*	ballhead sandwort
Cerastium arvense L.	field chickweed
Dianthus armeria L. ssp. *armeria*	Deptford pink
Minuartia nuttallii (Pax) Briq. ssp. *nuttallii*	Nuttall's sandwort
Minuartia obtusiloba (Rydb.) House	twinflower sandwort
Moehringia lateriflora (L.) Fenzl	bluntleaf sandwort
Sagina saginoides (L.) Karst.	arctic pearlwort
Saponaria officinalis L.	bouncingbet
Silene acaulis (L.) Jacq. var. *subacaulescens* (F. N. Wms.) Fern. & St. John	moss campion
Silene drummondii Hook. var. *drummondii*	Drummond's campion
Silene latifolia Poir. ssp. *alba* (Mill.) Greuter & Burdet	white campion
Silene menziesii Hook. var. *menziesii*	Menzies' campion
Silene oregana Wats.	Oregon silene
Silene parryi (Wats.) Hitchc. & Maguire	Parry's silene
Silene vulgaris (Moench) Garcke	maidenstears
Stellaria borealis Bigel. ssp. *borealis*	boreal starwort
Stellaria calycantha (Ledeb.) Bong.	northern starwort
Stellaria crispa Cham. & Schlecht.	crimped stitchwort
Stellaria longipes Goldie var. *longipes*	longstalk starwort
Celastraceae	
Paxistima myrsinites (Pursh) Raf.	mountain lover
Ceratophyllaceae	
Ceratophyllum demersum L.	coon's tail
Chenopodiaceae	
Chenopodium atrovirens Rydb.	pinyon goosefoot
Chenopodium berlandieri Moq. var. *zschackei* (Murr) Murr ex Aschers.	Zschack's goosefoot
Chenopodium overi Aellen	Over's goosefoot
Chenopodium rubrum L. var. *glomeratum* Wallr.	red goosefoot
Salsola australis R. Br.	tumbleweed
Convolvulaceae	

Convolvulus arvensis L.	field bindweed
Cornaceae	
Cornus sericea L. ssp. *sericea*	redosier dogwood
Crassulaceae	
Sedum debile Wats.	weakstemmed stonecrop
Sedum integrifolium (Raf.) A. Nels. ssp. *integrifolium*	entireleaf stonecrop
Sedum lanceolatum Torr. var. *lanceolatum*	spearleaf stonecrop
Sedum rhodanthum Gray	redpod stonecrop
Sedum stenopetalum Pursh var. *stenopetalum*	wormleaf stonecrop
Cyperaceae	
Carex aquatilis Wahlenb. var. *aquatilis*	water sedge
Carex athrostachya Olney	slenderbeak sedge
Carex atrata L. var. *chalciolepis* (Holm) Kukenth.	Holm sedge
Carex aurea Nutt.	golden sedge
Carex breweri Boott var. *paddoensis* (Suksd.) Cronq.	Englemann's sedge
Carex brunnescens (Pers.) Poir. ssp. *brunnescens*	brownish sedge
Carex buxbaumii Wahlenb.	Buxbaum's sedge
Carex canescens L. var. *canescens*	silvery sedge
Carex cusickii Mack. ex Piper & Beattie	Cusick's sedge
Carex deweyana Schwein. var. *bolanderi* (Olney) Boott	Bolander's sedge
Carex diandra Schrank	lesser panicled sedge
Carex disperma Dewey	softleaf sedge
Carex douglasii Boott	Douglas' sedge
Carex echinata J. A. Murray ssp. *echinata*	prickly sedge
Carex elynoides Holm	blackroot sedge
Carex filifolia Nutt.	threadleaf sedge
Carex geyeri Boott	elk sedge
Carex hoodii Boott	Hood's sedge
Carex laeviculmis Meinsh.	smoothstem sedge
Carex lanuginosa Michx.	woolly sedge
Carex lenticularis Michx. var. *pallida* (Boott) Dorn	Kellogg sedge
Carex leptalea Wahlenb.	bristlystalked sedge
Carex microptera Mack. var. *microptera*	smallwing sedge
Carex nardina Fries	spike sedge
Carex nebrascensis Dewey	Nebraska sedge
Carex nigricans C. A. Mey.	black alpine sedge
Carex pachystachya Cham. ex Steud.	Chamisso sedge
Carex paysonis Clokey	Payson's sedge
Carex petasata Dewey	Liddon sedge
Carex phaeocephala Piper	dunhead sedge
Carex praegracilis W. Boott	clustered field sedge
Carex raynoldsii Dewey	Raynold's sedge
Carex rossii Boott	Ross' sedge
Carex rostrata Stokes var. *rostrata*	beaked sedge
Carex rupestris All.	rock sedge
Carex sartwellii Dewey	Sartwell's sedge
Carex stenophylla Wahlenb.	needleleaf sedge
Carex vallicola Dewey var. *vallicola*	valley sedge
Carex vesicaria L. var. *vesicaria*	lesser bladder sedge
Cyperus aristatus Rottb. var. *aristatus*	bearded flatsedge
Eleocharis acicularis (L.) R. & S.	needle spikerush
Eleocharis bella (Piper) Svenson	delicate spike-rush
Eleocharis flavescens (Poir.) Urban var. *thermalis* (Rydb.) Cronq.	yellow spikerush
Eleocharis palustris (L.) R. & S.	common spikerush
Eleocharis rostellata (Torr.) Torr.	beaked spikerush
Eriophorum polystachion L.	tall cottongrass
Eriophorum viridicarinatum (Engelm.) Fern.	thinleaf cottonsedge
Kobresia bellardii (All.) Degl.	Bellardi kobresia
Scirpus acutus Muhl. ex Bigel.	hardstem bulrush

Scirpus atrocinctus Fern.	blackgirdle bulrush
Scirpus microcarpus J. & K. Presl	panicled bulrush
Scirpus pungens Vahl var. *polyphyllus* Boeck.	common threesquare
Scirpus validus Vahl	great bulrush
Droseraceae	
Drosera anglica Huds.	English sundew
Elaeagnaceae	
Elaeagnus commutata Bernh. ex Rydb.	silverberry
Shepherdia canadensis (L.) Nutt.	russet buffaloberry
Ericaceae	
Arctostaphylos uva-ursi (L.) Spreng. var. *stipitata* (Packer & Denford) Dorn	kinnikinnick
Arctostaphylos uva-ursi (L.) Spreng. var. *uva-ursi*	kinnikinnick
Chimaphila umbellata (L.) Barton var. *occidentalis* (Rydb.) Blake	pipsissewa
Gaultheria humifusa (Grah.) Rydb.	alpine wintergreen
Kalmia microphylla (Hook.) Heller var. *microphylla*	alpine laurel
Menziesia ferruginea Sm.	rusty menziesia
Moneses uniflora (L.) Gray var. *uniflora*	oneflowered woodnymph
Monotropa hypopithys L.	pinesap
Orthilia secunda (L.) House	sidebells wintergreen
Phyllodoce empetriformis (Sw.) D. Don	pink mountainheath
Phyllodoce glanduliflora (Hook.) Cov.	yellow mountainheath
Phyllodoce × *intermedia* Hook.	hybrid mountainheath
Pterospora andromedea Nutt.	woodland pinedrops
Pyrola asarifolia Michx. var. *asarifolia*	liverleaf wintergreen
Pyrola chlorantha Sw. var. *chlorantha*	greenflowered wintergreen
Pyrola minor L.	snowline wintergreen
Pyrola picta Sm. var. *picta*	whiteveined wintergreen
Vaccinium cespitosum Michx.	dwarf blueberry
Vaccinium globulare Rydb.	globe huckleberry
Vaccinium occidentale Gray	bog blueberry
Vaccinium scoparium Leib. ex Cov.	grouse whortleberry
Fabaceae	
Astragalus agrestis Dougl. ex G. Don	purple milkvetch
Astragalus argophyllus Nutt. var. *argophyllus*	silverleaf milkvetch
Astragalus australis (L.) Lam. var. *glabriusculus* (Hook.) Isely	Indian milkvetch
Astragalus canadensis L. var. *brevidens* (Gand.) Barneby	shorttooth Canadian milkvetch
Astragalus eucosmus Robins.	elegant milkvetch
Astragalus kentrophyta Gray var. *tegetarius* (Wats.) Dorn	mat milkvetch
Astragalus miser Dougl. var. *decumbens* (Nutt. ex T. & G.) Cronq.	prostrate loco milkvetch
Astragalus miser Dougl. var. *hylophilus* (Rydb.) Barneby	woody loco milkvetch
Astragalus purshii Dougl. ex Hook. var. *purshii*	Pursh's milkvetch
Astragalus shultziorum Barneby	Shultz's milkvetch
Astragalus tenellus Pursh	looseflower milkvetch
Astragalus terminalis Wats.	railhead milkvetch
Caragana arborescens Lam.	Siberian peatree
Glycyrrhiza lepidota Nutt. ex Pursh var. *lepidota*	American licorice
Hedysarum boreale Nutt. var. *boreale*	boreal sweetvetch
Hedysarum occidentale Greene	western sweetvetch
Lupinus argenteus Pursh var. *argenteus*	silvery lupine
Lupinus argenteus Pursh var. *rubricaulis* (Greene) Welsh	silvery lupine
Lupinus polyphyllus Lindl. var. *humicola* (A. Nels.) Barneby	Wyeth's lupine
Lupinus polyphyllus Lindl. var. *prunophilus* (Jones) L. Phillips	hairy bigleaf lupine
Lupinus sericeus Pursh	silky lupine
Medicago lupulina L.	black medic
Medicago sativa L.	alfalfa
Melilotus albus Medic.	white sweetclover
Melilotus officinalis (L.) Pall.	yellow sweetclover
Oxytropis deflexa (Pall.) DC. var. *foliolosa* (Hook.) Barneby	pendantpod locoweed

Oxytropis deflexa (Pall.) DC. var. *sericea* T. & G.	longstem hangpod crazyweed
Trifolium hybridum L.	alsike clover
Trifolium pratense L.	red clover
Trifolium repens L.	white clover
Vicia americana Muhl. ex Willd. var. *minor* Hook.	mat vetch

Fumariaceae

Dicentra uniflora Kellogg	steer's head

Gentianaceae

Frasera speciosa Dougl. ex Griseb.	monument plant
Gentiana affinis Griseb. var. affinis	pleated gentian
Gentianella amarella (L.) Börner var. *amarella*	northern gentian
Gentianopsis detonsa (Rottb.) Ma var. *elegans* (A. Nels.) N. Holmgren	Rocky Mountain fringed gentian

Geraniaceae

Erodium cicutarium (L.) L'Her. ex Ait.	redstem stork's bill
Geranium bicknellii Britt.	Bicknell's cranesbill
Geranium richardsonii Fisch. & Trautv.	Richardson's geranium
Geranium viscosissimum Fisch. & Mey. ex Mey. var. *viscosissimum*	sticky purple geranium
Geranium viscosissimum Fisch. & Mey. ex Mey. var. *nervosum* (Rydb.) C. L. Hitchc.	sticky purple geranium

Grossulariaceae

Ribes cereum Dougl. var. *pedicellare* Brewer & Wats.	squaw currant
Ribes hudsonianum Richards. var. *petiolare* (Dougl.) Jancz.	northern black currant
Ribes inerme Rydb. var. *inerme*	whitestem gooseberry
Ribes lacustre (Pers.) Poir.	prickly currant
Ribes montigenum McClat.	mountain gooseberry
Ribes sativum (Rchb.) Syme	cultivated currant
Ribes viscosissimum Pursh var. *viscosissimum*	sticky currant

Haloragaceae

Myriophyllum sibiricum Kom.	shortspike watermilfoil

Hippuridaceae

Hippuris vulgaris L.	common mare's tail

Hydrophyllaceae

Hydrophyllum capitatum Dougl. ex Benth. var. *capitatum*	ballhead waterleaf
Nemophila breviflora Gray	basin nemophila
Phacelia franklinii (R. Br.) Gray	Franklin's phacelia
Phacelia hastata Dougl. ex Lehm. var. *hastata*	silverleaf phacelia
Phacelia heterophylla Pursh var. *virgata* (Greene) Dorn	varileaf phacelia
Phacelia sericea (Grah. ex Hook.) Gray var. *sericea*	silky phacelia
Phacelia sericea (Grah. ex Hook.) Gray var. *ciliosa* Rydb.	silky phacelia

Hypericaceae

Hypericum formosum var. *scouleri* (Hook.) Coult.	Scouler's St. Johnswort
Hypericum perforatum L.	common St. Johnswort

Iridaceae

Sisyrinchium idahoense Bickn. var. *occidentale* (Bickn.) D. Henderson	Idaho blueeyed grass

Juncaceae

Juncus balticus Willd. var. *montanus* Engelm.	Baltic rush
Juncus bufonius L.	toad rush
Juncus confusus Cov.	Colorado rush
Juncus drummondii E. Mey.	Drummond's rush
Juncus ensifolius Wikstr. var. *ensifolius*	swordleaf rush
Juncus ensifolius Wikstr. var. *montanus* (Engelm.) C. L. Hitchc.	Rocky Mountain rush
Juncus filiformis L.	thread rush

Juncus interior Wieg. var. *interior*	inland rush
Juncus longistylis Torr. var. *longistylis*	longstyle rush
Juncus mertensianus Bong.	Merten's rush
Juncus nevadensis Wats. var. *nevadensis*	Nevada rush
Juncus nodosus L.	jointed rush
Juncus parryi Engelm.	Parry's rush
Juncus tweedyi Rydb.	Tweedy's rush
Luzula glabrata (Hoppe ex Rostk.) Desv. var. *hitchcockii* (Hämet-Ahti) Dorn	Hitchcock's smooth woodrush
Luzula parviflora (Ehrh.) Desv.	smallflowered woodrush
Luzula piperi (Cov.) Jones	Piper's woodrush
Luzula spicata (L.) DC.	spiked woodrush

Lamiaceae

Agastache urticifolia (Benth.) Kuntze var. *urticifolia*	nettleleaf giant hyssop
Dracocephalum parviflorum Nutt.	American dragonhead
Mentha arvensis L.	wild mint
Nepeta cataria L.	catnip
Prunella vulgaris L. var. *lanceolata* (Barton) Fern.	lance selfheal
Scutellaria galericulata L.	marsh skullcap

Lemnaceae

Lemna minor L.	common duckweed
Lemna trisulca L.	star duckweed
Lemna valdiviana Phil.	valdivia duckweed
Spirodela polyrhiza (L.) Schleid	giant duckweed

Lentibulariaceae

Utricularia minor L.	lesser bladderwort
Utricularia vulgaris L.	common bladderwort

Liliaceae

Allium brevistylum Wats.	shortstyle onion
Allium geyeri Wats. var. *tenerum* Jones	bulbil onion
Allium schoenoprasum L.	wild chives
Allium textile Nels. & Macbr.	textile onion
Calochortus nuttallii T. & G.	sego lily
Camassia quamash (Pursh) Greene var. *utahensis* (Gould) C. L. Hitchc.	camas
Disporum trachycarpum (Wats.) Benth. & Hook.	roughfruit fairybells
Erythronium grandiflorum Pursh var. *grandiflorum*	dogtooth violet
Fritillaria atropurpurea Nutt.	checker-lily
Fritillaria pudica (Pursh) Spreng.	yellow bells
Lloydia serotina (L.) Rchb. var. *serotina*	common alplily
Maianthemum racemosum (L.) Link var. *amplexicaule* (Nutt.) Dorn	western Solomon's seal
Maianthemum stellatum (L.) Link	starry false Solomon's seal
Streptopus amplexifolius (L.) DC.	claspleaf twistedstalk
Tofieldia glutinosa (Michx.) Pers. var. *montana* (C. L. Hitchc.) R. J. Davis	tall tofieldia
Triteleia grandiflora Lindl. var. *grandiflora*	wild hyacinth

Veratrum californicum Durand var. *californicum*	California false hellebore
Xerophyllum tenax (Pursh) Nutt.	common beargrass
Zigadenus elegans Pursh	mountain deathcamas
Zigadenus venenosus Wats. var. *gramineus* (Rydb.) Walsh ex Peck	grassy deathcamas
Limnanthaceae	
Floerkea proserpinacoides Willd.	false mermaid
Linaceae	
Linum lewisii Pursh var. lewisii	Lewis' flax
Loasaceae	
Mentzelia dispersa Wats.	bushy blazingstar
Malvaceae	
Iliamna rivularis (Dougl. ex Hook.) Greene	streambank globemallow
Malva neglecta Wallr.	common mallow
Menyanthaceae	
Menyanthes trifoliata L.	common buckbean
Najadaceae	
Najas guadalupensis (Spreng.) Morong var. *guadalupensis*	Guadalupe waternymph
Nymphaeaceae	
Nuphar polysepalum Engelm.	Rocky Mountain pondlily
Onagraceae	
Camissonia breviflora (T. & G.) Raven	fewflower eveningprimrose
Epilobium anagallidifolium Lam.	alpine willowherb
Epilobium angustifolium L. var. *angustifolium*	fireweed
Epilobium angustifolium L. var. *canescens* Wood	fireweed
Epilobium brachycarpum Presl	autumn willowweed
Epilobium canum (Greene) Raven ssp. *garrettii* (A. Nels.) Raven	Garrett's firechalice
Epilobium ciliatum Raf. var. *ciliatum*	coast willowweed
Epilobium clavatum Trel.	clubfruit willowherb
Epilobium hornemannii Rchb. ssp. *hornemannii*	Hornemann's willowherb
Epilobium latifolium L.	dwarf fireweed
Epilobium suffruticosum Nutt.	shrub willowherb
Gayophytum diffusum T. & G. var. *diffusum*	spreading groundsmoke
Gayophytum diffusum T. & G. var. *strictipe*s (Hook.) Dorn	spreading groundsmoke
Gayophytum racemosum T. & G.	blackfoot groundsmoke
Oenothera cespitosa Nutt. var. *cespitosa*	tufted eveningprimrose
Oenothera flava (A. Nels.) Garrett	yellow eveningprimrose
Oenothera villosa Thunb. var. *strigosa* (Rydb.) Dorn	hairy eveningprimrose
Orchidaceae	
Calypso bulbosa (L.) Oakes var. *americana* (R. Br.) Luer	fairyslipper orchid
Corallorrhiza maculata (Raf.) Raf.	spotted coralroot
Corallorrhiza mertensiana Bong.	Pacific coralroot
Corallorrhiza striata Lindl.	hooded coralroot
Corallorrhiza wisteriana Conrad	spring coralroot
Goodyera oblongifolia Raf.	western rattlesnake plantain
Listera caurina Piper	northwestern twayblade
Listera convallarioides (Sw.) Nutt. ex Elliott	broadlipped twayblade
Listera cordata (L.) R. Br.	heartleaf twayblade
Piperia unalascensis (Spreng.) Rydb.	Alaska rein orchid
Platanthera dilatata (Pursh) Lindl. ex Beck var. *dilatata*	white bog orchid
Platanthera hyperborea (L.) Lindl. var. *hyperborea*	northern green orchid
Platanthera obtusata (Banks ex Pursh) Lindl.	blunt bog orchid
Platanthera stricta Lindl.	Modoc bog orchid
Spiranthes romanzoffiana Cham.	hooded ladies tresses

Orobanchaceae	
Orobanche corymbosa (Rydb.) Ferris ssp. *corymbosa*	flatttop broomrape
Orobanche fasciculata Nutt.	clustered broomrape
Orobanche ludoviciana Nutt. var. *arenosa* (Suksd.) Cronq.	sand broomrape
Orobanche uniflora L. var. *occidentalis* (Greene) Taylor & MacBryde	one-flowered broomrape
Paeoniaceae	
Paeonia brownii Dougl. ex Hook.	Brown's peony
Plantaginaceae	
Plantago lanceolata L.	narrowleaf plantain
Plantago major L.	common plantain
Poaceae	
Agropyron cristatum (L.) Gaertn. var. *cristatum*	crested wheatgrass
Agropyron cristatum (L.) Gaertn. var. *desertorum* (Fisch. ex Link) Dorn	desert wheatgrass
Agrostis exarata Trin.	spike bentgrass
Agrostis humilis Vasey	alpine bentgrass
Agrostis idahoensis Nash	Idaho bentgrass
Agrostis scabra Willd. var. *scabra*	rough bentgrass
Agrostis stolonifera L.	creeping bentgrass
Agrostis thurberiana Hitchc.	Thurber's bentgrass
Alopecurus aequalis Sobol. var. *aequalis*	shortawn foxtail
Alopecurus alpinus J. E. Sm. var. *alpinus*	boreal alopecurus
Alopecurus arundinaceus Poir.	creeping meadow foxtail
Alopecurus pratensis L.	meadow foxtail
Arrhenatherum elatius (L.) J. & K. Presl var. *elatius*	tall oatgrass
Avena fatua L.	wild oat
Beckmannia syzigachne (Steud.) Fern.	American sloughgrass
Bromus anomalus Rupr. ex Fourn.	nodding brome
Bromus carinatus H. & A.	California brome
Bromus ciliatus L.	fringed brome
Bromus inermis Leyss. var. *inermis*	smooth brome
Bromus tectorum L.	cheatgrass
Bromus vulgaris (Hook.) Shear	Colombian brome
Calamagrostis canadensis (Michx.) Beauv.	bluejoint
Calamagrostis inexpansa Gray	northern reedgrass
Calamagrostis rubescens Buckl.	pinegrass
Calamagrostis stricta (Timm) Koeler	slimstem reedgrass
Cinna latifolia (Trev. ex Goepp.) Griseb.	drooping woodreed
Dactylis glomerata L.	orchardgrass
Danthonia californica Boland.	California oatgrass
Danthonia intermedia Vasey	timber oatgrass
Danthonia unispicata (Thurb.) Munro ex Macoun	onespike danthonia
Deschampsia atropurpurea (Wahlenb.) Scheele var. *latifolia* (Hook.) Scribn. ex Macoun	mountain hairgrass
Deschampsia cespitosa (L.) Beauv. var. *cespitosa*	tufted hairgrass
Elymus albicans (Scribn. & Sm.) Löve var. *griffithsii* (Scribn. & Sm. ex Piper) Dorn	Montana wheatgrass
Elymus cinereus Scribn. & Merr.	basin wildrye
Elymus elymoides (Raf.) Swezey var. *brevifolius* (J. G. Sm.) Dorn	bottlebrush squirreltail
Elymus glaucus Buckl. var. *glaucus*	blue wildrye
Elymus hispidus (Opiz) Melderis var. *hispidus*	intermediate wheatgrass
Elymus lanceolatus (Scribn. & Sm.) Gould var. *lanceolatus*	thickspike wheatgrass
Elymus lanceolatus (Scribn. & Sm.) Gould var. *riparius* (Scribn. & Sm.) Dorn	thickspike wheatgrass
Elymus scribneri (Vasey) Jones	spreading wheatgrass
Elymus spicatus (Pursh) Gould	bluebunch wheatgrass
Elymus trachycaulus (Link) Gould ex Shinners var. *andinus* (Scribn. & Sm.) Dorn	slender wheatgrass
Elymus trachycaulus (Link) Gould ex Shinners var. *trachycaulus*	slender wheatgrass
Festuca baffinensis Polunin	Baffin fescue
Festuca idahoensis Elmer var. *idahoensis*	Idaho fescue
Festuca pratensis Huds.	meadow fescue

Glyceria borealis (Nash) Batch.	northern mannagrass
Glyceria elata (Nash ex Rydb.) Jones	tall mannagrass
Glyceria grandis Wats.	American mannagrass
Glyceria striata (Lam.) Hitchc.	fowl mannagrass
Hierochloë odorata (L.) Beauv.	sweetgrass
Hordeum brachyantherum Nevski	meadow barley
Hordeum jubatum L.	foxtail barley
Hordeum vulgare L. var. *vulgare*	common barley
Koeleria macrantha (Ledeb.) Schult.	prairie Junegrass
Leucopoa kingii (Wats.) W. A. Weber	spike fescue
Melica spectabilis Scribn.	purple oniongrass
Muhlenbergia andina (Nutt.) Hitchc.	foxtail muhly
Muhlenbergia filiformis (Thurb. ex Wats.) Rydb.	slender muhly
Muhlenbergia richardsonis (Trin.) Rydb.	mat muhly
Oryzopsis exigua Thurb.	little ricegrass
Phalaris arundinacea L. var. *arundinacea*	reed canarygrass
Phleum alpinum L. var. *alpinum*	alpine timothy
Phleum pratense L. var. *pratense*	common timothy
Poa alpina L.	alpine bluegrass
Poa annua L.	annual bluegrass
Poa bulbosa L.	bulbous bluegrass
Poa compressa L.	Canada bluegrass
Poa curta Rydb.	Wasatch bluegrass
Poa cusickii Vasey var. *epilis* (Scribn.) C. L. Hitchc.	skyline bluegrass
Poa fendleriana (Steud.) Vasey	muttongrass
Poa gracillima Vasey var. *gracillima*	slender bluegrass
Poa leptocoma Trin.	bog bluegrass
Poa nervosa (Hook.) Vasey var. *wheeleri* (Vasey) C. L. Hitchc.	Wheeler bluegrass
Poa nevadensis Vasey ex Scribn.	Nevada blugrass-
Poa palustris L.	fowl bluegrass
Poa pattersonii Vasey	Patterson's bluegrass
Poa pratensis L.	Kentucky bluegrass
Poa secunda Presl var. *elongata* (Vasey) Dorn	Sandberg bluegrass
Poa secunda Presl var. *incurva* (Scribn. & Williams ex Scribn.) Beetle	Sandberg bluegrass
Poa secunda Presl var. *secunda*	Sandberg blugrass
Sporobolus cryptandrus (Torr.) Gray	sand dropseed
Stipa comata Trin. & Rupr. var. *comata*	needle and thread grass
Stipa comata Trin. & Rupr. var. *intermedia* Scribn. & Tweedy	needle and thread grass
Stipa lettermanii Vasey	Letterman's needlegrass
Stipa nelsonii Scribn. var. *nelsonii*	Nelson's needlegrass
Stipa richardsonii Link	Richardson's needlegrass
Torreyochloa pallida (Torr.) Church var. *fernaldii* (Hitchc.) Dore	Fernald's false mannagrass
Torreyochloa pallida (Torr.) Church var. *pauciflora* (J. Presl) J. Davis	pale false mannagrass
Trisetum spicatum (L.) Richt.	spike trisetum
Trisetum wolfii Vasey	Wolf's trisetum

Polemoniaceae

Collomia linearis Nutt.	narrowleaf mountain trumpet
Gilia tenerrima Gray	delicate gilia
Gymnosteris parvula Heller	smallflower gymnosteris
Ipomopsis aggregata (Pursh) V. Grant var. *aggregata*	skyrocket gilia
Ipomopsis aggregata (Pursh) V. Grant var. *attenuata* (Gray) Dorn	scarlet skyrocket
Linanthus nuttallii (Gray) Greene ex Milliken ssp. *nuttallii*	Nuttall's desert trumpet
Linanthus septentrionalis Mason	northern linanthus
Microsteris gracilis (Hook.) Greene var. *humilior* (Hook.) Cronq.	dwarf phlox
Phlox hoodii Richards.	spiny phlox
Phlox longifolia Nutt. var. *longifolia*	longleaf phlox
Phlox multiflora A. Nels.	flowery phlox
Phlox pulvinata (Wherry) Cronq.	cushion phlox
Polemonium occidentale Greene var. *occidentale*	western polemonium
Polemonium pulcherrimum Hook. var. *pulcherrimum*	pretty Jacobs ladder
Polemonium viscosum Nutt.	sticky polemonium

Polygonaceae	
Eriogonum ovalifolium Nutt. var. *ochroleucum* (Small ex Rydb.) Peck	cushion buckwheat
Eriogonum umbellatum Torr. var. *dichrocephalum* Gand.	sulphurflower buckwheat
Eriogonum umbellatum Torr. var. *majus* Hook.	sulphurflower buckwheat
Eriogonum umbellatum Torr. var. *umbellatum*	sulphurflower buckwheat
Oxyria digyna (L.) Hill	alpine mountainsorrel
Polygonum achoreum Blake	leathery knotweed
Polygonum amphibium L. var. *stipulaceum* Coleman	water smartweed
Polygonum aviculare L.	prostrate knotweed
Polygonum bistortoides Pursh	American bistort
Polygonum douglasii Greene var. *douglasii*	Douglas' knotweed
Polygonum kelloggii Greene var. *confertiflorum* (Nutt. ex Piper) Dorn	fruitleaf knotweed
Polygonum kelloggii Greene var. *kelloggii*	Kellogg's knotweed
Polygonum minimum Wats.	broadleaf knotweed
Polygonum viviparum L.	alpine bistort
Polygonum watsonii Small	water knotweed
Rumex acetosella L.	common sheep sorrel
Rumex crispus L.	curly dock
Rumex maritimus L. var. *fueginus* (Phil.) Dusén	golden dock
Rumex paucifolius Nutt.	few-leaved dock
Rumex salicifolius Weinm. var. *triangulivalvis* (Danser) Hickman	willow-leaf dock
Portulacaceae	
Cistanthe umbellata (Torr.) Hershkovitz var. *caudicifera* (Gray) Kartesz & Gandhi	pussypaws
Claytonia lanceolata Pursh var. *lanceolata*	lanceleaf springbeauty
Lewisia pygmaea (Gray) Robins. var. *pygmaea*	pigmy bitterroot
Lewisia triphylla (Wats.) Robins.	threeleaf lewisia
Montia chamissoi (Ledeb. ex Spreng.) Greene	water minerslettuce
Potamogetonaceae	
Potamogeton alpinus Balbis	alpine pondweed
Potamogeton epihydrus Raf.	ribbonleaf pondweed
Potamogeton filiformis Pers.	fineleaf pondweed
Potamogeton foliosus Raf.	leafy pondweed
Potamogeton friesii Rupr.	Fries' pondweed
Potamogeton gramineus L.	variableleaf pondweed
Potamogeton natans L.	floating pondweed
Potamogeton obtusifolius Mert. & Koch	bluntleaf pondweed
Potamogeton pusillus L. var. *pusillus*	small pondweed
Potamogeton richardsonii (Benn.) Rydb.	Richardson's pondweed
Potamogeton zosteriformis Fern.	flatstem pondweed
Primulaceae	
Androsace septentrionalis L. var. *subulifera* Gray	pygmyflower rockjasmine
Dodecatheon conjugens Greene var. *conjugens*	Bonneville shootingstar
Dodecatheon pulchellum (Raf.) Merr. var. *pulchellum*	darkthroat shootingstar
Primula parryi Gray	Parry's primrose
Ranunculaceae	
Aconitum columbianum Nutt. var. *columbianum*	Columbian monkshood
Actaea rubra (Ait.) Willd.	red baneberry
Anemone multifida Poir. var. *multifida*	Pacific anemone
Anemone parviflora Michx.	small-flowered anemone
Anemone tetonensis Porter ex Britt.	Teton anemone
Aquilegia coerulea James var. *coerulea*	Colorado blue columbine
Aquilegia flavescens Wats. var. *flavescens*	yellow columbine
Caltha leptosepala DC. var. *leptosepala*	white marshmarigold
Clematis hirsutissima Pursh var. *hirsutissima*	vaseflower
Clematis occidentalis (Hornem.) DC. var. *grosseserrata* (Rydb.) J. Pringle	western blue virginsbower
Delphinium bicolor Nutt.	little larkspur
Delphinium burkei Greene	Burk larkspur

Delphinium nuttallianum Pritz. ex Walp. var. *nuttallinum*	Nuttall's larkspur
Delphinium occidentale (Wats.) Wats.	duncecap larkspur
Myosurus minimus L. var. *minimus*	tiny mousetail
Ranunculus acriformis Gray var. *montanensis* (Rydb.) Benson	mountain sharp buttercup
Ranunculus adoneus Gray	alpine buttercup
Ranunculus aquatilis L.	water buttercup
Ranunculus cymbalaria Pursh var. *alpinus* Hook.	alpine buttercup
Ranunculus cymbalaria Pursh var. *cymbalaria*.	Rocky Mountain buttercup
Ranunculus eschscholtzii Schlecht. var. *eschscholtzii*	Eschscholtz's buttercup
Ranunculus eschscholtzii Schlecht. var. *trisectus* (Eastw.) Benson	subalpine buttercup
Ranunculus glaberrimus Hook. var. *ellipticus* (Greene) Greene	smooth buttercup
Ranunculus inamoenus Greene var. *inamoenus*	graceful buttercup
Ranunculus jovis A. Nels.	Utah buttercup
Ranunculus macounii Britt.	Macoun's buttercup
Ranunculus sceleratus L. var. *multifidus* Nutt.	blister buttercup
Ranunculus uncinatus D. Don ex G. Don var. *uncinatus*	little buttercup
Ranunculus uncinatus D. Don ex G. Don var. *parviflorus* (Torr.) Benson	common Idaho buttercup
Thalictrum fendleri Engelm. ex Gray var. *fendleri*	Fendler's meadowrue
Thalictrum occidentale Gray	western meadowrue
Trollius laxus Salisb. var. *albiflorus* Gray	American globeflower

Rhamnaceae

Ceanothus velutinus Dougl. ex Hook. var. *velutinus*	snowbrush ceanothus
Rhamnus alnifolia L'Her.	alderleaf buckthorn

Rosaceae

Amelanchier alnifolia (Nutt.) Nutt. ex Roem. var. *alnifolia*	Saskatoon serviceberry
Amelanchier alnifolia (Nutt.) Nutt. ex Roem. var. *pumila* (T. & G.) A. Nels.	dwarf serviceberry
Crataegus douglasii Lindl. var. *douglasii*	Douglas' hawthorn
Dryas octopetala L. var. *hookeriana* (Juz.) Breit.	Hooker's mountainavens
Fragaria vesca L.	woodland strawberry
Fragaria virginiana Mill.	Virginia strawberry
Geum macrophyllum Willd. var. *perincisum* (Rydb.) Raup	largeleaf avens
Geum rossii (R. Br.) Ser. var. *turbinatum* (Rydb.) C. L. Hitchc.	Ross' avens
Geum triflorum Pursh var. *triflorum*	prairie smoke
Ivesia gordonii (Hook.) T. & G.	Gordon's ivesia
Petrophyton caespitosum (Nutt.) Rydb.	mat rockspirea
Physocarpus malvaceus (Greene) Kuntze	mallow ninebark
Potentilla anserina L.	silverweed cinquefoil
Potentilla arguta Pursh	tall cinquefoil
Potentilla brevifolia Nutt. ex T. & G.	sparseleaf cinquefoil
Potentilla diversifolia Lehm. var. *diversifolia*	varileaf cinquefoil
Potentilla flabellifolia Hook. ex T. & G. var. *flabellifolia*	high mountain cinquefoil
Potentilla fruticosa L.	shrubby cinquefoil
Potentilla glandulosa Lindl. var. *pseudorupestris* (Rydb.) Breit.	sticky cinquefoil
Potentilla gracilis Dougl. ex Hook. var. *brunnescens* (Rydb.) C. L. Hitchc.	brownfuz cinquefoil
Potentilla gracilis Dougl. ex Hook. var. *flabelliformis* (Lehm.) Nutt. ex T. & G.	----
Potentilla gracilis Dougl. ex Hook. var. *nuttallii* (Lehm.) Sheld.	Nuttall’s cinquefoil
Potentilla gracilis Dougl. ex Hook. var. *pulcherrima* (Lehm.) Fern.	beautiful cinquefoil
Potentilla norvegica L.	Norwegian cinquefoil
Potentilla ovina Macoun var. *decurrens* (Wats.) Welsh & B. C. Johnst.	sheep cinquefoil
Potentilla palustris (L.) Scop.	purple marshlocks
Potentilla recta L.	sulphur cinquefoil
Prunus virginiana L. var. *melanocarpa* (A. Nels.) Sarg.	black chokecherry
Purshia tridentata (Pursh) DC.	antelope bitterbrush
Pyrus malus L.	apple
Rosa woodsii Lindl.	Woods' rose
Rubus idaeus L. var. *aculeatissimus* Regel & Tiling	grayleaf red raspberry
Rubus idaeus L. var. *peramoenus* (Greene) Fern.	common red raspberry
Rubus laciniatus Willd.	cutleaf blackberry
Rubus parviflorus Nutt. var. *parviflorus*	western thimbleberry
Sibbaldia procumbens L.	creeping sibbaldia

Sorbus scopulina Greene var. *scopulina*	Rocky Mountain mountainash
Spiraea betulifolia Pall. var. *lucida* (Dougl. ex Hook.) C. L. Hitchc.	birchleaf spirea
Spiraea splendens Baumann ex K. Koch	rose meadowsweet
Rubiaceae	
Galium aparine L. var. *echinospermon* (Wallr.) Farw.	bedstraw
Galium bifolium Wats.	twinleaf bedstraw
Galium boreale L.	northern bedstraw
Galium trifidum L. var. *trifidum*	threepetal bedstraw
Galium triflorum Michx.	fragrant bedstraw
Kelloggia galioides Torr.	milk kelloggia
Salicaceae	
Populus angustifolia James	narrowleaf cottonwood
Populus balsamifera L. var. *balsamifera*	balsam poplar
Populus tremuloides Michx.	quaking aspen
Salix arctica Pall. var. *petraea* Anderss.	arctic willow
Salix bebbiana Sarg. var. *bebbiana*	Bebb willow
Salix boothii Dorn	Booth's willow
Salix cascadensis Ckll.	cascade willow
Salix drummondiana Barr. ex Hook.	Drummond's willow
Salix eastwoodiae Ckll. ex Heller	Eastwood willow
Salix exigua Nutt. var. *pedicellata* (Anderss.) Cronq.	sandbar willow
Salix geyeriana Anderss. var. *geyeriana*	Geyer's willow
Salix glauca L. var. *villosa* (Hook.) Anderss.	gray willow
Salix lasiandra Benth. var. *caudata* (Nutt.) Sudw.	greenleaf willow
Salix lemmonii Bebb	Lemmon's willow
Salix lutea Nutt.	yellow willow
Salix melanopsis Nutt.	dusky willow
Salix planifolia Pursh var. *monica* (Bebb) Schneid.	planeleaf willow
Salix planifolia Pursh var. *planifolia*	planeleaf willow
Salix prolixa Anderss.	MacKenzie's willow
Salix reticulata L. var. *nana* Anderss.	snow willow
Salix scouleriana Barr. ex Hook.	Scouler willow
Salix tweedyi (Bebb ex Rose) Ball	Tweedy's willow
Salix wolfii Bebb var. wolfii	Wolf's willow
Santalaceae	
Comandra umbellata (L.) Nutt. var. *pallida* (A. DC.) Jones	pale bastard toadflax
Saxifragaceae	
Boykinia heucheriformis (Rydb.) Rosend.	alumroot brookfoam
Heuchera parvifolia Nutt. ex T. & G.	littleleaf alumroot
Lithophragma glabrum Nutt. var. *ramulosum* (Suksd.) Boivin	bulbous woodlandstar
Lithophragma parviflorum (Hook.) Nutt. ex T. & G.	smallflower woodlandstar
Mitella pentandra Hook.	fivestamen miterwort
Mitella stauropetala Piper var. *stenopetala* (Piper) Rosend.	drywoods miterwort
Parnassia fimbriata König var. *fimbriata*	fringed grass of Parnassus
Parnassia kotzebuei Cham. ex Spreng. var. *kotzebuei*	Kotzebue's grass of Parnassus
Parnassia palustris L. var. *montanensis* (Fern. & Rydb.) C. L. Hitchc.	northern grass of Parnassus
Saxifraga bronchialis L. var. i (Wieg.) Piper ex G. N. Jones	matted saxifrage
Saxifraga occidentalis Wats.	western saxifrage
Saxifraga odontoloma Piper	brook saxifrage
Saxifraga oppositifolia L.	purple mountain saxifrage
Saxifraga rhomboidea Greene	diamondleaf saxifrage
Saxifraga rivularis L. var. *debilis* (Engelm. ex Gray) Dorn	weak saxifrage
Saxifraga rivularis L. var. *flexuosa* (Sternb.) Engl. & Irmsch.	weak saxifrage
Saxifraga subapetala E. Nels.	Yellowstone saxifrage
Scrophulariaceae	
Besseya wyomingensis (A. Nels.) Rydb.	Wyoming besseya
Castilleja angustifolia (Nutt.) G. Don var. *dubia* A. Nels.	desert paintbrush

Castilleja cusickii Greenm.	Cusick's Indian paintbrush
Castilleja flava Wats. var. *flava*	yellow Indian paintbrush
Castilleja linariifolia Benth.	Wyoming Indian paintbrush
Castilleja miniata Dougl. ex Hook. var. *miniata*	scarlet paintbrush
Castilleja pilosa (Wats.) Rydb. var. *longispica* (A. Nels.) N. Holmgren	longspike Indian paintbrush
Castilleja pulchella Rydb.	beautiful paintbrush
Castilleja rhexifolia Rydb.	splitleaf Indian paintbrush
Castilleja sulphurea Rydb.	sulphur Indian paintbrush
Collinsia parviflora Lindl.	smallflower blue eyed Mary
Cordylanthus ramosus Nutt. ex Benth.	bushy bird's beak
Linaria dalmatica (L.) Mill. ssp. *dalmatica*	Dalmatian toadflax *Linaria vulgaris* Mill.
	butter and eggs
Mimulus floribundus Lindl. var. *floribundus*	many-flowered monkeyflower
Mimulus guttatus DC. var. *guttatus*	yellow monkeyflower
Mimulus lewisii Pursh	purple monkeyflower
Mimulus moschatus Dougl. ex Lindl. var. *moschatus*	muskflower
Mimulus patulus Penn.	Washington monkeyflower
Mimulus suksdorfii Gray	Suksdorf's monkeyflower
Orthocarpus luteus Nutt.	yellow owlclover
Pedicularis bracteosa Benth. var. *paysoniana* (Penn.) Cronq.	Payson's lousewort
Pedicularis contorta Benth. var. *contorta*	coiled lousewort
Pedicularis groenlandica Retz.	elephanthead lousewort
Pedicularis racemosa Dougl. ex Benth. var. *alba* (Penn.) Cronq.	sickletop lousewort
Penstemon attenuatus Dougl. ex Lindl. var. *pseudoprocerus* (Rydb.) Cronq.	small penstemon
Penstemon cyananthus Hook.	Wasatch beardtongue
Penstemon cyaneus Penn.	blue penstemon
Penstemon deustus Dougl. ex Lindl. var. *deustus*	hotrock penstemon
Penstemon glaber Pursh var. *glaber*	western smooth beardtongue
Penstemon montanus Greene var. *montanus*	mountaint beardtongue
Penstemon procerus Dougl. ex Grah. var. *procerus*	pincushion beardtongue
Penstemon radicosus A. Nels.	matroot penstemon
Penstemon rydbergii A. Nels. var. *rydbergii*	swollen penstemon
Penstemon subglaber Rydb.	smooth penstemon
Penstemon whippleanus Gray	Whipple's penstemon
Scrophularia lanceolata Pursh	lanceleaf figwort
Synthyris pinnatifida Wats. var. *pinnatifida*	featherleaf kittentails
Verbascum thapsus L.	common mullein
Veronica americana Schwein. ex Benth.	American speedwell
Veronica biloba L.	bilobed speedwell
Veronica officinalis L.	common speedwell
Veronica peregrina var. *xalapensis*	purslane speedwell
Veronica serpyllifolia L. var. *humifusa* (Dickson) Vahl	thyme-leaf speedwell
Veronica wormskjoldii R. & S.	American alpine speedwell
Solanaceae	
Hyoscyamus niger L.	black henbane
Solanum dulcamara L.	climbing nightshade
Sparganiaceae	
Sparganium angustifolium Michx.	narrowleaf bur-reed
Sparganium emersum Rehm.	simplestem bur-reed
Sparganium minimum Fries	small bur-reed
Typhaceae	
Typha latifolia L.	broadleaf cattail
Urticaceae	
Urtica dioica L. var. *occidentalis* Wats.	stinging nettle
Urtica dioica L. var. *procera* (Muhl. ex Willd.) Wedd.	California nettle
Valerianaceae	
Valeriana edulis Nutt. ex T. & G. var. edulis	tobacco root

Valeriana occidentalis Heller	western valerian
Verbenaceae	
Verbena bracteata Lag. & Rodr.	bracted verbena
Violaceae	
Viola adunca Sm.	spring violet
Viola macloskeyi Lloyd var. *pallens* (Banks ex DC.) C. L. Hitchc.	smooth white violet
Viola nephrophylla Greene	common blue violet
Viola orbiculata Geyer ex Holz.	darkwoods violet
Viola palustris L.	marsh violet
Viola praemorsa Dougl. ex Lindl.	canary violet
Viola purpurea Kellogg var. *venosa* (Wats.) Brainerd	goosefoot yellow violet
Viola vallicola A. Nels.	valley violet
Viscaceae	
Arceuthobium americanum Nutt. ex Engelm.	American dwarf mistletoe

Appendix B

Grand Teton National Park Fauna

PARK	CLASS	SPECIES	COMMON NAME	PRESENCE	DOCDATE	RESTATUS	ABUNDANCE	REFERENCES
GRTE	Aves	*Gavia immer*	Common loon	1	1991	4	4	
GRTE	Aves	*Gavia arctica*	Arctic Loon	5	1985	5	4	
GRTE	Aves	*Aechmophorus occidentalis*	Western grebe	1	1991	3	4	
GRTE	Aves	*Aechmophorus clarkii*	Clark's grebe	1	1991	4	4	
GRTE	Aves	*Podiceps nigricollis*	Eared grebe	1	1990	3	4	
GRTE	Aves	*Podiceps auritus*	Horned grebe	1	1966	4	4	
GRTE	Aves	*Podilymbus podiceps*	Pied-billed grebe	1	1990	4	4	
GRTE	Aves	*Pelecanus erythrorhynchos*	American white pelican	1	1990	3	4	
GRTE	Aves	*Phalacrocorax auritus*	Double-crested cormorant	1	1991	3	4	
GRTE	Aves	*Botaurus lentiginosus*	American bittern	1	1991	4	4	
GRTE	Aves	*Nycticorax nycticorax*	Black-crowned night-heron	1	1989	4	4	
GRTE	Aves	*Bubulcus ibis*	Cattle egret	5	1979	5	4	
GRTE	Aves	*Egretta thula*	Snowy egret	1	1989	4	4	
GRTE	Aves	*Plegadis chihi*	White-faced ibis	1	1989	4	4	
GRTE	Aves	*Grus canadensis*	Sandhill crane	1	1991	3	4	
GRTE	Aves	*Grus americana*	Whooping crane	1	1991	5	4	
GRTE	Aves	*Cygnus buccinator*	Trumpeter swan	1	1991	1	1	
GRTE	Aves	*Branta canadensis*	Canada goose	1	1990	1	4	Dimmick 1964, Zeveloff 1979
GRTE	Aves	*Branta bernicla*	Brant	5	1989	5	4	
GRTE	Aves	*Chen caerulescens*	Snow goose	1	1991	4	4	

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PARK	CLASS	SPECIES	COMMON NAME	PRESENCE	DOCDATE	RESTATUS	ABUNDANCE	REFERENCES
GRTE	Aves	*Anas platyrhynchos*	Mallard	1	1990	1	4	
GRTE	Aves	*Anas strepera*	Gadwall	1	1989	3	4	
GRTE	Aves	*Anas crecca*	Green-winged teal	1	1989	4	4	
GRTE	Aves	*Anas acuta*	Northern pintail	1	1989	3	4	
GRTE	Aves	*Anas discors*	Blue-winged teal	1	1989	3	4	
GRTE	Aves	*Anas cyanoptera*	Cinammon teal	1	1990	3	4	
GRTE	Aves	*Anas americana*	American widgeon	1	1990	3	4	
GRTE	Aves	*Anas clypeata*	Northern shoveler	1	1990	3	4	
GRTE	Aves	*Aix sponsa*	Wood duck	5	1991	5	4	
GRTE	Aves	*Aythya americana*	Redhead	1	1990	3	4	
GRTE	Aves	*Aythya collaris*	Ring-necked duck	1	1989	3	4	
GRTE	Aves	*Aythya valisineria*	Canvasback	1	1989	4	4	
GRTE	Aves	*Aythya affinis*	Lesser scaup	1	1990	3	4	
GRTE	Aves	*Bucephala islandica*	Barrow's goldeneye	1	1990	3	4	
GRTE	Aves	*Bucephala clangula*	Common goldeneye	1	1990	3	4	
GRTE	Aves	*Bucephala albeola*	Bufflehead	1	1990	3	4	
GRTE	Aves	*Histrionicus histrionicus*	Harlequin duck	1	1991	4	2	Wallen 1987
GRTE	Aves	*Malanitta perspicillata*	Surf scoter	5	1965	5	4	
GRTE	Aves	*Mergus merganser*	Common merganser	1	1990	3	4	
GRTE	Aves	*Mergus serrator*	Red-breasted merganser	1	1990	4	4	
GRTE	Aves	*Rallus limicola*	Virginia rail	5	1989	5	4	
GRTE	Aves	*Porzana carolina*	Sora	1	1991	4	4	
GRTE	Aves	*Fulica americana*	American coot	1	1990	3	4	
GRTE	Aves	*Charadrius semipalmatus*	Semipalmated plover	1	1967	5	4	
GRTE	Aves	*Charadrius vociferus*	Killdeer	1	1990	3	4	

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PARK	CLASS	SPECIES	COMMON NAME	PRESENCE	DOCDATE	RESTATUS	ABUNDANCE	REFERENCES
GRTE	Aves	*Pluvialis squatarola*	Black-bellied plover	6	1968	5	4	
GRTE	Aves	*Gallinago gallinago*	Common snipe	1	1990	3	4	
GRTE	Aves	*Numenius americanus*	Long-billed curlew	1	1990	4	4	
GRTE	Aves	*Himantopus mexicanus*	Black-necked stilt	5	1977	5	4	
GRTE	Aves	*Recurvirostra americana*	American avocet	1	1991	3	4	
GRTE	Aves	*Tringa melanoleuca*	Greater yellowlegs	1	1988	4	4	
GRTE	Aves	*Tringa flavipes*	Lesser yellowlegs	1	1990	4	4	
GRTE	Aves	*Tringa solitaria*	Solitary sandpiper	1	1969	4	4	
GRTE	Aves	*Catoptrophorus semipalmatus*	Willet	1	1991	4	4	
GRTE	Aves	*Actitus macularia*	Spotted sandpiper	1	1991	3	4	
GRTE	Aves	*Limosa fedoa*	Marbled godwit	1	1988	4	4	
GRTE	Aves	*Calidris alba*	Sanderling	5	1967	5	4	
GRTE	Aves	*Calidris pusilla*	Semipalmated sandpiper	1	1987	4	4	
GRTE	Aves	*Calidris minutilla*	Least sandpiper	1	1968	4	4	
GRTE	Aves	*Calidris bairdii*	Baird's sandpiper	1	1988	3	4	
GRTE	Aves	*Calidris melanotos*	Pectoral sandpiper	6	1967	5	4	
GRTE	Aves	*Calidris alpina*	Dunlin	5	1968	5	4	
GRTE	Aves	*Calidris hinantopus*	Stilt sandpiper	6	1966	5	4	
GRTE	Aves	*Limnodromus scolopaceus*	Long-billed dowitcher	1	1987	4	4	
GRTE	Aves	*Cathartes aura*	Turkey vulture	1	1991	4	4	
GRTE	Aves	*Pandion haliaetus*	Osprey	1	1991	3	2	Alt 1980, Eng & Alt 1978
GRTE	Aves	*Haliaeetus leucocephalus*	Bald eagle	1	1991	1	1	Alt 1980, Swenson et al. 1983
GRTE	Aves	*Circus cyaneus*	Northern harrier	1	1991	3	4	

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PARK	CLASS	SPECIES	COMMON NAME	PRESENCE	DOCDATE	RESTATUS	ABUNDANCE	REFERENCES
GRTE	Aves	*Accipiter striatus*	Sharp-shinned hawk	1	1990	3	4	
GRTE	Aves	*Accipiter cooperii*	Cooper's hawk	1	1991	2	4	
GRTE	Aves	*Accipiter gentilis*	Northern goshawk	1	1991	2	4	
GRTE	Aves	*Buteo swainsoni*	Swainson's hawk	1	1991	3	4	
GRTE	Aves	*Buteo jamaicensis*	Red-tailed hawk	1	1991	3	4	
GRTE	Aves	*Buteo regalis*	Ferruginous hawk	1	1990	4	4	
GRTE	Aves	*Buteo lagopus*	Rough-legged hawk	1	1991	3	4	
GRTE	Aves	*Aquila chrysaetos*	Golden eagle	1	1990	3	4	
GRTE	Aves	*Falco sparverius*	American kestrel	1	1991	3	4	
GRTE	Aves	*Falco columbarius*	Merlin	1	1990	4	4	
GRTE	Aves	*Falco peregrinus*	Peregrine falcon	1	1991	4	2	
GRTE	Aves	*Falco rusticolus*	Gyrfalcon	1	1990	5	4	
GRTE	Aves	*Falco mexicanus*	Prairie falcon	1	1991	4	4	
GRTE	Aves	*Perdix perdix*	Gray partridge	1	1982	2	4	
GRTE	Aves	*Denragapus obscurus*	Blue grouse	1	1991	1	4	
GRTE	Aves	*Bonasa umbellus*	Ruffed grouse	1	1990	1	4	
GRTE	Aves	*Centrocercus urophasianus*	Sage grouse	1	1991	1	2	
GRTE	Aves	*Tympanuchus phasianellus*	Sharp-tailed grouse	5	1969	5	4	
GRTE	Aves	*Phalaropus tricolor*	Wilson's phalarope	1	1989	3	4	
GRTE	Aves	*Phalaropus lobatus*	Red-necked phalarope	1	1987	4	4	
GRTE	Aves	*Stercorarius parasiticus*	Parasitic jaeger	1	1975	5	4	
GRTE	Aves	*Larus papixcan*	Franklin's gull	1	1989	3	4	
GRTE	Aves	*Larus delawarensis*	Ring-billed gull	1	1989	4	4	
GRTE	Aves	*Larus californicus*	California gull	1	1990	3	4	
GRTE	Aves	*Sterna caspia*	Caspian tern	1	1990	3	4	

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PARK	CLASS	SPECIES	COMMON NAME	PRESENCE	DOCDATE	RESTATUS	ABUNDANCE	REFERENCES
GRTE	Aves	*Sterna forsteri*	Forster's tern	1	1988	4	4	
GRTE	Aves	*Chlidonias niger*	Black tern	6	1969	5	4	
GRTE	Aves	*Columba livia*	Rock dove	1	1991	5	4	
GRTE	Aves	*Columba fasciata*	Band-tailed pigeon	1	1991	5	4	
GRTE	Aves	*Zenaida macroura*	Mourning dove	1	1990	3	4	
GRTE	Aves	*Tyto alba*	Common barn owl	5	1988	5	4	
GRTE	Aves	*Otus kennicotti*	Western screech-owl	1	1989	5	4	
GRTE	Aves	*Bubo virginianus*	Great horned owl	1	1991	1	4	
GRTE	Aves	*Nyctea scandiaca*	Snowy owl	1	1987	5	4	
GRTE	Aves	*Glaucidium gnoma*	Northern pygmy owl	1	1991	2	4	
GRTE	Aves	*Athene cunicularia*	Burrowing owl	1	1990	4	4	
GRTE	Aves	*Strix nebulosa*	Great gray owl	1	1991	2	4	Franklin 1987, Reid 1989
GRTE	Aves	*Asio otus*	Long-eared owl	1	1990	4	4	
GRTE	Aves	*Asio flammeus*	Short-eared owl	1	1991	4	4	
GRTE	Aves	*Aegolius funereus*	Boreal owl	1	1991	2	4	Duffy & Wallen 1991
GRTE	Aves	*Aegolius acadicus*	Northern saw-whet owl	1	1991	2	4	
GRTE	Aves	*Chordeiles minor*	Common nighthawk	1	1989	3	4	
GRTE	Aves	*Phalaenoptilus nuttallii*	Common poorwill	1	1972	3	4	
GRTE	Aves	*Stellula calliope*	Calliope hummingbird	1	1990	4	4	Calder 1971
GRTE	Aves	*Selasphorus platycercus*	Broad-tailed hummingbird	1	1989	3	4	
GRTE	Aves	*Selasphorus rufus*	Rufous hummingbird	1	1990	3	4	
GRTE	Aves	*Ceryle alcyon*	Belted kingfisher	1	1990	2	4	
GRTE	Aves	*Melanerpes lewis*	Lewis' woodpecker	1	1990	4	4	
GRTE	Aves	*Melanerpes erythrocephalus*	Red-headed woodpecker	1	1990	5	4	

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PARK	CLASS	SPECIES	COMMON NAME	PRESENCE	DOCDATE	RESTATUS	ABUNDANCE	REFERENCES
GRTE	Aves	*Sphyrapicus thyroideus*	Williamson's sapsucker	1	1990	4	4	
GRTE	Aves	*Picoides pubescens*	Downy woodpecker	1	1977	1	4	
GRTE	Aves	*Picoides villosus*	Hairy woodpecker	1	1990	1	4	
GRTE	Aves	*Picoides albolarvatus*	White-headed woodpecker	1	1987	5	4	
GRTE	Aves	*Picoides trydactylus*	Three-toed woodpecker	1	1990	2	4	
GRTE	Aves	*Picoides arcticus*	Black-backed woodpecker	1	1990	2	4	
GRTE	Aves	*Colaptes auratus*	Northern flicker	1	1990	1	4	
GRTE	Aves	*Dryocopus pileatus*	Pileated woodpecker	1	1980	5	4	
GRTE	Aves	*Contopus borealis*	Olive-sided flycatcher	1	1987	3	4	
GRTE	Aves	*Contopus sordidulus*	Western wood-pewee	1	1990	5	4	
GRTE	Aves	*Empidonax traillii*	Willow flycatcher	1	1988	4	4	
GRTE	Aves	*Empidonax minimus*	Least flycatcher	5	1975	5	4	
GRTE	Aves	*Empidonax hammondii*	Hammond's flycatcher	1	1949	4	4	
GRTE	Aves	*Empidonax oberholseri*	Dusky flycatcher	1	1990	3	4	
GRTE	Aves	*Empidonax dificilis*	Western flycatcher	1	1964	4	4	
GRTE	Aves	*Sayorna saya*	Say's phoebe	1	1991	4	4	
GRTE	Aves	*Tyrannus verticalis*	Western kingbird	1	1988	5	4	
GRTE	Aves	*Tyrannus tyrannus*	Eastern kingbird	1	1990	4	4	
GRTE	Aves	*Eremophila alpestris*	Horned lark	1	1991	3	3	
GRTE	Aves	*Tachycineta bicolor*	Tree swallow	1	1990	3	3	
GRTE	Aves	*Tachycineta thalassina*	Violet-green swallow	1	1990	3	4	
GRTE	Aves	*Stelgidopteryx serripennis*	Northern rough-winged swallow	1	1969	4	4	
GRTE	Aves	*Riparia riparia*	Bank swallow	1	1989	3	4	
GRTE	Aves	*Hirundo pyrrhorota*	Cliff swallow	1	1990	3	4	Emlen 1952, 1966

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PARK	CLASS	SPECIES	COMMON NAME	PRESENCE	DOCDATE	RESTATUS	ABUNDANCE	REFERENCES
GRTE	Aves	*Perisoreus canadensis*	Gray jay	1	1989	1	4	
GRTE	Aves	*Cyanocitta stellei*	Steller's jay	1	1989	1	4	
GRTE	Aves	*Nucifraga columbiana*	Clark's nutcracker	1	1988	1	4	French 1955
GRTE	Aves	*Pica pica*	Black-billed magpie	1	1991	1	4	
GRTE	Aves	*Corvus brachyrynchos*	American crow	1	1991	4	4	
GRTE	Aves	*Corvus corax*	Common raven	1	1991	1	4	Dorn 1972
GRTE	Aves	*Parus gambeli*	Mountain chickadee	1	1985	1	4	
GRTE	Aves	*Certhia americana*	Brown creeper	1	1990	1	4	
GRTE	Aves	*Salpinctes obsoletus*	Rock wren	1	1989	2	4	
GRTE	Aves	*Troglodytes aedon*	House wren	1	1987	3	4	
GRTE	Aves	*Troglodytes troglodytes*	Winter wren	1	1990	4	4	
GRTE	Aves	*Cistothorus palustris*	Marsh wren	1	1990	3	3	
GRTE	Aves	*Cinclus mexicanus*	American dipper	1	1987	3	3	
GRTE	Aves	*Regulus satrapa*	Golden-crowned kinglet	1	1990	3	3	
GRTE	Aves	*Regulus calendula*	Ruby-crowned kinglet	1	1990	3	3	
GRTE	Aves	*Sialia currucoides*	Mountain bluebird	1	1991	3	4	
GRTE	Aves	*Myadestes townsendi*	Townsend's solitaire	1	1990	3	4	
GRTE	Aves	*Catharus ustulatus*	Swainson's thrush	1	1990	3	4	
GRTE	Aves	*Catharus guttatus*	Hermit thrush	1	1987	3	4	
GRTE	Aves	*Turdus migratorius*	American robin	1	1991	3	4	
GRTE	Aves	*Ixoreus naevius*	Varied thrush	6	1989	5	4	
GRTE	Aves	*Dumetella carolinensis*	Gray catbird	1	1990	4	4	
GRTE	Aves	*Oreoscoptes montanus*	Sage thrasher	1	1991	4	4	
GRTE	Aves	*Anthus spinolletta*	Water pipit	1	1987	3	4	
GRTE	Aves	*Anthus spragueii*	Sprague's pipit	5	1988	5	4	

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PARK	CLASS	SPECIES	COMMON NAME	PRESENCE	DOCDATE	RESTATUS	ABUNDANCE	REFERENCES
GRTE	Aves	*Bombycilla garrulus*	Bohemian waxwing	1	1987	4	4	
GRTE	Aves	*Bombycilla cedrorum*	Cedar waxwing	1	1990	3	4	
GRTE	Aves	*Lanius excubitor*	Northern shrike	1	1991	4	4	
GRTE	Aves	*Lanius ludovicianus*	Loggerhead shrike	1	1991	4	4	
GRTE	Aves	*Sturnus vulgaris*	European starling	1	1990	3	4	
GRTE	Aves	*Vireo solitarius*	Solitary vireo	1	1991	5	4	
GRTE	Aves	*Vireo gilvus*	Warbling vireo	1	1985	3	4	
GRTE	Aves	*Viro olivaceus*	Red-eyed vireo	1	1964	4	4	
GRTE	Aves	*Vermivora peregrina*	Tennessee warbler	5	1980	5	4	
GRTE	Aves	*Vermivora celata*	Orange-crowned warbler	1	1990	3	4	
GRTE	Aves	*Vermivora ruficapilla*	Nashville warbler	1	1963	6	4	
GRTE	Aves	*Dendroica petechia*	Yellow warbler	1	1989	3	4	
GRTE	Aves	*Dendroica pensylvanica*	Chestnut-sided warbler	5	1988	5	4	
GRTE	Aves	*Mniotilta varia*	Black-throated blue warbler	5	1986	5	4	
GRTE	Aves	*Dendroica coronata*	Yellow-rumped warbler	1	1990	3	4	
GRTE	Aves	*Dendroica townsendi*	Townsend's warbler	1	1990	5	4	
GRTE	Aves	*Denroica fusca*	Blackburnian warbler	5	1987	5	4	
GRTE	Aves	*Setophaga ruticilla*	American redstart	1	1990	3	4	
GRTE	Aves	*Seiurus noveboracensis*	Northern waterthrush	1	1991	5	4	
GRTE	Aves	*Oporornis tolmiei*	MacGillivray's warbler	1	1977	3	4	
GRTE	Aves	*Geothlypis thrichas*	Common yellowthroat	1	1965	3	4	
GRTE	Aves	*Wilsonia pusilla*	Wilson's warbler	1	1986	3	4	
GRTE	Aves	*Piranga ludoviciana*	Western tanager	1	1989	3	4	
GRTE	Aves	*Pheucticus ludovicianus*	Rose-breasted grosbeak	1	1986	4	4	
GRTE	Aves	*Pheucticus melanocephalus*	Black-headed grosbeak	1	1989	3	4	

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PARK	CLASS	SPECIES	COMMON NAME	PRESENCE	DOCDATE	RESTATUS	ABUNDANCE	REFERENCES
GRTE	Aves	*Passerina amoena*	Lazuli bunting	1	1990	3	4	
GRTE	Aves	*Pipilo chlorurus*	Green-tailed towhee	1	1987	3	4	
GRTE	Aves	*Pipilo erythrophthalmus*	Rufous-sided towhee	1	1990	5	4	
GRTE	Aves	*Pipilo fuscus*	Brown towhee	1	1970	5	4	
GRTE	Aves	*Spizella arborea*	American tree sparrow	1	1965	4	4	
GRTE	Aves	*Spizella passerina*	Chipping sparrow	1	1980	3	4	
GRTE	Aves	*Spizella breweri*	Brewer's sparrow	1	1979	3	4	
GRTE	Aves	*Pooecetes gramnineus*	Vesper sparrow	1	1988	3	4	
GRTE	Aves	*Chondestes grammacus*	Lark sparrow	1	1989	3	4	
GRTE	Aves	*Amphispiza bilineata*	Black-throated sparrow	5	1989	5	4	
GRTE	Aves	*Calamospica melanocorys*	Lark bunting	1	1988	5	4	
GRTE	Aves	*Passerculus snadwichensis*	Savannah sparrow	1	1977	3	4	
GRTE	Aves	*Ammodramus savannarum*	Grasshopper sparrow	5	1954	5	4	
GRTE	Aves	*Passerella iliaca*	Fox sparrow	1	1990	3	4	
GRTE	Aves	*Melospiza melodia*	Song sparrow	1	1987	3	4	
GRTE	Aves	*Melospiza lincolnii*	Lincoln's sparrow	1	1989	3	4	
GRTE	Aves	*Melospiza georgiana*	Swamp sparrow	5	1977	5	4	
GRTE	Aves	*Zonotrichia albicollis*	White-throated sparrow	1	1980	5	4	
GRTE	Aves	*Zonotrichia atricapilla*	Golden-crowned sparrow	5	1965	5	4	
GRTE	Aves	*Zonotrichia leucophrys*	White-crowned sparrow	1	1990	3	4	
GRTE	Aves	*Zonotrichia querula*	Harris' sparrow	1	1988	5	4	
GRTE	Aves	*Junco hyemalis*	Dark-eyed junco	1	1990	1	4	
GRTE	Aves	*Calcarius lapponicus*	Lapland longspur	1	1982	5	4	
GRTE	Aves	*Plectrophenax nivalis*	Snow bunting	1	1990	4	4	
GRTE	Aves	*Dolichonyx oryzivorus*	Bobolink	1	1969	4	4	

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PARK	CLASS	SPECIES	COMMON NAME	PRESENCE	DOCDATE	RESTATUS	ABUNDANCE	REFERENCES
GRTE	Aves	*Agelaius phoeniceus*	Red-winged blackbird	1	1991	3	4	
GRTE	Aves	*Sturnella neglecta*	Western meadowlark	1	1990	3	4	
GRTE	Aves	*Xanthocephalus xanthocephalus*	Yellow-headed blackbird	1	1988	3	4	
GRTE	Aves	*Euphagus cyanocephalus*	Brewer's blackbird	1	1990	3	4	
GRTE	Aves	*Quiscalus quiscula*	Common grackle	1	1989	4	4	
GRTE	Aves	*Icterus galbula*	Northern oriole	1	1991	4	4	
GRTE	Aves	*Leucosticte arctoa*	Rosy finch	1	1989	3	4	French 1959
GRTE	Aves	*Pinicola enucleator*	Pine grosbeak	1	1990	3	4	
GRTE	Aves	*Carpodacus mexicanus*	Cassin's finch	1	1991	3	4	
GRTE	Aves	*Loxia curvirostra*	Red crossbill	1	1991	2	4	
GRTE	Aves	*Loxia leucoptera*	White-winged crossbill	1	1990	3	4	
GRTE	Aves	*Carduelis flammea*	Common redpoll	1	1990	3	4	
GRTE	Aves	*Caarduelis hornemanni*	Hoary redpoll	1	1981	5	4	
GRTE	Aves	*Carduelis pinus*	Pine siskin	1	1990	1	4	
GRTE	Aves	*Carduelis tristis*	American goldfinch	1	1990	3	4	
GRTE	Aves	*Coccothraustes vespertinus*	Evening grosbeak	1	1990	3	4	
GRTE	Aves	*Catherpes mexicanus*	Canyon wren	5	1988	5	4	
GRTE	Aves	*Casmerodius albus*	Great egret	5	1989	5	4	
GRTE	Aves	*Ardea herodias*	Great blue heron	1	1991	3	2	
GRTE	Aves	*Sterna antillarum*	Least tern	5	1988	5	4	
GRTE	Aves	*Oxyura jamaicensis*	Ruddy duck	1	1990	4	4	
GRTE	Aves	*Sitta carolinensis*	White-breasted nuthatch	1	1991	1	4	
GRTE	Aves	*Phasianus colchicus*	Ring-necked pheasant	5	1977	5	4	

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PARK	CLASS	SPECIES	COMMON NAME	PRESENCE	DOCDATE	RESTATUS	ABUNDANCE	REFERENCES
GRTE	Mammalia	*Sorex palustis*	Water shrew	1	1989	6	4	Clark 1973, N & F 1959
GRTE	Mammalia	*Myotis lucifugus*	Little brown myotis	1	1982	6	4	Findley 1954, Genter&Metzger 85
GRTE	Mammalia	*Myotis volans*	Long-legged myotis	1	1982	6	4	Genter & Metzger 1985
GRTE	Mammalia	*Lasionycteris noctivagans*	Silver-haired bat	1	1980	6	4	Genter & Metzger 1985
GRTE	Mammalia	*Lasiurus cinereus*	Hoary bat	1	1971	6	4	Genter & Metzger 1985
GRTE	Mammalia	*Ochotona princeps*	Pika	1	1990	1	4	
GRTE	Mammalia	*Lepus americanus*	Snowshoe hare	1	1990	1	4	
GRTE	Mammalia	*Lepus townsendii*	White-tailed jackrabbit	1	1990	1	4	
GRTE	Mammalia	*Tamias minimus*	Least chipmunk	1	1991	4	1	Stanton et al 1991
GRTE	Mammalia	*Eutamias amoenus*	Yellow-pine chipmunk	1	1991	1	4	Stanton et al 1991
GRTE	Mammalia	*Marmota flaviventris*	Yellow-bellied marmot	1	1989	1	4	
GRTE	Mammalia	*Spermophilus armatus*	Uinta ground squirrel	1	1991	1	4	Rieger 1991, Clark 1977
GRTE	Mammalia	*Spermophilus lateralis*	Golden mantled ground squirrel	1	1991	1	4	
GRTE	Mammalia	*Tamiasciurus hudsonicus*	Red squirrel	1	1991	1	4	
GRTE	Mammalia	*Glaucomys sabrinus*	Northern flying squirrel	1	1989	1	4	
GRTE	Mammalia	*Thomomys talpoides*	Northern pocket gopher	1	1991	1	4	Laycock 1957, 1958
GRTE	Mammalia	*Castor canadensis*	Beaver	1	1990	1	4	Collins 1976, 1977
GRTE	Mammalia	*Peromyscus maniculatus*	Deer mouse	1	1991	1	2	Clark 1975, Williams 1959

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PARK	CLASS	SPECIES	COMMON NAME	PRESENCE	DOCDATE	RESTATUS	ABUNDANCE	REFERENCES
GRTE	Mammalia	*Neotoma cinerea*	Bushy-tailed woodrat	1	1990	2	2	Negus 1950
GRTE	Aves	*Molothrus ater*	Brown-headed cowbird	1	1983	3	4	Diem 1983
GRTE	Aves	*Sialia mexicana*	Western bluebird	1	1990	4	4	
GRTE	Aves	*Sitta canadensis*	Red-breasted nuthatch	1	1990	1	4	
GRTE	Aves	*Hirundo rustica*	Barn swallow	1	1989	3	4	
GRTE	Aves	*Pelecanus occidentalis*	Brown pelican	5	1985	5	4	
GRTE	Aves	*Buteo platypterus*	Broad-winged hawk	5	1982	5	4	
GRTE	Aves	*Sterna hirundo*	Common tern	1	1990	5	4	
GRTE	Aves	*Coccyzus erythropthalmus*	Black-billed cuckoo	1	1958	4	4	
GRTE	Aves	*Coccyzus americanus*	Yellow-billed cuckoo	5	1964	5	4	
GRTE	Aves	*Strix varia*	Barred owl	5	1985	5	4	
GRTE	Aves	*Aeronautes saxatalis*	White-throated swift	5	1987	5	4	
GRTE	Aves	*Archilochus alexandri*	Black-chinned hummingbird	1	1933	4	4	
GRTE	Aves	*Melanerpes formicivorus*	Acorn woodpecker	5	1975	5	4	
GRTE	Aves	*Sphyrapicus varius*	Yellow-bellied sapsucker	1	1990	3	4	
GRTE	Aves	*Gymnorhinus cyanocephalus*	Pinyon jay	1	1990	4	4	
GRTE	Aves	*Parus atricapillus*	Black-capped chickadee	1	1990	1	4	
GRTE	Aves	*Catharus fuscescens*	Veery	1	1991	4	4	
GRTE	Aves	*Mimus polyglottos*	Northern mockingbird	1	1977	5	4	
GRTE	Aves	*Icteria virens*	Yellow-breasted chat	5	1967	5	4	
GRTE	Aves	*Passerina cyanea*	Indigo bunting	5	1970	5	4	
GRTE	Aves	*Amphispiza belli*	Sage sparrow	5	1977	5	4	
GRTE	Aves	*Euphagus carolinus*	Rusty blackbird	5	1966	5	4	
GRTE	Aves	*Passer domesticus*	House sparrow	1	1957	3	4	
GRTE	Mammalia	*Microtus pennsylvanicus*	Meadow vole	1	1989	1	2	Clark 71, 75,

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PARK	CLASS	SPECIES	COMMON NAME	PRESENCE	DOCDATE	RESTATUS	ABUNDANCE	REFERENCES
								Pinter 1989
GRTE	Mammalia	*Microtus montanus*	Montane vole	1	1991	1	2	Pinter 1976, Jannett 1988
GRTE	Mammalia	*Microtus longicaudus*	Long-tailed vole	1	1991	1	2	Jannett 1988
GRTE	Mammalia	*Ondatra zibethicus*	Muskrat	1	1990	1	4	
GRTE	Mammalia	*Zapus princeps*	Western jumping mouse	1	1991	2	2	Clark 1971, 1973, 1975
GRTE	Mammalia	*Erethizon dorsatum*	Porcupine	1	1990	1	4	
GRTE	Mammalia	*Canis latrans*	Coyote	1	1991	1	4	Camenzind 74,78, Weaver 1977
GRTE	Mammalia	*Vulpes vulpes*	Red fox	1	1990	6	4	
GRTE	Mammalia	*Ursus americanus*	Black bear	1	1991	1	4	
GRTE	Mammalia	*Ursus arctos*	Grizzly bear	1	1991	2	4	
GRTE	Mammalia	*Procyon lotor*	Raccoon	1	1989	6	4	
GRTE	Mammalia	*Martes americana*	Pine marten	1	1991	2	4	Clark 1980, Clark &Campbell 76
GRTE	Mammalia	*Mustela erminea*	Ermine	1	1990	2	4	
GRTE	Mammalia	*Mustela frenata*	Long-tailed weasel	1	1990	2	4	
GRTE	Mammalia	*Mustela vison*	Mink	1	1991	2	4	
GRTE	Mammalia	*Gulo gulo*	Wolverine	1	1991	5	4	
GRTE	Mammalia	*Taxidea taxus*	Badger	1	1990	2	4	
GRTE	Mammalia	*Mephitis mephitis*	Striped skunk	1	1991	2	4	
GRTE	Mammalia	*Lutra canadensis*	River otter	1	1991	2	4	Hall 1986
GRTE	Mammalia	*Felis concolor*	Mountain lion	1	1991	2	4	
GRTE	Mammalia	*Felis lynx*	Lynx	1	1985	2	4	
GRTE	Mammalia	*Felis rufus*	Bobcat	1	1991	2	4	

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PARK	CLASS	SPECIES	COMMON NAME	PRESENCE	DOCDATE	RESTATUS	ABUNDANCE	REFERENCES
GRTE	Mammalia	*Cervus elaphus*	Elk	1	1991	3	1	Martinka 65,69 Boyce 1989
GRTE	Mammalia	*Odocoileus hemionus*	Mule deer	1	1990	1	4	
GRTE	Mammalia	*Odocoileus virginianus*	White-tailed deer	1	1991	6	4	Denniston 1956
GRTE	Mammalia	*Alces alces*	Moose	1	1991	1	1	Altmann 59, Houston 1968
GRTE	Mammalia	*Antilocapra americana*	Pronghorn	1	1991	3	4	Houston 1968, Harper 1985
GRTE	Mammalia	*Bison bison*	Bison	2	1991	3	1	Negus (ND)
GRTE	Mammalia	*Oreamnos americanus*	Mountain goat	1	1990	2	4	
GRTE	Mammalia	*Ovis canadensis*	Bighorn sheep	1	1991	1	2	Whitfield 1978, 1983
GRTE	Mammalia	*Peromyscus leocopus*	White-footed mouse	1	1989	2	4	Pinter 1989
GRTE	Mammalia	*Eptesicus fuscus*	Big brown bat	1	1985	4	4	Genter & Metzger 1985
GRTE	Mammalia	*Plecotus townsendii*	Townsend's big-eared bat	1	1985	5	4	Genter & Metzger 1985
GRTE	Mammalia	*Canis lupus*	Gray wolf	1	1972	5	4	Young & Goldman 1944, N&G 1959
GRTE	Aves	*Toxostoma rufum*	Brown thrasher	1	1987	5	4	
GRTE	Mammalia	*Mustela nivalis*	Least weasel	1	1989	5	4	
GRTE	Mammalia	*Lemmiscus curtatus*	Sagebrush vole	1	1989	2	2	Roby 1989
GRTE	Mammalia	*Sorex cinereus*	Masked shrew	1	1991	2	2	Clark 1973, Stanton et al 91
GRTE	Mammalia	*Clethrionomys gapperi*	Southern red-backed vole	1	1991	1	2	
GRTE	Mammalia	*Phenacomys intermedius*	Heather vole	1	1990	2	4	Negus (ND) Jannett 1990

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PARK	CLASS	SPECIES	COMMON NAME	PRESENCE	DOCDATE	RESTATUS	ABUNDANCE	REFERENCES
GRTE	Mammalia	*Microtus richardsoni*	Water vole	1	1989	2	4	Jannett 1974, Pinter 1989
GRTE	Aves	*Polioptila caerulea*	Blue-gray gnatcatcher	5	1964	5	4	
GRTE	Aves	*Sphyrapicus nuchalis*	Red-naped sapsucker	1	1990	3	4	
GRTE	Mammalia	*Sorex nanus*	Dwarf shrew	1	1959	1	4	Negus & Findley 1959
GRTE	Mammalia	*Sorex vagrans*	Vagrant shrew	1	1991	2	2	Negus & Findley 59, Stanton 91
GRTE	Mammalia	*Myotis evotis*	Long-eared myotis	1	1985	4	4	Genter & Metzger 1985, N&F1959
GRTE	Mammalia	*Tamias umbrinus*	Uinta chipmunk	1	1959	1	4	Negus & Findley 1959, White 53

Appendix C. Cutthroat Trout Distribution Surveys

Cutthroat Trout Distribution Surveys

Caribou-Targhee National Forest

Summer 2000

2000 Cutthroat Trout Distribution Survey Report

Antelope Creek

Ross Wehnke

Background

31 July 2000, the Caribou-Targhee fisheries crew performed a distribution survey on Antelope Creek. Crew members were Ross Wehnke, Sara Vroom, Dave Bollinger, Jason Kling, and Jered Christensen.

Antelope Creek is a tributary of the South Fork of the Snake River. Resident populations of Yellowstone cutthroat trout occur in the reaches above the National Forest Boundary. Fluvial South Fork fish are denied access to the upper reaches as water from Antelope Creek is totally utilized for irrigation before it reaches the South Fork.

Historic Distribution of Habitat/Species: Yellowstone cutthroat trout inhabited the Yellowstone River drainage in Montana and Wyoming, and the Snake River drainage in Wyoming, Idaho, Nevada, Utah and probably Washington (Varley and Gresswell 1998; Benke 1992). Today, their distribution is thought to be confined to approximately 10% of the historical stream habitat and 85% of the lake habitat (Varley and Gresswell 1998). Ninety-one percent of their range now lies within Yellowstone National Park (Gresswell and Liss, in press). The primary cause relating to the reduction of distribution is the introduction of non-native salmonids and habitat alterations.

Throughout the Caribou-Targhee National Forest, Yellowstone cutthroat trout occur on every District, in several populations. Potential impacts to populations include migration barriers, hybridization and competition with nonnative fish, and habitat impacts (dewatering, stream temperature increases, sedimentation, and instream wood frequency decreases).

Methods

Antelope Creek was divided into 2 reaches. These reaches were numbered consecutively with Reach 1 being the downstream reach (GPS: UTM 12 4 544 70 T 48 120 870) and Reach 2 the upstream reach (GPS: UTM 12 4 546 T 47 093 17). The boundary marker for the beginning of Reach 1 is the National Forest Boundary. Each reach incorporated four 40-meter sample units and one 100-meter sample unit. Each unit was sampled with a backpack shocker (Mark 10-coffelt type). Fish were carefully captured using an electroshocker with a single-pass method. One hundred meter units were sampled utilizing a timed, 3-pass method. Block nets were also used on the 100-meter units. Captured specimens were identified, measured (mm) and photographed with all data collected being recorded on Fish Distribution Forms. Adipose clips were collected from trout and sent to the University of Idaho for genetics analysis. Habitat features were noted, including stream width, depth, temperature, and riparian vegetation and habitat impacts.

Physical Habitat

Antelope Creek flows from its headwaters on the Caribou-Targhee National Forest, through the National Forest and private lands before reaching the South Fork of the Snake. Antelope Creek is located southeast from the town of Rire, Idaho and flows north to meet

the South Fork of the Snake River. Private landowner Leon Dance of Blackfoot has blocked direct road access to the upper watershed. A series of roads were taken to reach our destination at the forest boundary. Antelope Creek is a relatively small, second order stream (avg. width 1.75 m) and would be classified as a B type stream using the Rosgen Channel Type Classification System. An average temperature of 14 Celsius was observed during sampling. During the summer months the stream never reaches the South Fork. Its water is utilized for agricultural practices on private lands, such as crop irrigation and cattle grazing. Cattle grazing and beaver activity were apparent throughout the drainage, including in sample reaches.

The beginning of Reach 1 is approximately 50 meters upstream of the National Forest boundary (GPS: UTM 12 4 544 70 T 48 120 870). Although small, Reach 1 had a large population of cutthroat trout for its size. All age classes of cutthroat trout were observed, with the largest adult being 230mm. No other species of fish were captured during our sampling. The riparian zone had abundant vegetation, which provided good cover and streambank stability for most of the reach. Red osier dogwood and willows dominate the understory, while lodgepole pine and Doug fir make up the overstory. A few areas were found with bank sloughing that seemed to be caused by high flows and cattle grazing. High levels of sediment were found in the stream channel, with substrate consisting of cobble and gravels. One problem identified was a damaged culvert between Units 4 and 5. The culvert seemed to be damaged from high flows and vehicle traffic. The stream is now cutting a channel around the culvert and this section is more like a ford than a culvert. This damage is having an impact on the stream in this area and should be repaired as soon as possible.

Reach 2 is located just upstream (approximately 200 meters) from Nelson Creek (UTM 12 4 548 46 T 48 108 67). This reach of Antelope Creek changes its characteristics from Reach 1 and has become a willow meadow. The floodplain has opened up and the stream begins to meander. Grazing activity, as well as beaver activity has increased. Beaver activity was high in this area causing the stream to pool up and slowing water flows. Cattle were observed in several locations along the stream as will as in the stream. Cattle crossings through the stream and trails paralleling the stream within one meter distance from the streamside were common. Grazing was heavy in the entire area and cattle have utilized most of the vegetation along the stream. Sediment levels had increased and gravels have become dominant substrate. Willows were the dominant understory while Doug fir has become the dominant overstory. This reach held fewer cutthroats than Reach 1 and no other species of fish were captured.

Fisheries

Cutthroat trout were the only species of fish captured. Although high numbers of fish were not captured, the stream seemed well populated for its size. All age classes were either captured or observed during the study, which leads us to believe that this resident population of cutthroat is reproducing in Antelope Creek. It is a good estimation that these populations of cutthroat were derived from the South Fork of the Snake before man intervened and intercepted flow to the main river. All specimens captured seem to be healthy with no deformities and no signs of external parasites.

Recommendations

Due to the high levels of sediment in the stream and the impactive grazing in Reach 2, cattle grazing needs to be reduced. We recommendation to cut grazing in this section for next year or reduce grazing time and number of cattle. Future monitoring concerning livestock and cattle impacts should continue to be collected to track the health of this system and its cutthroat trout populations.

The damaged culvert should be replaced as soon as possible. If the present culvert is left in place, the stream is going to cut around it and wash all remains of the culvert out during spring runoff. This section would then become a ford in which added sediments would be running into the stream. It also delivers road run off during spring snowmelt, which delivers sediment to the stream.

2000 Cutthroat Trout Distribution Survey Report

Bear Creek

Ross Wehnke

Background

14-16 August 2000, the Caribou-Targhee Fisheries Crew performed a fish distribution survey on Bear Creek. Crew members were Ross Wehnke, Sara Vroom, Dave Bollinger, Jason Kling, and Jared Christensen. The Swan Valley Distribution Crew was joined by the Montpelier Distribution Crew to survey lower Bear Creek due to its size.

Bear Creek is located on the southwest side of Palisades Reservoir and is accessible from Forest Service Road 058. Historically Bear Creek drained into the South Fork of the Snake. The entire length of the stream is located within the boundaries of the Caribou-Targhee National Forest and is on the Palisades Ranger District. The Distribution Survey was conducted in 2 locations of Bear Creek, labeled upper and lower reaches. The lower section of the survey began 100 meters upstream from the confluence with Spring Creek and proceeded upstream approximately seven miles. The upper section began ½ mile upstream from the confluence of Bear Creek and the South Fork of Bear Creek. 2 ½ miles of stream were surveyed in the upper section. In all, over 9 ½ miles of Bear Cheek was completed during the survey.

Historic Distribution of Habitat/Species: Yellowstone cutthroat trout inhabited the Yellowstone River drainage in Montana and Wyoming, and the Snake River drainage in Wyoming, Idaho, Nevada, Utah and probably Washington (Varley and Gresswell 1998; Benke 1992). Today, their distribution is thought to be confined to approximately 10% of the historical stream habitat and 85% of the lake habitat (Varley and Gresswell 1998). Ninety-one percent of their range now lies within Yellowstone National Park (Gresswell and Liss, in press). The primary cause relating to the reduction of distribution is the introduction of non-native salmonids and habitat alterations.

Throughout the Caribou-Targhee National Forest, Yellowstone cutthroat trout occur on every District, in several populations. Potential impacts to populations include migration barriers, hybridization and competition with nonnative fish, and habitat impacts (dewatering, stream temperature increases, sedimentation, and instream wood frequency decreases).

Methods

Bear Creek was divided into two sections, an upper section, which surveyed the headwaters area, and a lower section, which surveyed that portion of the stream closest to the mouth. The lower section contained four reaches and the upper sections contained two reaches. In total, 15 units were surveyed and of the 15 units, 9 units were 40-meter single pass sample units and 6 were 100-meter sample triple pass units. Each unit was sampled with a backpack shocker (Mark 10-Coffelt type). The 100 meter units were sampled utilizing a timed three-pass method and block nets were deployed. Captured specimens were identified, measured (mm) and photographed. All data were recorded on Fish Distribution Forms. Adipose clips were collected from trout and sent to the University of

Idaho for genetic analysis. Habitat features were noted, including stream width, depth, temperature, riparian vegetation, and management related impacts.

Physical Habitat

Bear Creek flows from its headwaters on the Caribou-Targhee National Forest, through the National Forest before reaching Palisades Reservoir. Historically Bear Creek drained into the South Fork of the Snake. The stream is located on the southwest side of Palisades Reservoir. It is accessed by Forest Service Road 058. Our survey was conducted on two locations of Bear Creek, the upper and lower reaches. The lower section of the survey began 100 meters upstream from the confluence with Spring Creek and proceeded upstream approximately 7 miles. The upper section began ½ mile upstream from the confluence with the South Fork of Bear Creek and 2 ½ miles of the survey was completed in the upper section. In all, over 9 ½ miles of Bear Creek was completed during the survey.

Bear Creek in the upper reaches of the survey is a relatively small stream (average width 2.5 m and average depth .08 m) and is classified a Rosgen B channel. The average water temperature on the day of sampling was 14 degrees Celsius. The distribution survey for Upper Reach 1 began ½ mile upstream from the confluence of Bear Creek and the South Fork of Bear Creek (UTM 12 4 658 26 T 47 875 12) and proceeded upstream for approximately 2 ½ miles before ending at Reach 2 Unit 3 (UTM 12 4 649 91 T 47 869 60). The landscape around the survey area is somewhat barren, consisting of sagebrush and a few forbs. Lodgepole pine were present but were outside of the riparian zone and somewhat sparse. The riparian zone consisted of a thick willow complex that runs the entire length of the survey. Beaver and livestock grazing impacts, both past and present, were observed. Beaver activity was extremely frequent throughout the survey. Several dams were located in all the reaches of the upper section, causing pooling and cutting of new channels. Livestock grazing was apparent throughout the survey area. Cattle trails were throughout the riparian zone and much of the vegetation had been heavily grazed upon. Due to activities of livestock and beaver, bank erosion was high in the upper section. Bank cutting and stream meandering due to both activities, have contributed sediment to the stream. Stream velocities and flow were extremely low. Algae communities were very dense and are possibly affecting dissolved oxygen levels in the area. The substrate consisted of cobble and gravel, however, fine sediment covers most of the substrate.

The lower section of Bear Creek began 100 meters upstream from the confluence with Spring Creek (UTM 12 4 803 62 T 47 913 94) and proceeded upstream approximately 7 miles, ending just below the confluence of Chaparral Hollow (UTM 12 4 739 91 T 47 912 96). Bear Creek in the lower sections has become quite large (5.25 m average width, 0.2 m average depth) and would be classified as a Rosgen C channel. The average temperature on the day of sampling was 8 degrees Celsius. The riparian zone throughout the survey consists of willows and dogwoods. The riparian zone ranged from thick, lush sections of willows to areas of thin willows and dogwoods. Located in the areas of sparse vegetation were large sections of cutting and sloughing into the stream. It is likely high velocities from spring run off are the main cause of the cutting. The overstory of lodgepole pine, cottonwood, Doug fir and subalpine fir was sparse until reaching the upper reaches of the lower section. It wasn't until Reach 3 Unit 4 that the overstory contributed to the health of the riparian zone. It is likely that high velocities from spring run off are the

primary cause of observed bank cutting. Substrate was made up of a mix of materials ranging from boulder and bedrock to cobble and gravel. Often the substrate was completely covered in a brown algae/sediment type of a coating. Algae were also present and became dominant in areas of pooling and low velocity. Although impacts from past livestock grazing were observed, no current livestock grazing was documented. Although the trail was located close to the stream at times, most of the time it was located some distance from the stream and had no influence upon the stream or riparian area.

Fisheries

Six species of fish were observed during the survey (cutthroat trout, dace, sculpin, shiners, suckers and mountain whitefish). Sculpin were the most frequent of the species captured. High numbers of cutthroat trout were captured, all age classes were either captured or observed during the survey. It is likely both resident and adfluvial (fish from the reservoir) life history patterns of Yellowstone cutthroat trout exist in Bear Creek as no upstream migration barrier was observed during the survey. All specimens captured seem to be health with no deformities and no signs of external parasites.

Fishing pressure is high in Bear Creek, particularly in the lower reaches which are easily accessible by trail from the reservoir trail head.

Recommendations

Bear Creek is a stronghold for Yellowstone cutthroat trout. Two life history patterns (adfluvial and resident) contribute to the population biodiversity. Bear Creek Watershed should be managed with an emphasis on the protection of the aquatic and riparian habitat to protect this valuable resource.

2000 Cutthroat Trout Distribution Survey Report

Big Spring Creek

Ross Wehnke

Background

17 July 2000, the Caribou-Targhee Fisheries Crew performed a distribution survey on Big Spring Creek. Crew members were Ross Wehnke, Sara Vroom, Dave Bollinger, Jason Kling, and Jared Christensen.

Big Spring Creek is located on the southwest side of Palisades Reservoir. Historically, Big Spring Creek drained into the South Fork of the Snake. There is no road access to the stream but it can be reached by boat. To the best of our knowledge this is the first type of fish survey conducted on this stream.

Distribution of Habitat/Species Historically: Yellowstone cutthroat trout inhabited the Yellowstone River drainage in Montana and Wyoming and the Snake River drainage in Wyoming, Idaho, Nevada, Utah and probably Washington (Varley and Gresswell 1998; Benke 1992). Today, their distribution is thought to be confined to approximately 10% of the historical stream habitat and 85% of the lake habitat (Varley and Gresswell 1998). Ninety-one percent of their range now lies within Yellowstone National Park (Gresswell and Liss, in press). The primary cause relating to the reduction of distribution is the introduction of non-native salmonids and habitat alterations.

Throughout the Caribou-Targhee National Forest, Yellowstone cutthroat trout occur on every District, in several populations. Potential impacts to populations include migration barriers, hybridization and competition with nonnative fish, and habitat impacts (dewatering, stream temperature increases, sedimentation, and instream wood frequency decreases).

Methods

Big Spring Creek was surveyed in one reach that contained four 40-meter units. Each unit was sampled using a backpack shocker (Mark 10-Coffelt). Units were sampled using a single pass method, except Unit 4. This unit was sampled with a timed, three-pass method. Block nets were placed across the stream in this unit. Sampling began 40 meters upstream from the mouth of the stream at Palisades Reservoir (UTM 12 4 882 78 T 47 885 96). Captured specimens were identified, measured (mm), and photographed with all data collected being recorded on Fish Distribution Forms. Adipose clips were collected from cutthroat trout and sent to the University of Idaho for genetic analysis. Habitat features were noted including stream width, depth, temperature, riparian vegetation, and habitat impacts.

Physical Habitat

The entire length of Big Spring Creek is located within the Caribou-Targhee National Forest. Big Spring Creek is a second order stream and is classified by the Rosgen Channel Typing System as a B channel. The average temperature on the day of sampling was 8 degrees Celsius. Then entire stream is located in a tight canyon, which is heavily

vegetated. The riparian zone consists of thick dogwoods, willows, hawthorns and a variety of forbs and tree species.

Reach 1 began approximately 90 meters upstream from the mouth of Big Spring Creek (UTM 12 4 889 57 T 47 875 72). There were 250-meter increments between units. The riparian zone was well covered with thick vegetation the entire length of the reach and shows little evidence of streambank cutting. Gradient increased as we progressed up the stream and the substrate changed from cobble/gravels to all gravel. Fine sediment levels were low and only found on edges of pools. A large cutthroat trout mortality was found. The morality was presumably caused from spawning. The fish indicates that Big Springs Creek provides spawning habitat for adfluvial fish in Palisades Reservoir as well as resident fish in the stream. Units 4 and 5 had an extremely thick canopy cover which completely covered the stream. A small spring enters the stream at the beginning of Unit 2, however flows are still good above this location.

Fisheries

Three species of fish were observed during our sampling (cutthroat trout, dace, and sculpin). Cutthroat trout were the dominant species captured. One large deceased fish (380mm) was observed in Unit 1. It was believed to have been a adfluvial cutthroat trout from the reservoir. Big Springs Creek provides spawning habitat for reservoir fish and also supports a resident fish population. Fish population density decreases as the survey progressed upstream.

Recommendations

Except for the mouth of Big Springs Creek (within the reservoir drawdown zone), this stream has had very little human impacts. Considering the refuge this watershed provides for Yellowstone cutthroat trout and the diversity of life history patterns that use the stream, it is important to thoroughly consider potential impacts to these fish and their habitat during any future project planning process. Big Springs Creek supports a good population of cutthroat and an excellent stream to use as a monitoring tool or reference reach.

2000 Cutthroat Trout Distribution Survey Report

Burns Creek

Ross Wehnke

Background

28 June 2000, the Caribou-Targhee fisheries crew performed a distribution survey on Burns Creek. Crew members were Ross Wehnke, Sara Vroom, Dave Bollinger, Jason Kling, and Jared Christensen.

There are 2 Burns Creeks on Palisades Ranger District. The Burns Creek reported in this document is the small watershed on the southwest side of Palisades Reservoir. Prior to the construction of Palisades Dam, Burns Creek drained into the South Fork of the Snake.

Historic Distribution of Habitat/Species: Yellowstone cutthroat trout inhabited the Yellowstone River drainage in Montana and Wyoming and the Snake River drainage in Wyoming, Idaho, Nevada, Utah and probably Washington (Varley and Gresswell 1998; Benke 1992). Today, their distribution is thought to be confined to approximately 10% of the historic stream habitat and 85% of the lake habitat (Varley and Gresswell 1998). Ninety-one percent of their range now lies within Yellowstone National Park (Gresswell and Liss, in press). The primary cause relating to the reduction of distribution is the introduction of non-native salmonids and habitat alterations.

Throughout the Caribou-Targhee National Forest, Yellowstone cutthroat trout occur on every District, in several populations. Potential impacts to populations include migration barriers, hybridization and competition with nonnative fish, and habitat impacts (dewatering, stream temperature increases, sedimentation, and instream wood frequency decreases).

Methods

Burns Creek was broken into 2 reaches and contained five 40-meter units. Each unit was sampled using a backpack shocker (Mark 10-Coffelt). Units were sampled using a single pass method. Sampling began approximately 50 meters upstream from the National Forest boundary. Captured specimens were identified, measured (mm) and photographed. All data were recorded on Fish Distribution Forms. Adipose clips were collected from trout and sent to the University of Idaho for genetic analysis. Habitat features were noted, including stream width, depth, temperature, riparian vegetation, and management related impacts.

Physical Habitat

Burns Creek is located on the southwest side of Palisade Reservoir. The entire length of Burns Creek is located within the Caribou-Targhee National Forest. Burns Creek is second order stream and was a B Rosgen channel type. The average temperature on the day of sampling was 9 degrees Celsius.

Burns Creek is a flat, meandering stream flowing through a flat wide valley. The riparian zone is very densely vegetated with hawthorn bushes and willows in the first 2

units. Stream bank cutting was noted in the upper units where the riparian zone was less dense. Bank sloughing into the stream became more and more frequent as the survey progressed upstream. No real overstory in the riparian zone existed, however Doug fir and lodgepole pine were numerous on the side slopes. The stream substrate consisted of gravel and sand. In areas where bank slough occurred, fine sediments frequented pools and their tailouts. Beaver were active in Reach 2. New channels cut around some dams, adding sediment to the stream. Also noted was livestock grazing activity upslope of the survey units.

Fisheries

Two species of fish were captured during our sampling (cutthroat trout and sculpin). Sculpin dominated each unit and only a few cutthroat were captured. Cutthroat were captured in two of the four units in Reach 2. All specimens' captured seem to be healthy with no deformities and no signs of external parasites.

Recommendations

An interdisciplinary team should review livestock grazing practices in Burns Creek Watershed to determine its impacts upon aquatic and riparian area health, particularly in Reach 2 of this survey. If needed, cattle numbers and/or grazing strategies should be adjusted. Structural adjustments such as fencing to exclude cattle from riparian areas should also be considered.

2000 Cutthroat Trout Distribution Survey Report

Garden Canyon Creek

Ross Wehnke

Background

8 August 2000, the Caribou-Targhee fisheries crew performed a distribution survey for Garden Canyon Creek. Crew members were Ross Wehnke, Sara Vroom, Jason Kling, and Jared Christensen.

Garden Canyon Creek is a very pristine stream. Its headwaters start in the high mountains above tree line, northeast of Palisades Reservoir before flowing south and joining the North Fork of Indian Creek. Garden Canyon Creek adds approximately 40% of the flow below its confluence with the North Fork and has very little impact from human uses. Although no fish were captured during the survey, the fish habitat in and along the creek suggests that a fishery could be possible.

Distribution of Habitat/Species Historically: Yellowstone cutthroat trout inhabited the Yellowstone River drainage in Montana and Wyoming, and the Snake River drainage in Wyoming, Idaho, Nevada, Utah and probably Washington (Varley and Gresswell 1998; Benke 1992). Today, their distribution is thought to be confined to approximately 10% of the historical stream habitat and 85% of the lake habitat (Varley and Gresswell 1998). Ninety-one percent of their range now lies within Yellowstone National Park (Gresswell and Liss, in press). The primary cause relating to the reduction of distribution is the introduction of non-native salmonids and habitat alterations.

Throughout the Caribou-Targhee National Forest, Yellowstone cutthroat trout occur on every District, in several populations. Potential impacts to populations include migration barriers, hybridization and competition with nonnative fish, and habitat impacts (dewatering, stream temperature increases, sedimentation, and instream wood frequency decreases).

Methods

During the 2000 distribution survey the Garden Canyon Creek was broken into 2 reaches. Reach 1 contained three 40-meter units and reach 2 had only one unit. The 2000 survey began approximately 75 meters upstream from the confluence with the North Fork of Indian Creek (GPSUTM 12 5 001 12 T 47 933 65) ending with Unit 3 at a large spring (GPS UTM 12 4 998 93 T 47 949 90). Reach 2 started 150 meters upstream from the end of reach 1 (GPS UTM 12 4 998 79 T 47 941 69) Units were sampled with a backpack shocker (Mark 10-Coffelt type). Each unit was carefully surveyed using an electroshocker by means of a single-pass method. Although no specimens were captured, photographs and habitat features were noted including stream width, depth, temperature, riparian vegetation, and management related impacts. All data were recorded on Fish Distribution Forms.

Physical Habitat

Garden Canyon Creek flows from its headwaters in the high mountains above tree line, northeast of Palisades Reservoir and flows into the North Fork of Indian Creek. Garden

Canyon Creek adds approximately 40% of the flow below its confluence with the North Fork and has very little impact from human uses. Although no fish were captured during the survey, the fish habitat in and along the stream suggests that a fishery could be possible. The entire length of stream is located on National Forest grounds. The stream is located in a tight V shaped valley and has cut through numerous landslide deposits, allowing for minimal meandering. Large wood and rocks deposited by the stream on high terraces and cut banks indicate frequent large springtime runoff events. The stream is classified as A/B type of a channel using the Rosgen Channel Type Classification System and is a first order stream (2.2 meters wide). On the day of sampling the stream temperature was 4 degrees Celsius.

Garden Canyon appears to be very pristine. The water is exceptionally clear. Large boulders as well as cobbles litter the stream edges, however the stream is lacking large woody debris habitat features. The riparian zone was in excellent health in the first three units surveyed. The understory consisted of willows, dogwoods, and a wide variety of forbs. The willows and dogwoods slowly transition to forbs as we progressed our survey upstream toward treeline elevations. Water temperature levels were very low all day long and only reached a high of 6 degrees Celsius. A large spring was found at Unit 3. The flow from the spring contributed approximately half of the flow for the entire stream. Temperatures were taken in 3 locations around the spring. The first temperature was taken below the spring (4 degrees Celsius), second at the spring (4 degrees Celsius) and third 50 meters above the spring (6 degrees Celsius).

Reach 2 started approximately 250 meters upstream from the end of Reach 1 and the spring. The riparian zone consisted of forbs and rocks. No fish were captured in Reach 2.

Fisheries

No fish were captured during the survey. Habitat suggests there is suitable habitat for Yellowstone cutthroat trout. It is apparent that the brook trout introduction into the system has eliminated any cutthroat that once occupied this watershed. According to Wyoming Game and Fish, there was only one plant of approximately 400 brook trout in the 1940's within the North Fork Indian Creek Drainage. That was enough to eventually displace the cutthroat trout in the drainage.

Recommendations

Please refer to the recommendations for the North Fork of Indian Creek.

2000 Cutthroat Trout Distribution Survey Report

Landslide Creek

Ross Wehnke

Background

10 July 2000, the Caribou-Targhee fisheries crew performed a distribution survey on Landslide Creek. Crew members were Ross Wehnke, Sara Vroom, Dave Bollinger, Jason Kling, and Jared Christensen.

Landslide Creek is located on the southwest side of Palisades Reservoir. Historically Landslide Creek drained into the South Fork of the Snake. There is no road access to the stream, but it can be reached by boat from Palisades Reservoir.

Historic Distribution of Habitat/Species: Yellowstone cutthroat trout inhabited the Yellowstone River drainage in Montana and Wyoming and the Snake River drainage in Wyoming, Idaho, Nevada, Utah and probably Washington (Varley and Gresswell 1998; Benke 1992). Today, their distribution is thought to be confined to approximately 10% of the historic stream habitat and 85% of the lake habitat (Varley and Gresswell 1998). Ninety-one percent of their range now lies within Yellowstone National Park (Gresswell and Liss, in press). The primary cause relating to the reduction of distribution is the introduction of non-native salmonids and habitat alterations.

Throughout the Caribou-Targhee National Forest, Yellowstone cutthroat trout occur on every District, in several populations. Potential impacts to populations include migration barriers, hybridization and competition with nonnative fish, and habitat impacts (dewatering, stream temperature increases, sedimentation, and instream wood frequency decreases).

Methods

Landslide Creek was sampled with 2 separate reaches. The first reach was located on Landslide Creek approximately 40 meters upstream from the mouth. The second reach was located on a tributary spring that flowed for about 50 meters before entering Landslide Creek. The reaches were both numbered one. Reach 1 on Landslide Creek contained 3 units and the spring reach contained 1 unit. Each unit was sampled using a backpack shocker (Mark 10-Coffelt). Units were sampled using a single pass method. Captured specimens were identified, measured (mm), and photographed. All data collected were recorded on fish distribution forms. Adipose clips were collected from trout and sent to the University of Idaho for genetics analysis. Habitat features were noted including stream width, depth, temperature, riparian vegetation, and habitat impacts.

Physical Habitat

Landslide Creek is located on the southwest side of Palisades Reservoir. The entire length of Landslide Creek is located with in the Caribou-Targhee National Forest. Landslide Creek is a second order stream and is classified by the Rosgen Channel Type System as a B channel. The average stream temperature on the day of sampling was 9 degrees Celsius.

Then entire stream is approximately 220 meters long and located in a tight canyon, which is heavily vegetated. The riparian zone consists of thick dogwoods, willows, hawthorns and a variety of forbs as well as several tree species. Although a low water year, Landslide Creek had good flows. Cobbles were the dominant substrate, while good spawning gravels were noted in the lower sections and in the tailout of small pools. Very little fine sediment was observed. Large populations as well as a wide variety of macroinvertebrates were noted in the stream.

Fisheries

Three species of fish were observed during our sampling (cutthroat trout, apparent cutthroat/rainbow trout hybrids, and sculpin). A total of 9 cutthroat trout were captured during our sampling and all seemed to be adults. The hybrid trout was captured at the mouth of the stream and could have been produced elsewhere as no other hybrids or rainbow trout were captured. All species captured seem to be in good health with no deformities and no signs of external parasites.

Recommendations

Except for the mouth of Landslide Creek within the reservoir drawdown zone, this stream has had very little human impact upon it. This stream serves as an important refugia for Yellowstone cutthroat trout and can serve as a reference reach.

2000 Cutthroat Trout Distribution Survey Report

Sulphur Bar Creek

Ross Wehnke

Background

11 and 12 July 2000, the Caribou-Targhee Fisheries Crew performed a distribution survey on Sulphur Bar Creek. Crew members were Ross Wehnke, Sara Vroom, Dave Bollinger, Jason Kling, and Jared Christensen.

Sulphur Bar Creek is located on the southwest side of Palisades Reservoir. Historically Sulphur Bar Creek drained into the South Fork of the Snake. There is no road access to the stream, so the crew accessed the stream by boat on the reservoir.

Historic Distribution of Habitat/Species: Yellowstone cutthroat trout inhabited the Yellowstone River drainage in Montana and Wyoming and the Snake River drainage in Wyoming, Idaho, Nevada, Utah and probably Washington (Varley and Gresswell 1998; Benke 1992). Today, their distribution is thought to be confined to approximately 10% of the historical stream habitat and 85% of the lake habitat (Varley and Gresswell 1998). Ninety-one percent of their range now lies within Yellowstone National Park (Gresswell and Liss, in press). The primary cause relating to the reduction of distribution is the introduction of non-native salmonids and habitat alterations.

Throughout the Caribou-Targhee National Forest, Yellowstone cutthroat trout occur on every District, in several populations. Potential impacts to populations include migration barriers, hybridization and competition with nonnative fish, and habitat impacts (dewatering, stream temperature increases, sedimentation, and instream wood frequency decreases).

Methods

Sulphur Bar Creek was broken into 2 reaches. Each reach contained five 40 meter units. Each unit was sampled using a backpack shocker (Mark 10-Coffelt). Units were sampled using a single pass method, except Unit 4 on both reaches. Those units were sampled utilizing a timed, three-pass method. Block nets were also in place for both three-pass units. Sampling began 40 meters upstream from the mouth of the stream (UTM 12 4 889 57 T 47 875 72). Captured specimens were identified, measured (mm) and photographed with all data recorded on Fish Distribution Forms. Adipose clips were collected from trout and sent to the University of Idaho for genetic analysis. Habitat features were noted, including stream width, depth, temperature, riparian vegetation, and management-related impacts/opportunities.

Physical Habitat

Sulphur Bar Creek is located on the southwest side of Palisades Reservoir, directly across from Indian Creek Boat Launch. The entire length of Sulphur Bar Creek is located within the Caribou-Targhee National Forest. Sulphur Bar Creek is a second order stream and has a B Rosgen channel type. The average temperature on the day of sampling was 15 degrees Celsius. The entire stream is located in a tight canyon that is heavily vegetated. The

riparian zone consisted of thick dogwoods, willows and a variety of forbs as well as several tree species.

Reach 1 began approximately 250 meters upstream from the mouth of Sulphur Bar Creek (UTM 12 4 889 57 T 47 875 72) and was broken into 250-meter increments between units. The riparian zone was densely vegetated for the entire length of the reach and shows little evidence of stream bank cutting. Gradient increased as we progressed up the stream.

Reach 2 began approximately 150 meters upstream of Reach 1, Unit 5 (UTM 12 4 881 74 T 47 871 60). Reach 2 of Sulphur Bar Creek had steeper stream channels and higher stream velocities than Reach 1. Although we were still capturing cutthroat trout, numbers had drastically decreased. Riparian vegetation has remained excellent throughout the drainage.

Fisheries

Three species of fish were observed during our sampling (Cutthroat Trout, Dace, and Sculpin). One larger fish (420) was observed which was believed to have been a fluvial cutthroat trout from the reservoir. Also noted was a right ventral fin clip on this fish. All species captured seemed to be in good health with no deformities and no signs of external parasites.

Recommendations

Except for the mouth of Sulphur Bar Creek within the reservoir drawdown zone, this stream has had very little human impact upon it. The habitat parameters in this stream can be used as reference parameters for similar, less pristine streams.

This stream is a Yellowstone cutthroat trout stronghold and care should be taken to protect its integrity.

2000 Cutthroat Trout Distribution Survey Report

Trout Creek

Ross Wehnke

Background

28 June 2000, the Caribou-Targhee fisheries crew performed a fish distribution survey on Trout Creek. Crew members were Ross Wehnke, Sara Vroom, Dave Bollinger, Jason Kling, and Jared Christensen.

Prior to the construction of Palisades Dam, Trout Creek drained into the South Fork of the Snake. Now, it flows directly into the southwest side of Palisades Reservoir.

Historic Distribution of Habitat/Species: Yellowstone cutthroat trout inhabited the Yellowstone River drainage in Montana and Wyoming and the Snake River drainage in Wyoming, Idaho, Nevada, Utah and probably Washington (Varley and Gresswell 1998; Benke 1992). Today, their distribution is thought to be confined to approximately 10% of the historic stream habitat and 85% of the lake habitat (Varley and Gresswell 1998). Ninety-one percent of their range now lies within Yellowstone National Park (Gresswell and Liss, in press). The primary cause relating to the reduction of distribution is the introduction of non-native salmonids and habitat alterations.

Throughout the Caribou-Targhee National Forest, Yellowstone cutthroat trout occur on every District, in several populations. Potential impacts to populations include migration barriers, hybridization and competition with nonnative fish, and habitat impacts (dewatering, stream temperature increases, sedimentation, and instream wood frequency decreases).

Methods

Trout Creek was broken into 2 reaches. Reach 1 contained 5 sample units and Reach 2 contained 1 sample unit. All units but Unit 4 on Reach 1 were 40 meter long units. Unit 4 was 100 meters long. Each unit was sampled using a backpack shocker (Mark 10-Coffelt). The 40 meter units were sampled using a single pass method. The 100 meter unit was sampled using a timed, 3-pass method. Block nets were used on the 100 meter unit.

Sampling began approximately a half-mile upstream from the mouth of Trout Creek (UTM 12 4 942 27 T 47 781 80). Captured specimens were identified, measured (mm) and photographed. All data were recorded on Fish Distribution Forms. Adipose clips were collected from trout and sent to the University of Idaho for genetic analysis. Habitat features were noted including stream width, depth, temperature, riparian vegetation, and management related impacts and opportunities.

Physical Habitat

Trout Creek is located on the southwest side of Palisade Reservoir. The entire length of the stream is located within the Caribou-Targhee National Forests. Trout Creek is a second order stream and has a B Rosgn channel type. The average water temperature on the day of sampling was 9 degrees Celsius.

As our survey proceeded upstream, gradient increased. Reach 1 contained a substrate of gravel and cobble. Considering the reach as a whole, the overstory consisted of Doug fir and lodgepole pine. The understory was dominated by willow and dogwood. The riparian vegetation within lower units consisted mostly of grass and forbs. These grasses and forbs were not holding the streambanks together well, as banks were noted sloughing into the stream.

Reach 2 was higher gradient. As the gradient increased we encountered a change in riparian vegetation. Willows and dogwoods dominated the riparian zones in the last 2 units. Doug fir and lodgepole pine also occur in Reach 2.

Fisheries

Two species of fish were captured during our sampling (cutthroat trout and sculpin). Cutthroat trout dominated the first 3 units, however numerous fish were not found. As gradient increased cutthroat populations decreased. Although cutthroat were captured in the second unit of Reach 2, sculpin dominated the upper units of the survey. Fluvial fish were observed staging below and above a culvert on Forest Service Road 087.

Recommendations

The culvert under Road 087 appears to be an impediment to upstream migrating fish. It requires upstream migrating fish to jump into it and, at its upstream end, jump back out. The ability of this culvert to pass fish should be reviewed by a fisheries biologist. If it is a barrier, it should be corrected.

2000 Cutthroat Trout Distribution Survey Report

Van Creek

Ross Wehnke

Background

7 July 2000, the Caribou-Targhee Fisheries Crew performed a fish distribution survey on Van Creek. Crew members were Ross Wehnke, Sara Vroom, Dave Bollinger, Jason Kling, and Jared Christensen.

Van Creek is located on the southwest side of Palisades Reservoir. Prior to the construction of Palisades Dam, Van Creek drained into the South Fork of the Snake. Now the stream flows into Palisades Reservoir. There is no road access to the stream. The survey crew accessed the stream by boat on the reservoir.

Historic Distribution of Habitat/Species: Yellowstone Cutthroat Trout inhabited the Yellowstone River drainage in Montana and Wyoming and the Snake River drainage in Wyoming, Idaho, Nevada, Utah and probably Washington (Varley and Gresswell 1998; Benke 1992). Today, their distribution is thought to be confined to approximately 10% of the historical stream habitat and 85% of the lake habitat (Varley and Gresswell 1998). Ninety-one percent of their range now lies within Yellowstone National Park (Gresswell and Liss, in press). The primary cause relating to the reduction of distribution is the introduction of non-native salmonids and habitat alterations.

Throughout the Caribou-Targhee National Forest, Yellowstone cutthroat trout occur on every District, in several populations. Potential impacts to populations include migration barriers, hybridization and competition with nonnative fish, and habitat impacts (dewatering, stream temperature increases, sedimentation, and instream wood frequency decreases).

Survey

Van Creek was not sampled during the 2000 survey. Due to extremely low flow and the 100% silt stream bottom, it was determined that Van Creek is not likely fish bearing. Beaver dams and activity were frequent along the short length of stream.

2000 Cutthroat Trout Distribution Survey Report

Wolverine Creek

Ross Wehnke

Background

21 and 27 June 2000, the Caribou-Targhee fisheries crew performed a distribution survey for Wolverine Creek. Crew members were Ross Wehnke, Sara Vroom, Dave Bollinger, Jason Kling, and Jared Christensen.

Wolverine Creek is a tributary of the South Fork of the Snake River. Resident populations of Yellowstone cutthroat trout populate the reaches above the National Forest boundary. Fluvial South Fork fish are denied the upper reaches due to a fish barrier created by bedrock.

Historic Distribution of Habitat/Species: Yellowstone cutthroat trout inhabited the Yellowstone River drainage in Montana and Wyoming, and the Snake River drainage in Wyoming, Idaho, Nevada, Utah and probably Washington (Varley and Gresswell 1998; Benke 1992). Today, their distribution is thought to be confined to approximately 10% of the historic stream habitat and 85% of the lake habitat (Varley and Gresswell 1998). Ninety-one percent of their range now lies within Yellowstone National Park (Gresswell and Liss, in press). The primary cause relating to the reduction of distribution is the introduction of non-native salmonids and habitat alterations.

Throughout the Caribou-Targhee National Forest, Yellowstone cutthroat trout occur on every District, in several populations. Potential impacts to populations include migration barriers, hybridization and competition with nonnative fish, and habitat impacts (dewatering, stream temperature increases, sedimentation, and instream wood frequency decreases).

Methods

Wolverine Creek was divided into two reaches. These reaches were numbered consecutively with Reach 1 being the downstream reach. The survey ended with Reach 2 Unit 3 approximately 2 1/2 miles from the beginning of the survey (GPS: UTM 12 4 546 19 T 48 307 66). Reach 1 incorporated five 40-meter sample units while Reach 2 surveyed three 40-meter units. Each unit was sampled with a backpack shocker (Mark 10-coffelt type). All units except Unit 4 on Reach 1 were sampled using a single pass. Unit 4 of Reach 1 was sampled with a timed three-pass method. Block nets were also used on Unit 4. Captured specimens were identified, measured (mm) and photographed. All data were recorded on Fish Distribution Forms. Adipose clips were collected from cutthroat trout and sent to the University of Idaho for genetic analysis. Habitat features were noted including stream width, depth, temperature, riparian vegetation, and management related impacts and opportunities.

Physical Habitat

Wolverine Creek flows from its headwaters on the Caribou-Targhee National Forest, through the National Forest and private lands before reaching the South Fork of the Snake. Wolverine Creek is located east of the town of Heise, Idaho and flows southeast to meet

the South Fork of the Snake River. Wolverine Creek is a relatively small, second order, stream (average width 1.2 m) and is a B Rosgen channel type. An average temperature of 13 degrees Celsius was observed during sample times. The area located below the survey was a heavily vegetated narrow canyon. The decision was made to start the reach above the canyon due to difficulties encountered while shocking a test unit.

The beginning of Reach 1 is approximately half a mile upstream from FS Road 026. Vegetation was similar for all units of Reach 1. The understory consisted of thick groves of hawthorn bushes, as well as a variety of grass and forbs. The overstory was made up of a cottonwood trees and lodgepole pine mix. The riparian vegetation provided good cover and maintained stream bank stability for most of the reach. Livestock grazing was occurring during the survey but was minimal and was having very little effect on aquatic habitat or riparian vegetation.

A second reach was established due to a change in landform. Wolverine Creek became very confined in Reach 2. The slopes alongside the stream became very steep, confining the riparian area. An overstory of lodgepole pine was the dominant vegetation influencing the stream here.

The substrate began to change as well. It was now a combination of bedrock and cobble. Gravels were captured in tailouts of pools. Stream gradient began to increase after the second unit of Reach 2 and the aquatic habitat complex changed from a pool/riffle type of a configuration to just plunge pools. Large woody debris is the predominant creator of the plunge pools. Units 2 and 3 in Reach 2 captured no fish and so the survey was completed.

Fisheries

Cutthroat trout were the only species of fish captured during our sampling. Wolverine Creek had a good population of cutthroat trout for its size. All age class of cutthroat were observed. Cutthroat trout were the only species captured during the survey. It is likely cutthroat trout in most of Wolverine Creek have a resident life history pattern. Upstream migration of fluvial fish from the South Fork into Wolverine Creek appears to be blocked by a bedrock falls in the canyon area. All specimens captured seem to be healthy with no deformities and no signs of external parasites.

Recommendations

Wolverine Creek appeared to be in excellent condition at the time of the survey. It would be valuable for a fisheries biologist to visit lower Wolverine Creek and determine the extent of the barrier to migration in the canyon.

Appendix D

Species of Concern in the Headwaters Watersheds of Wyoming

Provided by the Natural Diversity Database at the University of Wyoming, the following tables list the species of special concern and their location, respectively, in the drainages of the Snake River Headwaters in Wyoming: Gro Ventre River drainage (Table D1), Greys-Hoback River's drainages (Table D2), South Fork Indian Creek drainage (Table D3), Salt River drainage (Table D4, and Snake Headwaters (Table D5)

Wyoming Natural Diversity Database

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Table D1 Plant and Animal Species of Concern In the Gros Ventre River Drainage, HUC 17040102

Animals

Common Name	Wy G&F Status	Number of Status	Federal State Rank	Management (animals)	Global Rank/ WYNDD?	Status (Occurrences in Area)	Tracked by	Scientific Name
BOTAURUS LENTIGINOSUS		AMERICAN BITTERN		S-USFS R2	G4/S2B,SZN	WYGF-SSC3	Y	1
PLEGADIS CHIHI		WHITE-FACED IBIS		S-USFS R2	G5/S1B,SZN	WYGF-SSC3	Y	1
CYGNUS BUCCINATOR		TRUMPETER SWAN		S-USFS R2	G4/S1B,S2N	WYGF-SSC2	Y	3
AYTHYA COLLARIS		RING-NECKED DUCK			G5/S3B,S3?N		Y	1
HALIAEETUS LEUCOCEPHALUS		BALD EAGLE	LT		G4/S2B,S3N	WYGF-SSC2	Y	1
ACCIPITER GENTILIS		NORTHERN GOSHAWK		S-USFS R2	G5/S2S3B,S4N	WYGF-SSC4	Y	1
FALCO PEREGRINUS ANATUM		PEREGRINE FALCON			G4T3/S1B,S2N	WYGF-SSC3	Y	2
GRUS AMERICANA		WHOOPING CRANE	(LE-XN)		G1/S1N		Y	3
NUMENIUS AMERICANUS		LONG-BILLED CURLEW		S-USFS R2	G5/S3B,SZN	WYGF-SSC3	Y	2
STRIX NEBULOSA		GREAT GRAY OWL		S-USFS R4	G5/S2	WYGF-SSC4	Y	7
ONCORHYNCHUS CLARKI SSP 2		FINE-SPOTTED SNAKE RIVER		S-USFS R4	G4T1T2Q/S1		Y	1
LASIURUS CINEREUS		HOARY BAT			G5/S2B,SZ?N		Y	2
CANIS LUPUS		GRAY WOLF	LE-XN		G4/S2		Y	2
URSUS ARCTOS		GRIZZLY OR BROWN BEAR	LT		G4/S2		Y	1
LUTRA CANADENSIS		RIVER OTTER			G5/S3		Y	2
LYNX CANADENSIS		NORTH AMERICAN LYNX	LT	S-USFS R2	G5/S1	WYGF-SSC2	Y	1
BUFO BOREAS (NORTHERN ROCKY MOUNTAIN POPULATION)		WESTERN BOREAL TOAD		S-USFS R2	G4T4/S2		Y	3
RANA LUTEIVENTRIS		COLUMBIA SPOTTED FROG		S-USFS R2	G4/S2S3		Y	2

Plants

Scientific Name	Common Name	Federal Status	Management Status	Global Rank/ State Rank	Tracked by WYNDD?	Wyoming Distribution Note	Number of Occurrences in Area
AGROSTIS OREGONENSIS	OREGON BENTGRASS			G4/S1	Y	DISJUNCT	1
ASPLENIUM TRICHOMANES-RAMOSUM	GREEN SPLEENWORT			G4/S2	Y	DISJUNCT	1
ASTRAGALUS TERMINALIS	RAILHEAD MILKVETCH			G3/S1	Y	REGIONAL ENDEMIC	3

BRAYA GLABELLA			G5/S1	Y		2
CAREX LUZULINA VAR ATROPURPUREA	BLACK AND PURPLE SEDGE	S-USFS R4	G5T3/S2	Y	REGIONAL ENDEMIC	1
DRABA BOREALIS	BOREAL DRABA	S-BRIDGER-TETON	G4/S2	Y	DISJUNCT	1
DRABA PORSILDII VAR PORSILDII	PORSILD'S WHITLOW-GRASS		G3G4T3T4/S1	Y	PERIPHERAL	1
EPIPACTIS GIGANTEA	GIANT HELLEBORINE	S-USFS R2	G4/S1	Y	PERIPHERAL	1
ERIGERON HUMILIS	LOW FLEABANE		G4/S2	Y	DISJUNCT	1
HAPLOPAPPUS MACRONEMA VAR LINEARIS	NARROWLEAF GOLDENWEED	S-USFS R4	G4G5T3/S2	Y	REGIONAL ENDEMIC	5
LEMNA VALDIVIANA	PALE DUCKWEED		G5/S1	Y	PERIPHERAL	1
LESQUERELLA CARINATA VAR CARINATA	KEELED BLADDERPOD		G3G4T3T4/S1	Y	REGIONAL ENDEMIC	1
MINUARTIA FILIORUM	THREAD-BRANCH STITCHWORT		G3G4/S1	Y		2
PARRYA NUDICAULIS	NAKED-STEMMED PARRYA	S-USFS R2	G5/S2	Y	DISJUNCT	2
SAUSSUREA WEBERI	WEBER'S SAW-WORT	S-USFS R4	G3/S2	Y	REGIONAL ENDEMIC	1
SCIRPUS ROLLANDII	ROLLAND BULRUSH	S-USFS R2	G3Q/S1	Y	DISJUNCT	1
STEPHANOMERIA FLUMINEA	TETON WIRE-LETTUCE		G2?/S2?	Y		3
TOWNSENDIA LEPTOTES	COMMON EASTER-DAISY		G4/S1	Y	PERIPHERAL	3

Wyoming Natural Diversity Database

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Table D2 Plant and Animal Species of Concern In the Greys-Hoback River Drainage, HUC 17040103

Animals

Scientific Name	Common Name	Wy G&F Federal Status	Management Status	Global Rank/ State Rank	Status (animals)	Tracked by WYNDD?	Number of Occurrences in Area
BUFO BOREAS (NORTHERN ROCKY MOUNTAIN POPULATION)	WESTERN BOREAL TOAD		S-USFS R2	G4T4/S2		Y	4
RANA LUTEIVENTRIS	COLUMBIA SPOTTED FROG		S-USFS R2	G4/S2S3		Y	10
PLEGADIS CHIHI	WHITE-FACED IBIS		S-USFS R2	G5/S1B,SZN	WYGF-SSC3	Y	1
CYGNUS BUCCINATOR	TRUMPETER SWAN		S-USFS R2	G4/S1B,S2N	WYGF-SSC2	Y	1
AYTHYA COLLARIS	RING-NECKED DUCK			G5/S3B,S3?N		Y	1
HISTRIONICUS HISTRIONICUS	HARLEQUIN DUCK		S-USFS R2	G4/S1B,SZ?N	WYGF-SSC3	Y	1
HALIAEETUS LEUCOCEPHALUS	BALD EAGLE	LT		G4/S2B,S3N	WYGF-SSC2	Y	10
ACCIPITER GENTILIS	NORTHERN GOSHAWK		S-USFS R2	G5/S2S3B,S4N	WYGF-SSC4	Y	1
FALCO PEREGRINUS ANATUM	PEREGRINE FALCON			G4T3/S1B,S2N	WYGF-SSC3	Y	2
LAGOPUS LEUCURUS	WHITE-TAILED PTARMIGAN			G5/S1		Y	1
GRUS AMERICANA	WHOOPING CRANE	(LE-XN)		G1/S1N		Y	2
NUMENIUS AMERICANUS	LONG-BILLED CURLEW		S-USFS R2	G5/S3B,SZN	WYGF-SSC3	Y	1
PHALAROPUS TRICOLOR	WILSON'S PHALAROPE			G5/S3B,S3N		Y	1
OTUS KENNICOTTII	WESTERN SCREECH OWL			G5/S2		Y	1
ATHENE CUNICULARIA	BURROWING OWL		S-USFS R2	G4/S3B,SZN	WYGF-SSC4	Y	2
STRIX NEBULOSA	GREAT GRAY OWL		S-USFS R4	G5/S2	WYGF-SSC4	Y	2
ONCORHYNCHUS CLARKI SSP 2 CUTTHROAT TROUT	FINE-SPOTTED SNAKE RIVER		S-USFS R4	G4T1T2Q/S1		Y	7
CATOSTOMUS DISCOBOLUS	BLUEHEAD SUCKER			G4/S2S3		Y	2
LASIURUS CINEREUS	HOARY BAT			G5/S2B,SZ?N		Y	2
CANIS LUPUS	GRAY WOLF	LE-XN		G4/S2		Y	2
URSUS ARCTOS	GRIZZLY OR BROWN BEAR	LT		G4/S2		Y	1
LUTRA CANADENSIS	RIVER OTTER			G5/S3		Y	5
BOS BISON	BISON	(PS)		G4/S2		Y	1
CHARINA BOTTAE	RUBBER BOA			G5/S2S3		Y	2

Plants

Scientific Name	Common Name	Federal Status	Management Status	Global Rank/ State Rank	Tracked by WYNDD?	Wyoming Distribution Note	Number of Occurrences in Area

ANDROSACE CHAMAEJASME SSP CARINATA	SWEET-FLOWERED ROCK JASMINE	S-BRIDGER-TETON	G5T4/S1S2	Y	PERIPHERAL	1
ANTENNARIA MONOCEPHALA	SINGLE-HEAD PUSSYTOES		G4G5/S1	Y	DISJUNCT	1
ARCEUTHOBIUM DOUGLASII	DOUGLAS FIR DWARF-MISTLETOE		G5/S1	Y	PERIPHERAL	1
ASCLEPIAS CRYPTOCERAS SSP DAVISII			G4T?/SH	Y		1
ASPLENIUM TRICHOMANES-RAMOSUM	GREEN SPLEENWORT		G4/S2	Y	DISJUNCT	2
ASTER MOLLIS	SOFT ASTER	S-USFS R2	G3/S3	Y	STATE ENDEMIC	1
ASTRAGALUS PAYSONII	PAYSON'S MILKVETCH	S-USFS R4	G3/S2	Y	REGIONAL ENDEMIC	17
ASTRAGALUS ROBBINSII VAR MINOR	ROBBINS MILKVETCH		G5T5/S1	Y	PERIPHERAL	3
ASTRAGALUS TERMINALIS	RAILHEAD MILKVETCH		G3/S1	Y	REGIONAL ENDEMIC	2
BRAYA GLABELLA			G5/S1	Y		1
CALAMAGROSTIS KOELERIOIDES	DENSE PINE REED-GRASS		G5/SH	Y	PERIPHERAL	1
CAREX SARTWELLII VAR SARTWELLII	SARTWELL'S SEDGE		G4T?/S1	Y	PERIPHERAL	1
CAREX SCIRPOIDEA VAR	CANADIAN SINGLE-SPIKE SCIRPIFORMIS SEDGE		G5T4Q/S1	Y	PERIPHERAL	1
CLARKIA PULCHELLA	LARGE-FLOWER CLARKIA		G5?/SH	Y	PERIPHERAL	1
CRYPTOGRAMMA STELLERI	FRAGILE ROCKBRAKE		G5/S1	Y	DISJUNCT	1
DRABA BOREALIS	BOREAL DRABA	S-BRIDGER-TETON	G4/S2	Y	DISJUNCT	5
DRABA PAYSONII VAR PAYSONII	PAYSON'S DRABA		G5T3?/S2	Y		1
ERIOPHORUM VIRIDICARINATUM	GREEN KEELED COTTON-GRASS		G5/S1	Y	PERIPHERAL	1
HIERACIUM SCOULERI	SCOULER HAWKWEED		G4G5/S1	Y	PERIPHERAL	2
KELLOGGIA GALIOIDES	MILK KELLOGGIA		G5/S1	Y	PERIPHERAL	1
LESQUERELLA CARINATA VAR CARINATA	KEELED BLADDERPOD		G3G4T3T4/S1	Y	REGIONAL ENDEMIC	4
LESQUERELLA MULTICEPS	WESTERN BLADDERPOD		G3/S1	Y	REGIONAL ENDEMIC	1
LUZULA GLABRATA VAR HITCHCOCKII	SMOOTH WOOD-RUSH		G5T4/S1	Y	PERIPHERAL	1
MINUARTIA FILIORUM	THREAD-BRANCH STITCHWORT		G3G4/S1	Y		3
MONARDELLA ODORATISSIMA VAR GLAUCA	MOUNTAIN WILD-MINT		G4G5T?/S1	Y	PERIPHERAL	2
MUHLENBERGIA GLOMERATA	MARSH MUHLY	S-USFS R2	G5/S1	Y	PERIPHERAL	1
OROBANCHE CORYMBOSA VAR CORYMBOSA	FLAT-TOP BROOMRAPE		G4T4/S1	Y	PERIPHERAL	1
PORTERELLA CARNOSULA	WESTERN PORTERELLA		G4/S1	Y	PERIPHERAL	1
SALIX CANDIDA	HOARY WILLOW	S-USFS R4	G5/S2	Y	PERIPHERAL	1
SALIX ERIOCEPHALA VAR MACKENZIEANA	MACKENZIE'S WILLOW		G5T4/S1	Y	PERIPHERAL	1
SCIRPUS ROLLANDII	ROLLAND BULRUSH	S-USFS R2	G3Q/S1	Y	DISJUNCT	1
SELAGINELLA SELAGINOIDES	LOW SPIKE-MOSS		G5/S1	Y	PERIPHERAL	1
SILENE REPENS VAR AUSTRALIS	CREEPING CAMPION		G5T?/S1	Y		3
TOWNSENDIA FLORIFER	SHOWY EASTER-DAISY		G5/SH	Y	PERIPHERAL	1
TOWNSENDIA LEPTOTES	COMMON EASTER-DAISY		G4/S1	Y	PERIPHERAL	2
TRITELEIA GRANDIFLORA	LARGE-FLOWER TRITELEIA		G4/S1	Y	PERIPHERAL	1
UTRICULARIA INTERMEDIA	FLATLEAF BALDDERWORT		G5/S1	Y		1

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Table D3 Plant and Animal Species of Concern In the South Fork Indian Creek Drainage, HUC 17040104

Animals

Scientific Name	Common Name	Wy G&F Number of Federal Status	Management Status	Global Rank/ State Rank	Status (animals)	Tracked by WYNDD?	Occurrences in Area
ONCORHYNCHUS CLARKI SSP 2	FINE-SPOTTED SNAKE RIVER CUTTHROAT TROUT		S-USFS R4	G4T1T2Q/S1		Y	2

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Table D4 Plant and Animal Species of Concern In the Salt River Drainage, HUC 17040105

Animals

Scientific Name	Common Name	Wy G&F Number of Federal Status	Management Status	Global Rank/ State Rank	Status (animals)	Tracked by WYNDD?	Occurrences in Area
Birds							
HISTRIONICUS HISTRIONICUS	HARLEQUIN DUCK		S-USFS R2	G4/S1B,SZ?N	WYGF-SSC3	Y	1
HALIAEETUS LEUCOCEPHALUS	BALD EAGLE	LT		G4/S2B,S3N	WYGF-SSC2	Y	1
TROGLODYTES TROGLODYTES	WINTER WREN			G5/S1B,SZN		Y	1
Fish							
ONCORHYNCHUS CLARKI SSP 2	FINE-SPOTTED SNAKE RIVER CUTTHROAT TROUT		S-USFS R4	G4T1T2Q/S1		Y	1
Mammals							
LUTRA CANADENSIS	RIVER OTTER			G5/S3		Y	1
Herptiles							
CHARINA BOTTAE	RUBBER BOA			G5/S2S3		Y	1

Plants

Scientific Name	Common Name	Federal Status	Management Status	Global Rank/ State Rank	Tracked by WYNDD?	Wyoming Distribution Note	Number of Occurrences in Area
ASTRAGALUS PAYSONII	PAYSON'S MILKVETCH		S-USFS R4	G3/S2	Y	REGIONAL ENDEMIC	1
CAREX DEWEYANA VAR BOLANDERI	BOLANDER'S SEDGE			G5T5/S1	Y	PERIPHERAL	1
DRABA BOREALIS	BOREAL DRABA		S-BRIDGER-TETON	G4/S2	Y	DISJUNCT	3
MONARDELLA ODORATISSIMA VAR GLAUCA	MOUNTAIN WILD-MINT			G4G5T?/S1	Y	PERIPHERAL	3
SALIX ERIOCEPHALA VAR MACKENZIEANA	MACKENZIE'S WILLOW			G5T4/S1	Y	PERIPHERAL	1
TRITELEIA GRANDIFLORA	LARGE-FLOWER TRITELEIA			G4/S1	Y	PERIPHERAL	1

Wyoming Natural Diversity Database

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Table D5. Plant and Animal Species of Concern In the Snake River Headwaters Drainage, HUC 17040101

Animals

Scientific Name	Common Name	Wy G&F Number of Federal Status	Management Status	Global Rank/ State Rank	Status (animals)	Tracked by WYNDD?	Occurrences in Area
Herptiles							
BUFO BOREAS (NORTHERN ROCKY MOUNTAIN POPULATION)	WESTERN BOREAL TOAD		S-USFS R2	G4T4/S2		Y	39
RANA PIPIENS	NORTHERN LEOPARD FROG		S-USFS R2	G5/S3		Y	3
RANA LUTEIVENTRIS	COLUMBIA SPOTTED FROG		S-USFS R2	G4/S2S3		Y	47
Birds							
GAVIA IMMER	COMMON LOON		S-USFS R2	G5/S2B,SZN	WYGF-SSC1	Y	20
PELECANUS ERYTHRORHYNCHOS	AMERICAN WHITE PELICAN			G3/S1B,SZN	WYGF-SSC3	Y	1
BOTAURUS LENTIGINOSUS	AMERICAN BITTERN		S-USFS R2	G4/S2B,SZN	WYGF-SSC3	Y	2
CYGNUS BUCCINATOR	TRUMPETER SWAN		S-USFS R2	G4/S1B,S2N	WYGF-SSC2	Y	10
HISTRIONICUS HISTRIONICUS	HARLEQUIN DUCK		S-USFS R2	G4/S1B,SZ?N	WYGF-SSC3	Y	12
HALIAEETUS LEUCOCEPHALUS	BALD EAGLE	LT		G4/S2B,S3N	WYGF-SSC2	Y	24
ACCIPITER GENTILIS	NORTHERN GOSHAWK		S-USFS R2	G5/S2S3B,S4N	WYGF-SSC4	Y	8
FALCO COLUMBARIUS	MERLIN		S-USFS R2	G5/S2B,SZN	WYGF-SSC3	Y	2
FALCO PEREGRINUS ANATUM	PEREGRINE FALCON			G4T3/S1B,S2N	WYGF-SSC3	Y	1
LAGOPUS LEUCURUS	WHITE-TAILED PTARMIGAN			G5/S1		Y	1
GRUS AMERICANA	WHOOPING CRANE	(LE-XN)		G1/S1N		Y	5
NUMENIUS AMERICANUS	LONG-BILLED CURLEW		S-USFS R2	G5/S3B,SZN	WYGF-SSC3	Y	6
PHALAROPUS TRICOLOR	WILSON'S PHALAROPE			G5/S3B,S3N		Y	1
STRIX NEBULOSA	GREAT GRAY OWL		S-USFS R4	G5/S2	WYGF-SSC4	Y	11
AEGOLIUS FUNEREUS	BOREAL OWL		S-USFS R2	G5/S2	WYGF-SSC4	Y	5
STELLULA CALLIOPE	CALLIOPE HUMMINGBIRD			G5/S2B,SZN		Y	1
PICOIDES TRIDACTYLUS	THREE-TOED WOODPECKER		S-USFS R2	G5/S3		Y	2
TROGLODYTES TROGLODYTES	WINTER WREN			G5/S1B,SZN		Y	1
REGULUS SATRAPA	GOLDEN-CROWNED KINGLET		S-USFS R2	G5/S3		Y	1
Fish							
ONCORHYNCHUS CLARKI BOUVIERI	YELLOWSTONE CUTTHROAT TROUT		S-USFS R2	G4T2/S2		Y	3
ONCORHYNCHUS CLARKI SSP 2	FINE-SPOTTED SNAKE RIVER CUTTHROAT TROUT		S-USFS R4	G4T1T2Q/S1		Y	9
GILA COPEI	LEATHERSIDE CHUB			G3G4/S2		Y	2
CATOSTOMUS DISCOBOLUS	BLUEHEAD SUCKER			G4/S2S3		Y	2

SOREX NANUS	DWARF SHREW		S-USFS R2	G4/S2S3	WYGF-SSC3	Y	1
MYOTIS EVOTIS	LONG-EARED MYOTIS			G5/S1B,S1?N	WYGF-SSC2	Y	2
LASIURUS CINEREUS	HOARY BAT			G5/S2B,SZ?N		Y	9
CANIS LUPUS	GRAY WOLF	LE-XN		G4/S2		Y	1
URSUS ARCTOS	GRIZZLY OR BROWN BEAR	LT		G4/S2		Y	2
LUTRA CANADENSIS	RIVER OTTER			G5/S3		Y	9
BOS BISON	BISON	(PS)		G4/S2		Y	2
CHARINA BOTTAE	RUBBER BOA			G5/S2S3		Y	7

Plants

Scientific Name	Common Name	Federal Status	Management Status	Global Rank/ State Rank	Tracked by WYNDD?	Wyoming Distribution Note	Number of Occurrences in Area
ADIANTUM ALEUTICUM	ALEUTIAN MAIDENHAIR-FERN			G5?/S1	Y	DISJUNCT	3
AGROSTIS OREGONENSIS	OREGON BENTGRASS			G4/S1	Y	DISJUNCT	1
ANDROSACE CHAMAEJASME SSP CARINATA	SWEET-FLOWERED ROCK JASMINE		S-BRIDGER-TETON	G5T4/S1S2	Y	PERIPHERAL	1
ASPIDOTIS DENSA	POD-FERN			G5/S1	Y	PERIPHERAL	3
ASPLENIUM TRICHOMANES-RAMOSUM	GREEN SPLEENWORT			G4/S2	Y	DISJUNCT	1
ASTRAGALUS TERMINALIS	RAILHEAD MILKVETCH			G3/S1	Y	REGIONAL ENDEMIC	3
ATHYRIUM DISTENTIFOLIUM VAR AMERICANUM	AMERICAN ALPINE LADY FERN			G4G5/S1	Y	PERIPHERAL	3
CALAMAGROSTIS KOELERIOIDES	DENSE PINE REED-GRASS			G5/SH	Y	PERIPHERAL	1
CAREX CUSICKII	CUSICK'S SEDGE			G5/S1	Y	PERIPHERAL	4
CAREX DIANDRA	LESSER PANICLED SEDGE			G5/S2	Y	PERIPHERAL	1
CAREX LAEVICULMIS	SMOOTH-STEMMED SEDGE			G5/S1	Y	PERIPHERAL	1
CAREX LEPTALEA	BRISTLY-STALK SEDGE			G5/S2	Y	PERIPHERAL	3
CAREX PRESLII	PRESL SEDGE			G4/S1	Y	PERIPHERAL	2
CAREX PROPOSITA	SMOKY MOUNTAIN SEDGE			G4/SH	Y		1
CAREX SARTWELLII VAR SARTWELLII	SARTWELL'S SEDGE			G4T?/S1	Y	PERIPHERAL	1
DESCURAINIA TORULOSA	WYOMING TANSYMUSTARD		S-USFS R2	G1/S1	Y	STATE ENDEMIC	3
DODECATHEON JEFFREYI	JEFFREY'S SHOOTING STAR			G5/S1	Y		1
DRABA BOREALIS	BOREAL DRABA		S-BRIDGER-TETON	G4/S2	Y	DISJUNCT	2
DROSERA ANGLICA	ENGLISH SUNDEW			G5/S2	Y	PERIPHERAL	3
DRYOPTERIS EXPANSA	SPREADING WOODFERN			G5/S1	Y	PERIPHERAL	1
ELEOCHARIS BELLA	DELICATE SPIKERUSH			G5/S1	Y		1
ELEOCHARIS FLAVESCENS VAR THERMALIS	WARM SPRINGS SPIKERUSH			G5T2T3Q/S2	Y	DISJUNCT	2
EPIPACTIS GIGANTEA	GIANT HELLEBORINE		S-USFS R2	G4/S1	Y	PERIPHERAL	1
EQUISETUM FLUVIATILE	WATER HORSETAIL			G5/S1	Y	PERIPHERAL	1
ERIOPHORUM GRACILE	SLENDER COTTON-GRASS			G5/S1	Y	PERIPHERAL	3
ERIOPHORUM VIRIDICARINATUM	GREEN KEELED COTTON-GRASS			G5/S1	Y	PERIPHERAL	1
GAYOPHYTUM HUMILE	LOW GROUND-SMOKE			G5/S1	Y	PERIPHERAL	1
GYMNOCARPIUM DRYOPTERIS	OAK FERN			G5/S1	Y	DISJUNCT	5
HAPLOPAPPUS MACRONEMA VAR	NARROWLEAF GOLDENWEED		S-USFS R4	G4G5T3/S2	Y	REGIONAL ENDEMIC	1

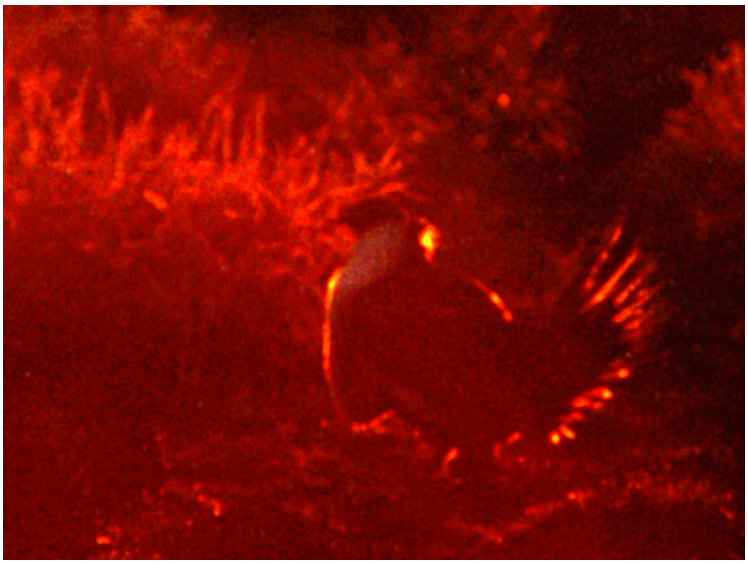
LINEARIS						
HIERACIUM SCOULERI	SCOULER HAWKWEED		G4G5/S1	Y	PERIPHERAL	3
HUPERZIA SELAGO	FIR CLUBMOSS		G5/SH	Y	DISJUNCT	1
JUNCUS FILIFORMIS	THREAD RUSH		G5/S1	Y	PERIPHERAL	4
JUNCUS TWEEDYI	TWEEDY'S RUSH		G3Q/S2	Y	REGIONAL ENDEMIC	2
KELLOGGIA GALIOIDES	MILK KELLOGGIA		G5/S1	Y	PERIPHERAL	2
LESQUERELLA CARINATA VAR CARINATA	KEELED BLADDERPOD		G3G4T3T4/S1	Y	REGIONAL ENDEMIC	3
LISTERA CONVALLARIOIDES	BROAD-LEAVED TWAYBLADE		G5/S1	Y	PERIPHERAL	3
LUZULA GLABRATA VAR HITCHCOCKII	SMOOTH WOOD-RUSH		G5T4/S1	Y	PERIPHERAL	2
MARSILEA VESTITA VAR OLIGOSPORA	PEPPERWORT		G5/S1	Y	PERIPHERAL	2
MELICA SMITHII	SMITH MELIC GRASS		G4/SH	Y	PERIPHERAL	1
NAJAS GUADALUPENSIS	SOUTHERN NAIAD		G5/S1	Y	PERIPHERAL	1
OPHIOGLOSSUM VULGATUM	ADDER'S-TONGUE		G5/S1	Y	DISJUNCT	1
OROBANCHE CORYMBOSA VAR CORYMBOSA	FLAT-TOP BROOMRAPE		G4T4/S1	Y	PERIPHERAL	2
OROBANCHE LUDOVICIANA VAR ARENOSA	LOUISIANA BROOMRAPE		G5T5/S1	Y	PERIPHERAL	1
PAEONIA BROWNII	BROWN'S PEONY		G5/S1	Y	PERIPHERAL	4
PORTERELLA CARNOSULA	WESTERN PORTERELLA		G4/S1	Y	PERIPHERAL	3
POTAMOGETON FRIESII	FRIES PONDWEED		G4/S1	Y	PERIPHERAL	2
POTAMOGETON OBTUSIFOLIUS	BLUNT-LEAF PONDWEED		G5/S1	Y	DISJUNCT	2
POTAMOGETON ROBBINSII	FLATLEAF PONDWEED		G5/S1	Y	PERIPHERAL	1
POTAMOGETON ZOSTERIFORMIS	FLATSTEM PONDWEED		G5/S1	Y	PERIPHERAL	1
RANUNCULUS FLABELLARIS	YELLOW WATER-CROWFOOT		G5/SH	Y	PERIPHERAL	1
RUBUS ACAULIS	NAGOONBERRY	S-USFS R2	G5/S1	Y	PERIPHERAL	2
SALIX ERIOCEPHALA VAR MACKENZIEANA	MACKENZIE'S WILLOW		G5T4/S1	Y	PERIPHERAL	1
SEDUM STENOPETALUM	NARROW-PETAL STONECROP		G4G5/S1	Y	PERIPHERAL	2
SENECIO HYDROPHILOIDES	SWEET MARSH BUTTERWEED		G5/S1	Y	PERIPHERAL	1
SENECIO MEGACEPHALUS	BIG-HEADED GROUNDSEL		G4?/SH	Y	REGIONAL ENDEMIC	1
SPARGANIUM MINIMUM	SMALL BUR-REED		G5/S1	Y	PERIPHERAL	1
SPIRODELA POLYRRHIZA	COMMON WATER-FLAXSEED		G5/S1	Y	PERIPHERAL	1
STELLARIA CRISPA	CRIMPED STITCHWORT		G5/S1	Y	PERIPHERAL	1
STEPHANOMERIA FLUMINEA	TETON WIRE-LETTUCE		G2?/S2?	Y		5
TORREYOCHLOA PALLIDA VAR FERNALDII	FERNALD ALKALI-GRASS		G5?T4Q/S1	Y	DISJUNCT	1
TOWNSENDIA FLORIFER	SHOWY EASTER-DAISY		G5/SH	Y	PERIPHERAL	1
TRAUTVETTERIA CAROLINIENSIS	CAROLINA TASSEL-RUE		G5/S1	Y	DISJUNCT	2
TRITELEIA GRANDIFLORA	LARGE-FLOWER TRITELEIA		G4/S1	Y	PERIPHERAL	1
UTRICULARIA MINOR	LESSER BLADDERWORT		G5/S1S2	Y		1
VIOLA ORBICULATA	WESTERN ROUGH-LEAVED VIOLET		G4/S1	Y	PERIPHERAL	3
VIOLA RENIFOLIA VAR BRAINERDII	KIDNEY-LEAF WHITE VIOLET		G5T5/S1	Y	PERIPHERAL	1
XEROPHYLLUM TENAX	WESTERN BEARGRASS		G4G5/S1	Y	PERIPHERAL	3

Appendix E

SOUTHERN IDAHO GAMEBIRD RESEARCH GROUP

A TEN YEAR SUMMARY

1991-2000



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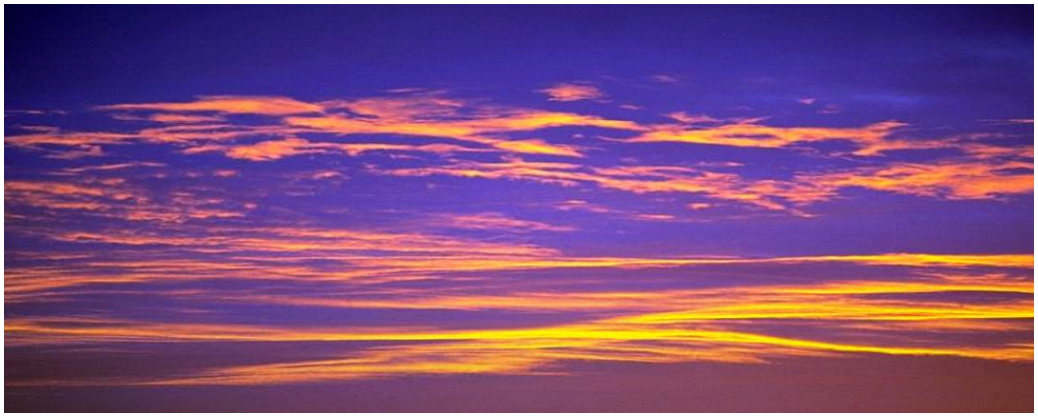

"Science contributes moral as well as material blessings to the world. Its great moral contribution is objectivity, or the scientific point of view. This means doubting everything except facts; it means hewing to the facts, let the chips fall where they may."

Aldo Leopold
A Sand County Almanac

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Introduction

Following the reorganization of the Idaho Department of Fish and Game in the early 1980's, permanent wildlife research biologists were assigned to work on various wildlife issues throughout the state. Principal Wildlife Research Biologists were stationed in Lewiston, Boise and Pocatello, in part to facilitate interaction with the state's major universities. In 1986, University of Idaho, Bureau of Land Management and Department personnel began intensive studies of gamebird ecology in southeastern Idaho. From the mid 1980's to the early 1990's most of the upland gamebird research effort occurred in southeastern Idaho and largely focused on sage grouse.

By the early 1990's research biologists were assigned to big game, nongame and gamebird sections within the Bureau of Wildlife. This assignment, as well as increasing workloads and concern over declining mule deer, sage grouse, and pheasant populations eventually led to Principal Wildlife Research Biologists and the biologists they supervised specializing in various wildlife species.

For the last 15 years, southeastern Idaho has remained a center of gamebird research in the state. During the late 1990's this research program broadened with additional research projects in south central and southwestern Idaho and the addition of two research biologists. This program expansion was made possible in large part due to increased funding provided to the Department by the Bureau of Land Management.

The purpose of this report is to summarize the gamebird research efforts and major findings in southern Idaho over the last 10 years. The report also helps demonstrate the amount of work that can be accomplished by the combined efforts of state and federal agencies and universities.

Research Philosophy

The following guidelines were adhered to when conducting research projects:

- The research had strong management implications.
- The research could be replicated.
- The research could be effectively conducted, given the available resources.
- The research was approached in a totally objective fashion.

Graduate students are involved in most of the research projects and usually are selected through collaborative efforts of university faculty and Department personnel.

Each student is required to prepare a detailed study plan prior to initiating fieldwork. In most cases, a Department research biologist serves on the graduate student's committee.

A strong emphasis is placed on transferring information to field biologists and other interested individuals. Thus, graduate students are required to give presentations at technical meetings and publish the results of their work in peer reviewed journals and occasionally popular magazines.

Teamwork is also an important part of the research program. Whenever possible, Department biologists and biologists from other agencies are asked to participate in project design, fieldwork and the publication process. The importance placed on information transfer and teamwork provides the basis for this report.

Project Personnel

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Acknowledgements

We appreciate the efforts of the many volunteers, wildlife technicians and bio-aides that helped in various aspects of these projects over the last 10 years. We are especially

grateful to the Idaho Department of Fish and Game Conservation Officers of the Upper Snake Region for their constant willingness to endure long cold nights of sage grouse trapping and the occasional forays they made to rescue stranded research personnel, with scarcely a snicker. Finally, we are indebted to the following cooperators for their support of these research projects: Idaho Department of Fish and Game, University of Idaho, United States Bureau of Land Management, United States Forest Service, Fremont County Woolgrowers, U. S. Air Force, U.S. Army Corps of Engineers, Colorado Division of Wildlife, Idaho Power Company, Washington Department of Fish and Wildlife, U.S. Geological Survey, Grouse Inc.

Major Findings and Accomplishments

Sage Grouse

- Developed methods for transplanting sage grouse
- Re-established sage grouse in the Sawtooth Valley
- Documented the response of sage grouse populations to fire
- Characterized recovery of sage grouse habitat following fire
- Documented permanent loss of sage grouse winter range on the Upper Snake River Plain
- Described major migration routes for sage grouse in southern Idaho
- Discovered sage grouse have the lowest reproductive rate of any gamebird in Idaho
- Provided evidence suggesting that hunting may be additive to over-winter mortality
- Provided evidence indicating predators have little effect on the adult and juvenile (>10 weeks of age) segments of the population
- Developed improved trapping techniques for sage grouse
- Developed method for attaching micro-transmitters to day-old sage grouse chicks
- In cooperation with biologists from other agencies, wrote guidelines for population and habitat management
- Developed a GIS based habitat model for sage grouse

Columbian Sharp-tailed Grouse

- Developed a habitat suitability index procedure
- Described seasonal habitat selection in southern Idaho
- Described similarities and differences in habitat use by sharp-tailed grouse and sage grouse
- Documented reproductive rates
- Published habitat management guidelines
- Published Birds of North America species account of sharp-tailed grouse
- Documented the use of chokecherry seeds as grit during winter
- Found that CRP fields provided better quality foods during winter than adjacent shrub uplands
- Developed information suggesting females reduce nest predation by nesting

relatively far from leks

Ring-necked Pheasants

- Developed improved trapping techniques
- Documented extremely high losses of game farm birds released to the wild

Waterfowl

- Developed a device for accurately recording predation events
- Determined that Russian olive invasion was related to low duck nesting success
- Documented the lowest reported duck nesting success in N.A. at Sterling WMA
- Provided evidence indicating that mammalian nest predation increased following reduction of magpie habitat

Appendix E

Publications

Over the last 10 years, 34 papers have been published in various outlets and one other was submitted for publication Of the 34 papers, 25 (73%) were published in peer-reviewed journals or bulletins, 7 (21%) in state reports or proceedings of scientific meetings, and 2 (6%) in popular literature. Peer-reviewed manuscripts were published in 11 different scientific outlets.

Of the 34 manuscripts (Table 1), most dealt with grouse habitat (35%) and grouse population or general ecology (24%). However, 2 of these addressed guidelines for managing sage and Columbian sharp-tailed grouse populations and habitats. Four papers were published in the Journal Wildlife Biology as part of the 7th and 8th International Grouse Symposiums. These Symposiums had a 50 to 70% rejection rate and relatively few North American papers were published as part of these symposiums.

Table 1. Summary of topics of papers published by gamebird research group, 1991-2000.

	Topic								
Species	Habitat	Population ecology	General ecology	Management	Techniques	Pesticides	Predation /hunting	Other	Total
Sage grouse	10	4	3	1	2	3	1		24
Sharp-tailed grouse	2		1	1					4
Waterfowl					1		1		2
Miscellaneous					1			3	4
Total	12	4	4	2	4	3	2	3	34

Theses and Dissertations

Ten M.S. theses and 2 Ph.D. dissertations were completed between 1991 and 2000. Of these, 4 were written on Columbian sharp-tailed grouse (33%), 4 on sage grouse (33%), 1 on Columbian sharp-tailed and sage grouse (8%), 1 on pheasants (8%) and 2 on waterfowl (17%). Of the 12 graduate students involved in these projects, 9 are now employed in the natural resources field, 2 have taken positions peripherally related to naturally resources, and one has not obtained full-time employment. Three of the former students are employed by state fish and wildlife departments (ID, CO, CA), five are employed by federal agencies (U.S. Fish and Wildlife Service [2], National Park Service [1], U.S. Army Corps of Engineers [1], and U.S.D.A. Wildlife Services [1]), and one is employed by Ducks Unlimited.

Presentations

Since 1991, 103 oral presentations have been given at scientific meetings (n = 73, 71%), university lectures (n = 17, 16%), and conservation or civic meetings (n = 13, 13%). Thirty-nine of these presentations were given by graduate students and 64 by agency or university personnel. In most cases, papers were authored by more than one individual and many times by personnel from different agencies. Because of concerns over declining grouse and pheasant populations and the potential for listing the grouse species under the Endangered Species Act, more emphasis has been given to conservation and civic groups in recent years (Table 2) . Project personnel have also given numerous programs and presentations at schools and scout meetings.

Table 2. Summary of presentations given by southern Idaho gamebird research group, 1991-2000.

	Meeting			
Year	Technical	University	Conservation/Civic	Total
1991	8	4	0	12
1992	4	1	0	5
1993	13	2	0	15
1994	12	1	0	13
1995	6	2	0	8
1996	10	1	1	12
1997	3	0	1	4
1998	3	2	0	5
1999	6	0	5	11
2000	8	4	6	18
Total	73	17	13	103

PUBLICATIONS AND PRESENTATIONS

GAMEBIRD RESEARCH GROUP[a]

1991-2000

Publications:

1991

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1992

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Appendix F. Grays Lake National Wildlife Refuge

Wayan, Idaho

A Bird Haven

Grays Lake National Wildlife Refuge is located in southeast Idaho, 27 miles north of Soda Springs. Grays "Lake" is actually a large shallow marsh of dense bulrush and cattail vegetation with little open water. Lands next to the lake are primarily wet meadows and grasslands. The refuge is a haven for ducks, geese, cranes, and a variety of other waterbirds. It was established in 1965 to protect and restore habitat for nesting waterfowl, sandhill cranes and other wildlife, much attention was focused on Grays Lake NWR in its effort to establish a second wild population of endangered whooping cranes.

From 1975 to 1989 a cross-fostering project was conducted to increase the numbers of whooping cranes. Whooper eggs from Canada were annually placed in sandhill crane nests at Grays Lake NWR. Other methods to increase whooper populations are now being tested, the final outcome of these efforts is still uncertain.

Cranes - A Refuge Hallmark

The Grays Lake Valley has historically been an important nesting and fall staging area for the more numerous sandhill crane. In most years, more than 200 pairs nest on the refuge which means Grays Lake NWR hosts the largest nesting population of greater sandhill cranes in the world. While staging for their migration, crane populations normally peak in late September, at about 3,000 birds.

Viewing Opportunities

Grays Lake NWR provides visitors with many opportunities to observe birdlife. An overlook adjacent to refuge headquarters and public roads that encircle the refuge provide some good vantage points for viewing. May, June, and September are best for viewing aquatic birds, including whooping cranes.

Caution. Be aware that large portions of the refuge are closed to public entry to minimize disturbance to wildlife, particularly whooping cranes. Ways you can help protect the wildlife are outlined in the refuge general leaflet, please follow these visitation guidelines.

Checklist Notes

The bird list contains 199 species which have been noted on Grays Lake NWR or within the Grays Lake watershed. Searching the grasslands and forests surrounding the refuge is often necessary to locate some species. U.S. Fish and Wildlife Service personnel and reliable observers in the field have contributed many observations recorded before and after establishment of the refuge. The list continues to be updated to include new observations. Visitors are encouraged to report any noteworthy sightings and details to the refuge manager. Common names used are in accordance with the American Ornithologists' Union Check-list of North American Birds, 6th edition 1983, and July 1985 supplement.

Season Symbols
Sp - Spring, April to May
S - Summer, June to August
F - Fall, September to November
W - Winter, December to March

Species Abundance Symbols
a - abundant: a species that is very numerous
c - common: certain to be seen in suitable habitat
u - uncommon: present but not certain to be seen
o - occasional: seen only a few times in a season
r - rare: known to be present, but not every year
* - birds that nest locally
# - threatened or endangered species

LOONS	Sp	S	F	W
___ Common Loon	o	-	-	-
GREBES	**Sp**	**S**	**F**	**W**
___ Pied-billed Grebe*	u	u	u	-
___ Horned Grebe	o	-	-	-
___ Eared Grebe*	c	c	c	-
___ Western Grebe*	o	o	o	-
___ Clark's Grebe	-	r	-	-
PELICANS AND CORMORANTS	**Sp**	**S**	**F**	**W**
___ American White Pelican	r	r	r	-
___ Double-crested Cormorant	r	r	r	-
BITTERNS, HERONS AND EGRETS	**Sp**	**S**	**F**	**W**
___ American Bittern*	c	c	c	-
___ Great Blue Heron	u	u	u	-
___ Cattle Egret	o	r	-	-
___ Great Egret	r	-	-	-
___ Snowy Egret	o	o	o	-
___ Black-crowned Night-Heron*	o	o	o	-
IBISES	**Sp**	**S**	**F**	**W**
___ White-faced Ibis*	c	c	u	-
WATERFOWL	**Sp**	**S**	**F**	**W**
___ Tundra Swan	o	-	o	-
___ Trumpeter Swan*	u	u	u	-
___ Greater White-Fronted Goose	r	-	-	-
___ Snow Goose	o	-	o	r
___ Canada Goose*	a	a	a	o
___ Wood Duck	r	r	-	-
___ Green-winged Teal*	c	c	c	o

___ Mallard*	a	a	a	u
___ Northern Pintail*	a	c	a	o
___ Blue-winged Teal*	u	u	u	-
___ Cinnamon Teal*	a	a	c	-
___ Gadwall*	a	c	c	o
___ Northern Shoveler*	c	c	c	-
___ American Wigeon*	c	u	c	-
___ Canvasback*	c	u	u	-
___ Redhead*	c	c	c	-
___ Ring-necked Duck*	u	o	o	-
___ Lesser Scaup*	c	u	u	-
___ Common Goldeneye	u	-	u	o
___ Barrow's Goldeneye*	u	u	u	r
___ Bufflehead	u	-	u	o
___ Hooded Merganser	o	-	r	-
___ Common Merganser	o	-	o	o
___ Red-breasted Merganser	r	-	r	-
___ Ruddy Duck*	u	u	u	-
VULTURES	Sp	S	F	W
___ Turkey Vulture	u	u	u	-
OSPREY, KITES, EAGLES AND HAWKS	Sp	S	F	W
___ Osprey	r	r	r	-
___ Bald Eagle#	o	r	o	o
___ Northern Harrier*	c	c	c	o
___ Sharp-shinned Hawk*	o	o	o	-
___ Cooper's Hawk*	o	o	o	-
___ Northern Goshawk*	u	u	u	u
___ Swainson's Hawk*	c	c	c	-
___ Red-tailed Hawk*	c	c	c	r
___ Ferruginous Hawk*	u	u	u	-
___ Rough-legged Hawk	u	-	u	c
___ Golden Eagle*	u	u	u	u
FALCONS	Sp	S	F	W
___ American Kestrel*	c	c	c	r
___ Merlin	r	-	r	-
___ Peregrine Falcon#	o	o	o	-
___ Prairie Falcon*	u	u	u	-
GALLINACEOUS BIRDS	Sp	S	F	W
___ Gray Partridge*	o	o	o	o
___ Blue Grouse*	u	u	u	u
___ Ruffed Grouse*	c	c	c	c
___ Sage Grouse*	u	u	u	u
___ Sharp-tailed Grouse*	o	o	o	o
RAILS	Sp	S	F	W
___ Virginia Rail*	u	u	u	-
___ Sora*	c	c	c	-
___ American Coot*	a	a	a	u

CRANES	Sp	S	F	W
___ Sandhill Crane*	a	a	a	r
___ Whooping Crane#	c	c	c	-

PLOVERS	Sp	S	F	W
___ Black-bellied Plover	r	-	r	-
___ Killdeer*	a	a	o	o

STILTS AND AVOCETS	Sp	S	F	W
___ Black-necked Stilt*	o	o	o	-
___ American Avocet*	u	u	u	-

SHOREBIRDS	Sp	S	F	W
___ Greater Yellowlegs	u	o	o	-
___ Lesser Yellowlegs	r	r	r	-
___ Solitary Sandpiper	r	-	r	-
___ Willet*	c	c	u	-
___ Spotted Sandpiper*	u	u	u	-
___ Long-billed Curlew*	c	c	u	-
___ Marbled Godwit	o	r	o	-
___ Western Sandpiper	-	r	o	-
___ Pectoral Sandpiper	r	-	r	-
___ Long-billed Dowitcher	u	r	o	-

SNIPE	Sp	S	F	W
___ Common Snipe*	a	a	c	r

PHALAROPES	Sp	S	F	W
___ Wilson's Phalarope*	c	c	u	-
___ Red-necked Phalarope	u	-	-	-

GULLS AND TERNS	Sp	S	F	W
___ Franklin's Gull*	a	a	r	-
___ Bonaparte's Gull	r	-	-	-
___ Ring-billed Gull	u	u	u	-
___ California Gull	c	o	c	o
___ Forster's Tern*	u	u	r	-
___ Black Tern*	u	c	u	-

DOVES	Sp	S	F	W
___ Mourning Dove*	u	u	u	-

OWLS	Sp	S	F	W
___ Great Horned Owl*	c	c	c	u
___ Burrowing Owl*	r	r	r	-
___ Great Gray Owl*	r	r	r	r
___ Long-eared Owl*	r	r	r	-

___ Short-eared Owl*	u	u	u	-
___ Northern Saw-whet Owl	o	o	o	o
GOATSUCKERS	Sp	S	F	W
___ Common Nighthawk*	u	u	o	-
___ Common Poorwill*	r	o	o	-
HUMMINGBIRDS	Sp	S	F	W
___ Black-chinned Hummingbird*	c	c	o	-
___ Calliope Hummingbird*	u	c	r	-
___ Broad-tailed Hummingbird*	r	u	o	-
___ Rufous Hummingbird*	r	u	o	-
KINGFISHERS	Sp	S	F	W
___ Belted Kingfisher*	o	o	o	o
WOODPECKERS	Sp	S	F	W
___ Lewis' Woodpecker	r	r	-	-
___ Red-naped Sapsucker	u	u	o	-
___ Williamson's Sapsucker	r	r	r	-
___ Downy Woodpecker*	u	u	u	-
___ Hairy Woodpecker	u	u	u	-
___ Three-toed Woodpecker*	r	o	o	-
___ Black-backed Woodpecker	r	r	r	-
___ Northern Flicker*	c	c	c	u
FLYCATCHERS	Sp	S	F	W
___ Olive-sided Flycatcher	o	o	o	-
___ Western Wood-Pewee*	u	u	-	-
___ Willow Flycatcher*	o	u	-	-
___ Hammond's Flycatcher	o	u	o	-
___ Dusky Flycatcher	o	o	o	-
___ Say's Phoebe	-	r	-	-
___ Western Kingbird	o	o	o	-
___ Eastern Kingbird	o	o	o	-
LARKS	Sp	S	F	W
___ Horned Lark*	c	c	c	c
SWALLOWS	Sp	S	F	W
___ Tree Swallow*	a	a	u	-
___ Violet-green Swallow*	o	o	o	-
___ Northern Rough-winged Swallow*	o	o	o	-
___ Bank Swallow*	u	u	u	-
___ Cliff Swallow*	c	a	u	-
___ Barn Swallow*	c	c	o	-
JAYS, MAGPIES AND CROWS	Sp	S	F	W
___ Steller's Jay*	o	o	o	-

___ Clark's Nutcracker*	o	o	u	o
___ Black-billed Magpie*	u	u	u	o
___ American Crow*	c	c	c	c
___ Common Raven*	u	u	u	u
___ Pinyon Jay	-	-	r	-
CHICKADEES AND TITMICE	Sp	S	F	W
___ Black-capped Chickadee*	c	c	c	c
___ Mountain Chickadee*	u	u	u	u
NUTHATCHES	Sp	S	F	W
___ Red-breasted Nuthatch*	o	u	o	o
___ White-breasted Nuthatch	o	o	o	-
CREEPERS	Sp	S		
F W				
___ Brown Creeper*	o	o	o	o
WRENS	Sp	S	F	W
___ Rock Wren*	o	u	o	-
___ House Wren*	c	c	u	-
___ Marsh Wren*	c	c	c	-
DIPPERS	Sp	S	F	W
___ American Dipper	u	u	u	-
KINGLETS, BLUEBIRDS AND THRUSHES	Sp	S	F	W
___ Golden-crowned Kinglet	-	-	r	-
___ Ruby-crowned Kinglet*	u	u	o	-
___ Mountain Bluebird*	c	c	u	o
___ Townsend's Solitaire	o	o	o	-
___ Veery	o	o	-	-
___ Swainson's Thrush*	u	u	u	-
___ Hermit Thrush	o	o	o	-
___ American Robin*	a	a	a	c
MOCKINGBIRDS AND THRASHERS	Sp	S	F	W
___ Gray Catbird*	o	u	o	-
___ Sage Thrasher*	o	u	o	-
PIPITS	Sp	S	F	W
___ American Pipit	o	-	o	-
WAXWINGS	Sp	S	F	W
___ Bohemian Waxwing	r	-	-	-
___ Cedar Waxwing	o	o	-	-
SHRIKES	Sp	S	F	W

___ Northern Shrike	-	-	o	o
___ Loggerhead Shrike	o	o	o	-
STARLINGS	Sp	S	F	W
___ European Starling*	c	c	c	u
VIREOS	Sp	S	F	W
___ Warbling Vireo*	c	c	c	-
WARBLERS	Sp	S	F	W
___ Orange-crowned Warbler*	o	u	-	-
___ Yellow Warbler*	c	c	o	-
___ Yellow-rumped Warbler*	c	c	a	-
___ Townsend's Warbler	-	r	r	-
___ American Redstart	r	-	-	-
___ MacGillivray's Warbler*	o	u	o	-
___ Common Yellowthroat*	u	u	o	-
___ Wilson's Warbler	o	o	o	-
TANAGERS	Sp	S	F	W
___ Western Tanager*	u	u	c	-
GROSBEAKS AND BUNTINGS	Sp	S	F	W
___ Rosy-breasted Grosbeak	r	-	r	-
___ Black-headed Grosbeak*	u	u	u	-
___ Lazuli Bunting*	u	u	o	-
TOWHEES AND SPARROWS	Sp	S	F	W
___ Green-tailed Towhee*	o	u	o	-
___ Chipping Sparrow*	o	u	o	-
___ Brewer's Sparrow*	c	c	u	-
___ Vesper Sparrow*	c	c	u	-
___ Lark Sparrow	r	-	-	-
___ Lark Bunting	r	r	-	-
___ Savannah Sparrow*	c	c	u	-
___ Fox Sparrow*	u	u	o	-
___ Song Sparrow*	c	c	u	-
___ Lincoln's Sparrow*	o	o	o	-
___ White-crowned Sparrow*	u	u	c	-
___ Dark-eyed Junco*	c	c	c	u
___ Snow Bunting	-	-	o	o
___ Bobolink*	o	u	o	-
BLACKBIRDS, MEADOWLARKS AND ORIOLES	Sp	S	F	W
___ Red-winged Blackbird*	c	c	u	o
___ Western Meadowlark*	c	c	u	o
___ Yellow-headed Blackbird*	c	c	o	-
___ Brewer's Blackbird*	c	c	u	-
___ Common Grackle	o	o	-	-

___ Brown-headed Cowbird*	c	c	u	-
___ Bullock's Oriole*	u	u	o	-
FINCHES	Sp	S	F	W
___ Rosy Finch	o	o	o	r
___ Pine Grosbeak	o	u	u	-
___ Cassin's Finch*	c	c	u	-
___ Common Redpoll	o	-	-	r
___ Pine Siskin*	u	u	c	-
___ American Goldfinch*	u	u	u	-
___ Evening Grosbeak	u	u	u	-
WEAVER FINCHES	Sp	S	F	W
___ House Sparrow*	u	u	u	u

ACCIDENTALS - The Varied Thrush and American Black Duck have been observed here, however this is outside their normal range and they are considered accidental species.

For more information, contact:

Refuge Manager
Grays Lake National Wildlife Refuge
74 Grays Lake Road
Wayan, Idaho 83285
Phone: 208/574-2755

This resource is based on the following source:

U.S. Fish and Wildlife Service. 1995. Birds of Grays Lake National Wildlife Refuge, Idaho. U.S. Fish and Wildlife Service. Unpaginated.

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U.S. Fish and Wildlife Service. 1995. Birds of Grays Lake National Wildlife Refuge, Idaho. U.S. Fish and Wildlife Service. Unpaginated. Jamestown, ND: Northern Prairie Wildlife Research Center Home Page. http://www.npwrc.usgs.gov/resource/othrdata/chekbird/r1/graylake.htm (Version 26MAY98).

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Appendix G

Bird Checklists of the United States
National Elk Refuge

Jackson, Wyoming

- National Elk Refuge Mammals List

RELATIVE FREQUENCY OF OCCURRENCE

a - ABUNDANT--likely to be seen in large numbers in appropriate habitat and season.
c - COMMON--may be observed most of the time and in good numbers in appropriate habitat and season.
o - OCCASIONAL--occurs irregularly or in small numbers, but in appropriate habitat and season.
r - RARE--unexpected as to season or range.
x - ACCIDENTAL or SURPRISING--out of its range, or recorded only once or twice.
? - VERIFICATION UNAVAILABLE--additional information especially welcome!

SEASONS

SP - March-May
SU - June-August
F - September-November
W - December-February

BREEDING STATUS

* - following species' name indicates nest or dependent young have been observed.
^ - following species' name indicates only circumstantial evidence of breeding.

LOONS	SP	SU	F	W
___ Common Loon*	o	o	o	x

GREBES	SP	SU	F	W
___ Pied-billed Grebe*	o	o	o	r
___ Horned Grebe	r	r	o	-
___ Eared Grebe^	c	o	o	-
___ Western Grebe*	o	o	o	-

PELICANS	SP	SU	F	W
___ American White Pelican	c	c	c	-

CORMORANTS	SP	SU	F	W
___ Double-crested Cormorant*	c	c	c	-

BITTERNS AND HERONS	SP	SU	F	W
___ American Bittern*	o	o	o	-
___ Great Blue Heron*	c	c	c	o
___ Great Egret(Common or American Egret)	x	-	-	-
___ Green Heron	x	-	-	-
___ Black-crowned Night-Heron	x	-	x	-

IBISES	SP	SU	F	W
___ White-faced Ibis	o	-	-	-

WATERFOWL	SP	SU	F	W
___ Tundra Swan (Whistling Swan)	o	-	o	o
___ Trumpeter Swan*	c	c	c	c
___ Greater White-fronted Goose	-	-	x	-
___ Snow Goose	o	-	o	r
___ Ross' Goose	-	-	-	x
___ Canada Goose*	c	c	c	c
___ Wood Duck	r	r	r	r
___ Green-winged Teal*	c	c	c	o
___ Mallard*	a	c	a	c
___ Northern Pintail*	o	o	c	c
___ Blue-winged Teal	c	o	c	r
___ Cinnamon Teal*	o	o	r	x
___ Northern Shoveler*	o	r	o	o
___ Gadwall*	c	o	c	o
___ Eurasian Wigeon (European Wigeon)	x	x	-	-
___ American Wigeon*	c	c	c	r
___ Canvasback*	o	r	o	-
___ Redhead^	o	o	c	-
___ Ring-necked Duck*	o	c	c	r
___ Greater Scaup	-	x	-	-
___ Lesser Scaup*	o	o	o	-
___ Harlequin Duck*	o	o	o	-
___ Common Goldeneye*	o	o	o	o
___ Barrow's Goldeneye*	c	c	c	o
___ Bufflehead*	c	o	c	o
___ Hooded Merganser	r	-	r	o
___ Common Merganser*	c	c	c	c
___ Red-breasted Merganser	o	-	o	?
___ Ruddy Duck*	o	o	o	x

VULTURES, HAWKS AND FALCONS	SP	SU	F	W
___ Turkey Vulture	r	r	r	-
___ Osprey*	c	c	c	-
___ Black-shouldered Kite (White-tailed Kite)	-	-	x	-
___ Bald Eagle*	c	c	c	c
___ Northern Harrier* (Marsh Hawk)	o	o	o	r
___ Sharp-shinned Hawk*	o	o	o	x
___ Cooper's Hawk*	o	o	o	x
___ Goshawk*	c	c	c	o
___ Broad-winged Hawk	x	-	?	-
___ Swainson's Hawk*	c	c	c	-
___ Red-tailed Hawk*	c	c	c	r
___ Ferruginous Hawk*	r	r	r	-
___ Rough-legged Hawk	o	-	c	o
___ Golden Eagle*	o	o	o	o
___ American Kestrel*	c	c	c	r
___ Merlin^	o	r	o	x
___ Peregrine Falcon*	r	r	r	r
___ Gryfalcon	x	-	x	x
___ Prairie Falcon*	o	o	o	x

GALLINACEOUS BIRDS	SP	SU	F	W
___ Chukar*	r	r	r	r
___ Blue Grouse*	c	c	c	c
___ Ruffed Grouse*	c	c	c	c
___ Sage Grouse*	c	c	c	c
___ Sharp-tailed Grouse	-	r	r	x

RAILS AND COOTS	SP	SU	F	W
___ Virginia Rail	-	x	x	-
___ Sora*	c	c	c	-
___ American Coot*	o	o	c	r

CRANES	SP	SU	F	W
___ Sandhill Crane*	c	o	c	-
___ Whooping Crane	r	r	r	-

PLOVERS	SP	SU	F	W
___ Black-bellied Plover	?	-	?	-
___ Lesser Golden-Plover(American Golden Plover)	?	-	-	-
___ Semipalmated Plover	r	-	r	-
___ Killdeer*	o	c	c	o
___ Mountain Plover	-	x	-	-
___ Black-necked Stilt	x	x	x	-
___ American Avocet*	o	o	o	-
___ Greater Yellowlegs	o	o	o	-
___ Lesser Yellowlegs	o	o	o	-
___ Solitary Sandpiper	o	r	o	-

___ Willet*	o	r	o	-
___ Spotted Sandpiper*	c	c	c	-
___ Upland Sandpiper	-	x	-	-
___ Long-billed Curlew*	o	o	o	-
___ Marbled Godwit	o	r	r	-
___ Whimbrel	x	-	-	-
___ Sanderling	x	r	x	-
___ Semipalmated Sandpiper	-	r	o	-
___ Western Sandpiper	x	r	o	-
___ Least Sandpiper	o	r	o	-
___ Baird's Sandpiper	r	o	o	-
___ Pectoral Sandpiper	-	-	r	-
___ Stilt Sandpiper	r	-	-	-
___ Long-billed Dowitcher	o	o	o	-
___ Common Snipe*	c	c	c	-

PHALAROPES	SP	SU	F	W
___ Wilson's Phalarope*	-	c	o	r
___ Red-necked Phalarope (Northern Phalarope)	r	-	r	-
___ Red Phalarope	-	x	-	-

GULLS AND TERNS	SP	SU	F	W
___ Franklin's Gull	o	o	o	-
___ Bonaparte's Gull	o	-	r	-
___ Ring-billed Gull	r	o	r	-
___ California Gull	c	c	c	-
___ Western Gull	-	-	?	-
___ Sabine's Gull	-	-	x	-
___ Caspian Tern	r	o	o	-
___ Common Tern	-	r	r	-
___ Forster's Tern	r	r	r	-
___ Black Tern	o	o	o	-
___ Ancient Murrelet	-	-	x	-

DOVES AND CUCKOOS	SP	SU	F	W
___ Rock Dove^	o	o	o	o
___ Band-tailed Pigeon	x	x	?	?
___ Mourning Dove*	o	o	o	x
___ Black-billed Cuckoo	r	r	r	-
___ Yellow-billed Cuckoo	-	x	x	-

OWLS	SP	SU	F	W
___ Barn Owl	-	-	x	-
___ Flammulated Owl	-	-	x	-
___ Western Screech-Owl^	r	r	r	r
___ Great Horned Owl*	c	c	c	c
___ Snowy Owl	-	-	x	x
___ Northern Hawk Owl	-	?	-	-
___ Northern Pygmy-Owl^	o	o	o	r

___ Burrowing Owl*	r	r	r	-
___ Barred Owl	-	-	x	-
___ Great Gray Owl*	o	o	o	o
___ Long-eared Owl*	x	o	o	x
___ Short-eared Owl*	r	o	o	r
___ Boreal Owl*	o	o	o	r
___ Northern Saw-whet Owl*	o	o	o	r
NIGHTHAWKS	SP	SU	F	W
___ Common Nighthawk*	c	c	c	-
___ Common Poorwill*	x	-	-	-
SWIFTS AND HUMMINGBIRDS	SP	SU	F	W
___ Vaux's Swift	-	-	?	-
___ Black Swift	-	?	-	-
___ White-throated Swift	-	x	-	-
___ Magnificent Hummingbird (Rivoli's Humm.)	-	x	-	-
___ Black-chinned Hummingbird	-	o	r	-
___ Calliope Hummingbird*	c	c	c	-
___ Broad-tailed Hummingbird*	c	c	o	-
___ Rufous Hummingbird*	o	o	o	-
KINGFISHERS	SP	SU	F	W
___ Belted Kingfisher*	c	c	c	c
WOODPECKERS	SP	SU	F	W
___ Lewis' Woodpecker*	o	o	r	-
___ Red-headed Woodpecker	x	x	-	-
___ Red-naped Sapsucker (formerly ssp. of Yellow-bellied Sapsucker)	c	c	c	x
___ Williamson's Sapsucker*	o	o	r	-
___ Downy Woodpecker*	c	c	c	c
___ Hairy Woodpecker*	c	c	c	c
___ Three-toed Woodpecker* (Northern Three-toed Woodpecker)	o	o	r	r
___ Northern Flicker* (Common, Red-, and Yellow-shafted Flicker)	c	c	c	o
___ Pileated Woodpecker	-	?	-	-
FLYCATCHERS	SP	SU	F	W
___ Olive-sided Flycatcher*	c	c	c	-
___ Western Wood-Pewee*	c	c	c	-
___ Willow Flycatcher*	o	o	o	-
___ Least Flycatcher	-	o	-	-
___ Hammond's Flycatcher	o	o	o	-
___ Dusky Flycatcher*	c	c	c	-

___ Cordilleran Flycatcher^ (Western Fly.)	o	o	o	-
___ Say's Phoebe	r	r	r	-
___ Vermilion Flycatcher	-	x	-	-
___ Great Crested Flycatcher	-	-	x	-
___ Western Kingbird	r	r	r	-
___ Eastern Kingbird	o	o	o	-

LARKS	SP	SU	F	W
___ Horned Lark^	o	o	o	o

SWALLOWS	SP	SU	F	W
___ Tree Swallow*	a	a	a	-
___ Violet-green Swallow*	c	c	c	-
___ Northern Rough-winged Swallow*	o	o	o	-
___ Bank Swallow*	c	c	c	-
___ Cliff Swallow*	a	a	c	-
___ Barn Swallow*	c	c	c	-

JAYS, MAGPIES AND CROWS	SP	SU	F	W
___ Gray Jay*	c	c	c	c
___ Steller's Jay*	c	c	c	c
___ Blue Jay	x	-	-	x
___ Pinyon Jay	-	x	x	x
___ Clark's Nutcracker*	c	c	c	c
___ Black-billed Magpie*	c	c	c	c
___ American Crow*	o	o	o	o
___ Common Raven*	c	c	c	c

CHICKADEES	SP	SU	F	W
___ Black-capped Chickadee*	c	c	c	c
___ Mountain Chickadee*	c	c	c	c
___ Plain Titmouse	-	?	-	-

NUTHATCHES	SP	SU	F	W
___ Red-breasted Nuthatch*	c	c	c	c
___ White-breasted Nuthatch*	c	c	c	c
___ Pygmy Nuthatch	-	-	x	-

CREEPERS	SP	SU	F	W
___ Brown Creeper*	o	o	o	o

WRENS	SP	SU	F	W
___ Rock Wren*	o	o	o	o

___ House Wren*	c	c	c	-
___ Winter Wren^	x	r	?	-
___ Marsh Wren*	c	c	c	-
___ Canyon Wren	-	x	x	-

DIPPERS	SP	SU	F	W
___ American Dipper*	c	c	c	c

KINGLETS AND GNATCATCHERS	SP	SU	F	W
___ Golden-crowned Kinglet^	o	o	o	r
___ Ruby-crowned Kinglet*	c	c	o	r
___ Blue-gray Gnatcatcher	x	-	x	-

THRUSHES	SP	SU	F	W
___ Western Bluebird	o	r	o	-
___ Mountain Bluebird*	c	c	c	-
___ Townsend's Solitaire*	c	c	o	o
___ Veery^	o	o	o	-
___ Swainson's Thrush*	c	c	o	-
___ Hermit Thrush*	c	c	o	-
___ American Robin*	a	a	a	r
___ Varied Thrush	x	x	x	-

MOCKINGBIRDS AND THRASHERS	SP	SU	F	W
___ Gray Catbird^	o	o	r	-
___ Northern Mockingbird	-	x	x	-
___ Sage Thrasher*	o	o	o	-
___ Brown Thrasher	-	x	-	-

PIPITS	SP	SU	F	W
___ American Pipit^ (Water Pipit)	c	c	c	?

WAXWINGS	SP	SU	F	W
___ Bohemian Waxwing	o	-	r	o
___ Cedar Waxwing	o	o	o	o

SHRIKES	SP	SU	F	W
___ Northern Shrike	o	-	o	o
___ Loggerhead Shrike^	o	r	r	o

STARLINGS	SP	SU	F	W

___ European Starling*	c	c	c	o
VIREOS	SP	SU	F	W
___ Solitary Vireo	-	r	r	-
___ Warbling Vireo*	a	a	o	-
___ Red-eyed Vireo	r	-	r	-
WARBLERS	SP	SU	F	W
___ Tennessee Warbler	x	r	x	-
___ Orange-crowned Warbler^	o	o	o	-
___ Nashville Warbler	x	-	x	-
___ Yellow Warbler*	a	a	c	-
___ Chestnut-sided Warbler	x	x	-	-
___ Black-throated Blue Warbler	-	-	x	-
___ Yellow-rumped Warbler*	a	a	c	-
___ Townsend's Warbler	-	r	r	-
___ American Redstart*	o	o	-	-
___ MacGillivray's Warbler*	c	c	o	-
___ Common Yellowthroat*	c	c	c	-
___ Wilson's Warbler*	c	c	c	-
___ Painted Redstart	?	-	-	-
___ Yellow-breasted Chat	x	x	x	-
TANAGERS	SP	SU	F	W
___ Western Tanager*	c	c	o	-
___ Scarlet Tanager	x	-	-	-
GROSBEAKS, BUNTINGS, SPARROWS, BLACKBIRDS, ORIOLES AND FINCHES	SP	SU	F	W
___ Rose-breasted Grosbeak	o	x	-	-
___ Black-headed Grosbeak*	o	c	o	-
___ Lazuli Bunting*	o	o	r	-
___ Indigo Bunting	x	x	-	-
___ Green-tailed Towhee*	o	c	c	-
___ Rufous-sided Towhee	r	r	r	-
___ Canyon Towhee (Brown)	-	x	?	-
___ American Tree Sparrow	o	-	o	o
___ Chipping Sparrow*	c	c	c	?
___ Clay-colored Sparrow*	-	r	-	-
___ Brewer's Sparrow*	c	c	c	-
___ Dickcissel	-	x	-	-
___ Vesper Sparrow	c	c	c	-
___ Lark Sparrow	o	o	o	-
___ Black-throated Sparrow	x	-	-	-
___ Sage Sparrow	x	x	-	-
___ Lark Bunting	r	r	-	-
___ Savannah Sparrow^	c	c	c	-
___ Grasshopper Sparrow	-	x	-	-
___ Fox Sparrow*	o	o	-	-

___	Song Sparrow*	c	c	c	o
___	Lincoln's Sparrow*	o	c	c	-
___	Swamp Sparrow	-	?	?	-
___	White-throated Sparrow	r	-	r	-
___	White-crowned Sparrow*	a	a	a	r
___	Harris' Sparrow	r	-	r	r
___	Dark-eyed Junco* (White-winged, Slate-colored, Oregon and Gray-headed Junco)	a	a	c	o
___	McCown's Longspur	-	x	-	-
___	Lapland Longspur	x	-	-	x
___	Snow Bunting	x	-	r	o
___	Bobolink*	o	o	-	-
___	Red-winged Blackbird*	c	c	c	o
___	Western Meadowlark^	o	o	o	x
___	Yellow-headed Blackbird*	c	c	c	x
___	Rusty Blackbird	-	-	x	-
___	Brewer's Blackbird*	c	c	a	o
___	Common Grackle*	c	c	c	-
___	Brown-headed Cowbird*	c	c	c	-
___	Orchard Oriole*	x	-	-	-
___	Northern Oriole* (Bullock's Oriole)	o	o	o	-
___	Rosy Finch* (Gray-crowned, Black Rosy Finch)	c	c	o	o
___	Pine Grosbeak^	o	o	o	o
___	Purple Finch	-	-	-	?
___	Cassin's Finch*	c	c	c	o
___	House Finch	x	x	x	x
___	Red Crossbill*	o	o	o	o
___	White-winged Crossbill*	x	x	-	x
___	Common Redpoll	c	-	o	o
___	Hoary Redpoll	x	-	-	x
___	Pine Siskin*	c	c	c	o
___	American Goldfinch*	o	o	o	x
___	Evening Grosbeak*	c	o	c	c
___	House Sparrow*	c	c	c	c

Please don't forget...Your observations will play an important role in keeping this checklist up-to-date. Thank you!

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This checklist was compiled by Bert and Meg Raynes.

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Appendix H

Bird Checklists of the United States

Birds of Jackson Hole

Lander, Wyoming

- Grand Teton Bird-Finding Guide

Jackson Hole is defined, for the purposes of this checklist, as including the western slope of the Gros Ventre Range, the Teton Range and the valley area south of Yellowstone National Park extending to the confluence of the Snake and Hoback Rivers. The area covered includes all of Grand Teton National Park, the National Elk Refuge, the corridor between Yellowstone and Teton parks and a large portion of the Bridger-Teton National Forest.

Seven primary habitat zones are present in this area: Riverbottoms, Lakes and Ponds, Sageflats, Ranches and Hayfields, Morainal and Piedmont Forests, Mountainsides, Alpine, and Settlements. Elevation varies from approximately 6,000 feet to over 13,000 feet.

As the list indicates, 305 species of birds have been recorded. Surely, more have been and will be observed. Future checklists will improve on the number of species, breeding status, and especially on relative frequency of occurrence if checklist users will note both common and unusual species and *please return the list,postage paid.*Listing numbers of each species observed in the brackets to the left of the species will greatly increase the value of the record. Please do not hesitate to provide us with differing opinions on relative frequency of occurrence or breeding status. A replacement checklist will be provided if requested. *Your help will be appreciated!*

SEASONS

Sp - March-May
S - June-August
F - September-November
W - December-February

RELATIVE FREQUENCY OF OCURRENCE

a - abundant: likely to be seen in large numbers in appropriate habitat and season.
c - common: may be observed most of the time and in good numbers in appropriate habitat and season.
o - occasional: occurs irregularly or in small numbers, but in appropriate habitat and season.
r - rare: unexpected as to season or range.
x - accidental or surprising: out of its range, or recorded only once or twice.
? - verification unavailable: additional information especially welcome.

BREEDING STATUS

* - following species' name indicates nest or dependent young have been observed.
^ - following species' name indicates only circumstantial evidence of breeding.

LOONS	Sp	S	F	W
___ Pacific Loon	-	-	x	-
___ Common Loon*	o	o	o	x
___ Red-throated Loon	-	-	x	-

GREBES	Sp	S	F	W
___ Pied-billed Grebe*	o	o	o	r
___ Horned Grebe	r	r	o	-
___ Red-necked Grebe	x	-	x	-
___ Eared Grebe^	c	o	o	-
___ Western Grebe*	o	o	o	-
___ Clark's Grebe	o	o	o	-

PELICANS	Sp	S	F	W
___ American White Pelican	c	c	c	-

CORMORANTS	Sp	S	F	W
___ Double-crested Cormorant*	c	c	c	-

HERONS	Sp	S	F	W
___ Great Blue Heron*	c	c	c	o
___ American Bittern*	o	o	o	-
___ Great Egret (Common or American)	x	-	-	-
___ Snowy Egret	o	o	o	-
___ Little Blue Heron	?	-	-	-
___ Cattle Egret	x	-	-	-
___ Green Heron	x	-	-	-
___ Black-crowned Night-Heron	x	-	x	-

IBISES	Sp	S	F	W
___ White-faced Ibis	o	-	-	-

WATERFOWL	Sp	S	F	W
___ Tundra Swan (Whistling Swan)	o	-	o	o
___ Trumpeter Swan*	c	c	c	c
___ Greater White-fronted Goose	-	-	x	-
___ Snow Goose	o	-	o	r
___ Ross' Goose	-	-	-	x
___ Canada Goose*	c	c	c	c
___ Wood Duck	r	r	r	r

___ Green-winged Teal*	c	c	c	o
___ Mallard*	a	c	a	c
___ Northern Pintail*	o	o	c	c
___ Blue-winged Teal	c	o	c	r
___ Cinnamon Teal*	o	o	r	x
___ Northern Shoveler*	o	r	o	o
___ Gadwall*	c	o	c	o
___ Eurasian Wigeon (European Wigeon)	x	x	-	-
___ American Wigeon*	c	c	c	r
___ Canvasback*	o	r	o	-
___ Redhead^	o	o	c	-
___ Ring-necked Duck*	o	c	c	r
___ Greater Scaup	-	x	-	-
___ Lesser Scaup*	o	o	o	-
___ Harlequin Duck*	o	o	o	-
___ Surf Scoter	-	-	x	-
___ White-winged Scoter	-	-	x	-
___ Common Goldeneye*	o	o	o	o
___ Barrow's Goldeneye*	c	c	c	o
___ Bufflehead*	o	c	o	c
___ Hooded Merganser*	r	-	r	o
___ Common Merganser	c	c	c	c
___ Red-breasted Merganser	o	-	o	?
___ Ruddy Duck*	o	o	o	x

VULTURES, HAWKS AND FALCONS	Sp	S	F	W
___ Turkey Vulture	r	r	r	-
___ Osprey*	c	c	c	-
___ White-tailed Kite (Black-shouldered Kite)	-	-	x	-
___ Bald Eagle*	c	c	c	c
___ Northern Harrier* (Marsh Hawk)	o	o	o	r
___ Sharp-shinned Hawk*	o	o	o	x
___ Cooper's Hawk*	o	o	o	x
___ Northern Goshawk*	c	c	c	o
___ Broad-winged Hawk	x	-	?	-
___ Swainson's Hawk*	c	c	c	-
___ Red-tailed Hawk*	c	c	c	r
___ Ferruginous Hawk*	r	r	r	-
___ Rough-legged Hawk*	o	-	c	o
___ Golden Eagle*	o	o	o	o
___ American Kestrel*	c	c	c	r
___ Merlin^	o	r	o	x
___ Peregrine Falcon*	r	r	r	r
___ Gryfalcon	x	-	x	x
___ Prairie Falcon*	o	o	o	x

GALLINACEOUS BIRDS	Sp	S	F	W
___ Gray Partridge*	r	o	o	o
___ Chukar*	r	r	r	r
___ Blue Grouse*	c	c	c	c
___ Ruffed Grouse*	c	c	c	c
___ Sage Grouse*	c	c	c	c
___ Sharp-tailed Grouse	-	r	r	x

RAILS AND COOTS	Sp	S	F	W
___ Virginia Rail	-	x	x	-
___ Sora*	c	c	c	-
___ American Coot*	o	o	c	r

CRANES	Sp	S	F	W
___ Sandhill Crane*	c	o	c	-
___ Whooping Crane	r	r	r	-

PLOVERS	Sp	S	F	W
___ Black-bellied Plover	r	-	r	-
___ American Golden Plover (Lesser Gol-Pl.)	x	-	-	-
___ Semipalmated Plover	r	-	r	-
___ Killdeer*	o	c	c	o
___ Mountain Plover	-	x	-	-
___ Black-necked Stilt	x	x	x	-
___ American Avocet*	o	o	o	-
___ Greater Yellowlegs	o	o	o	-
___ Lesser Yellowlegs	o	o	o	-
___ Solitary Sandpiper	o	r	o	-
___ Willet*	o	r	o	-
___ Spotted Sandpiper*	c	c	c	-
___ Upland Sandpiper	-	x	-	-
___ Long-billed Curlew*	o	o	o	-
___ Marbled Godwit	o	r	r	-
___ Whimbrel	x	-	-	-
___ Red Knot	x	-	-	x
___ Sanderling	x	r	x	-
___ Semipalmated Sandpiper	-	r	o	-
___ Western Sandpiper	x	r	o	-
___ Least Sandpiper	o	r	o	-
___ Baird's Sandpiper	r	o	o	-
___ Pectoral Sandpiper	-	-	r	-
___ Dunlin	?	x	-	-
___ Stilt Sandpiper	r	-	-	-
___ Long-billed Dowitcher	o	o	o	-
___ Common Snipe*	c	c	c	-
___ American Woodcock	?	?	-	-

PHALAROPES	Sp	S	F	W
___ Wilson's Phalarope*	-	c	o	r
___ Red-necked Phalarope (Northern Phalarope)	r	-	r	-
___ Red Phalarope	-	-	x	-

JAEGERS	Sp	S	F	W
___ Parasitic Jaeger	-	-	x	-

GULLS AND TERNS	Sp	S	F	W
___ Franklin's Gull	o	o	o	-
___ Bonaparte's Gull	o	-	r	-
___ Ring-billed Gull	r	o	r	-
___ California Gull	c	c	c	-
___ Western Gull	-	-	-	?
___ Sabine's Gull	-	-	-	x
___ Caspian Tern	r	o	o	-
___ Common Tern	-	r	r	-
___ Forster's Tern	r	r	r	-
___ Black Tern	o	o	o	-
___ Ancient Murrelet	-	-	-	x

DOVES AND CUCKOOS	Sp	S	F	W
___ Rock Dove^	o	o	o	o
___ Band-tailed Pigeon	x	x	-	-
___ Mourning Dove*	o	o	o	x
___ Black-billed Cuckoo	-	x	x	-
___ Yellow-billed Cuckoo	r	r	r	-

OWLS	Sp	S	F	W
___ Barn Owl	-	-	x	-
___ Flammulated Owl	-	-	x	-
___ Western Screech-Owl^	r	r	r	r
___ Great Horned Owl*	c	c	c	c
___ Snowy Owl	-	-	x	x
___ Northern Hawk-Owl	-	?	-	-
___ Northern Pygmy-Owl^	o	o	o	r
___ Burrowing Owl*	r	r	r	-
___ Barred Owl	-	-	x	-
___ Great Gray Owl*	o	o	o	o
___ Long-eared Owl*	x	o	o	x
___ Short-eared Owl*	r	o	o	r
___ Boreal Owl*	o	o	o	r
___ Northern Saw-whet Owl*	o	o	o	r

NIGHTHAWKS	Sp	S	F	W
___ Common Nighthawk*	c	c	c	-
___ Common Poorwill*	u	-	-	-

SWIFTS AND HUMMINGBIRDS	Sp	S	F	W
___ Vaux's Swift	-	-	?	-
___ Black Swift	-	?	-	-
___ White-throated Swift	-	x	-	-
___ Magnificent Hummingbird (Rivoli's Humm.)	-	x	-	-
___ Black-chinned Hummingbird	-	o	r	-

___ Calliope Hummingbird*	c	c	c	-
___ Broad-tailed Hummingbird*	c	c	o	-
___ Rufous Hummingbird*	o	o	o	-
KINGFISHERS	Sp	S	F	W
___ Belted Kingfisher*	c	c	c	c
WOODPECKERS	Sp	S	F	W
___ Lewis' Woodpecker*	o	o	r	-
___ Red-headed Woodpecker	x	x	-	-
___ Acorn Woodpecker	-	x	-	-
___ Red-naped Sapsucker (formerly ssp. of Yellow-bellied Sapsucker)	c	c	c	x
___ Williamson's Sapsucker*	o	o	r	-
___ Downy Woodpecker*	c	c	c	c
___ Hairy Woodpecker*	c	c	c	c
___ White-headed Woodpecker*	x	x	-	-
___ Three-toed Woodpecker* (Northern Three-toed Woodpecker)	o	o	r	-
___ Black-backed Woodpecker* (Black-backed Three-toed Woodpecker)	o	o	o	r
___ Northern Flicker* (Common, Red-, and Yellow-shafted Flicker)	c	c	c	o
___ Pileated Woodpecker	-	?	-	-
FLYCATCHERS	Sp	S	F	W
___ Olive-sided Flycatcher*	c	c	c	-
___ Western Wood-Pewee*	c	c	c	-
___ Willow Flycatcher*	o	o	o	-
___ Least Flycatcher	-	o	-	-
___ Hammond's Flycatcher	o	o	o	-
___ Dusky Flycatcher*	c	c	c	-
___ Cordilleran Flycatcher^ (Western Fly.)	o	o	o	-
___ Say's Phoebe	r	r	r	-
___ Vermilion Flycatcher	-	x	-	-
___ Great Crested Flycatcher	-	-	x	-
___ Western Kingbird	r	r	r	-
___ Eastern Kingbird	o	o	o	-
LARKS	Sp	S	F	W
___ Horned Lark^	o	o	o	o
SWALLOWS	Sp	S	F	W
___ Tree Swallow*	a	a	a	-
___ Violet-green Swallow*	c	c	c	-
___ Northern Rough-winged Swallow*	o	o	o	-
___ Bank Swallow*	c	c	c	-

___ Cliff Swallow*	a	a	c	-
___ Barn Swallow*	c	c	c	-
JAYS, MAGPIES AND CROWS	Sp	S	F	W
___ Gray Jay*	c	c	c	c
___ Steller's Jay*	c	c	c	c
___ Blue Jay	x	-	-	x
___ Pinyon Jay	-	x	x	x
___ Clark's Nutcracker*	c	c	c	c
___ Black-billed Magpie*	c	c	c	c
___ American Crow*	o	o	o	o
___ Common Raven*	c	c	c	c
CHICKADEES	Sp	S	F	W
___ Black-capped Chickadee*	c	c	c	c
___ Mountain Chickadee*	c	c	c	c
___ Plain Titmouse	-	?	-	-
NUTHATCHES	Sp	S	F	W
___ Red-breasted Nuthatch*	c	c	c	c
___ White-breasted Nuthatch*	c	c	c	c
___ Pygmy Nuthatch	-	-	x	-
CREEPERS	Sp	S	F	W
___ Brown Creeper*	o	o	o	o
WRENS	Sp	S	F	W
___ Rock Wren*	o	o	o	o
___ House Wren*	c	c	c	-
___ Winter Wren^	x	r	?	-
___ Marsh Wren*	c	c	c	-
___ Canyon Wren	-	x	x	-
DIPPERS	Sp	S	F	W
___ American Dipper*	c	c	c	c
KINGLETS AND GNATCATCHERS	Sp	S	F	W
___ Golden-crowned Kinglet^	o	o	o	r
___ Ruby-crowned Kinglet*	c	c	o	r
___ Blue-gray Gnatcatcher	x	-	-	x
THRUSHES	Sp	S	F	W

___ Western Bluebird	o	r	o	-
___ Mountain Bluebird*	c	c	c	-
___ Townsend's Solitaire*	c	c	o	o
___ Veery^	o	o	o	-
___ Swainson's Thrush*	c	c	o	-
___ Hermit Thrush*	c	c	o	-
___ American Robin*	a	a	a	r
___ Varied Thrush	x	x	x	-
MOCKINGBIRDS AND THRASHERS	Sp	S	F	W
___ Gray Catbird^	o	o	r	-
___ Northern Mockingbird	-	x	x	-
___ Sage Thrasher*	o	o	o	-
___ Brown Thrasher	-	x	-	-
PIPITS	Sp	S	F	W
___ American Pipit^ (Water Pipit)	c	c	c	?
___ Sprague's Pipit	x	-	-	x
WAXWINGS	Sp	S	F	W
___ Bohemian Waxwing	o	-	r	o
___ Cedar Waxwing	o	o	o	o
SHRIKES	Sp	S	F	W
___ Northern Shrike	o	-	o	o
___ Loggerhead Shrike^	o	r	r	o
STARLINGS	Sp	S	F	W
___ European Starling*	c	c	c	o
VIREOS	Sp	S	F	W
___ Solitary Vireo	-	r	r	-
___ Warbling Vireo*	a	a	o	-
___ Red-eyed Vireo	r	-	r	-
WARBLERS	Sp	S	F	W
___ Tennessee Warbler	x	r	x	-
___ Orange-crowned Warbler^	o	o	o	-
___ Nashville Warbler	x	-	x	-
___ Yellow Warbler*	a	a	c	-
___ Chestnut-sided Warbler	x	x	-	-
___ Black-throated Blue Warbler	-	-	x	-

___ Yellow-rumped Warbler*	a	a	c	-
___ Townsend's Warbler	-	r	r	-
___ Blackburnian Warbler	-	x	-	-
___ Palm Warbler	-	x	-	-
___ Bay-breasted Warbler	-	x	-	-
___ American Redstart*	o	o	-	-
___ Prothonotary Warbler	-	x	-	-
___ Northern Waterthrush	r	r	x	-
___ MacGillivray's Warbler*	c	c	o	-
___ Common Yellowthroat*	c	c	c	-
___ Wilson's Warbler*	c	c	c	-
___ Painted Redstart	?	-	-	-
___ Yellow-breasted Chat	x	x	x	-

TANAGERS	Sp	S	F	W
___ Western Tanager*	c	c	o	-
___ Scarlet Tanager	x	-	-	-

GROSBEAKS, BUNTINGS, SPARROWS, BLACKBIRDS, ORIOLES AND FINCHES	Sp	S	F	W
___ Rose-breasted Grosbeak	o	x	-	-
___ Black-headed Grosbeak*	o	c	o	-
___ Lazuli Bunting*	o	o	r	-
___ Indigo Bunting	x	x	-	-
___ Green-tailed Towhee*	o	c	c	-
___ Rufous-sided Towhee	r	r	r	-
___ Canyon Towhee (Brown)	-	x	?	-
___ American Tree Sparrow	o	-	o	o
___ Chipping Sparrow*	c	c	c	?
___ Clay-colored Sparrow*	-	r	-	-
___ Brewer's Sparrow*	c	c	c	-
___ Dickcissel	-	x	-	-
___ Vesper Sparrow	c	c	c	-
___ Lark Sparrow	o	o	o	-
___ Black-throated Sparrow	x	-	-	-
___ Sage Sparrow	x	x	-	-
___ Lark Bunting	r	r	-	-
___ Savannah Sparrow^	c	c	c	-
___ Grasshopper Sparrow	-	x	-	-
___ Fox Sparrow*	o	o	-	-
___ Song Sparrow*	c	c	c	o
___ Lincoln's Sparrow*	o	c	c	-
___ Swamp Sparrow	-	?	?	-
___ White-throated Sparrow	r	-	r	-
___ White-crowned Sparrow*	a	a	a	r
___ Harris' Sparrow	r	-	r	r
___ Dark-eyed Junco* (White-winged, Slate-colored, Oregon and Gray-headed Junco)	a	a	c	o
___ McCown's Longspur	-	x	-	-
___ Lapland Longspur	x	-	-	x
___ Snow Bunting	x	-	r	o
___ Bobolink*	o	o	-	-
___ Red-winged Blackbird*	c	c	c	o

___ Western Meadowlark^	o	o	o	x
___ Yellow-headed Blackbird*	c	c	c	x
___ Rusty Blackbird	-	-	x	-
___ Brewer's Blackbird*	c	c	a	o
___ Common Grackle*	c	c	c	-
___ Brown-headed Cowbird*	c	c	c	-
___ Orchard Oriole*	x	-	-	-
___ Bullock's Oriole*	o	o	o	-
___ Rosy Finch* (Gray-crowned, Black Rosy Finch)	c	c	o	o
___ Pine Grosbeak^	o	o	o	o
___ Purple Finch	-	-	-	?
___ Cassin's Finch*	c	c	c	o
___ House Finch	x	x	x	x
___ Red Crossbill*	o	o	o	o
___ White-winged Crossbill*	x	x	-	x
___ Common Redpoll	c	-	o	o
___ Hoary Redpoll	x	-	-	x
___ Pine Siskin*	c	c	c	o
___ American Goldfinch*	o	o	o	x
___ Evening Grosbeak*	c	o	c	c
___ House Sparrow*	c	c	c	c

This checklist was compiled by Bert and Meg Raynes.

Please don't forget... Your observations will play an important role in keeping this checklist up-to-date. Thank you! To report observations, or for more information, please contact:

Attention: Nongame Bird Biologist
Wyoming Game & Fish Department
260 Buena Vista
Lander, Wyoming 82520
Telephone: 307/332-2688

This resource is based on the following source:

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Appendix I

Idaho Falls Bureau of Land Management District

Idaho Falls District, Idaho

Medicine Lodge, Big Butte and Pocatello Resource Areas of the Bureau of Land Management (BLM) are located in southeastern Idaho. The area has considerable variation in elevation, aspect, and land configuration.

The Medicine Lodge Resource Area contains about 648,700 acres in the Upper Snake River Plain. An additional 140,400 acres lie within the boundary of Idaho National Engineering Laboratory. Two major rivers, the Henry's Fork and the South Fork of the Snake River, traverse the area. The South Fork provides critical wintering and nesting habitat for bald eagles. Forest grouse is one of more than 80 species of birds that inhabit in the riparian area along the river. Islands in the river are preferred nesting sites for geese because they provide protection against predators.

The Big Butte Resource Area contains 1,420,400 acres of public land. Landscape diversity characterizes the Big Butte Resource Area. The southern part of the resource area is mostly desert, with undulating hills covered with sagebrush and grasses. The northern part takes in higher country, including parts of the Lemhi and Lost River mountain ranges. The entire resource area has an abundant and diverse population of raptors. Sage grouse and mourning doves live in the area, and a large concentration of sage sparrows can be found west of Atomic City.

The Pocatello Resource Area encompasses 264,500 acres of public land. Three major rivers run through the area: the Portneuf, Blackfoot, and the Bear. Elevation ranges from 4,350 feet in the valleys to 9,957 feet atop Meade Peak. Waterfowl can be found along the major river systems and in scattered stock ponds and marshes. Upland game birds live in suitable habitat throughout the area. Up to 125 bald eagles are known to winter in the resource area along the major river drainages, and peregrine falcons can be seen during their spring and fall migration. Whooping cranes have been introduced at the Grays Lake National Wildlife Refuge and sometimes can be seen there in the spring and summer with the sandhill cranes. The American Falls Reservoir is a major stopover for migratory waterfowl and shorebirds in the fall and spring.

This checklist was compiled with the help of the second edition of the National Geographic Society's Field Guide to the Birds of North America. It has been reviewed by wildlife biologists in the BLM resource areas, and by Chuck Trost, professor of ornithology at Idaho State University. This list was prepared by Nina Hapner of BLM.

Information on sightings that would improve the accuracy of this checklist would be greatly appreciated. Please report sightings to the Idaho Falls District Office.

LEGEND

ABUNDANCE

- A Abundant - A bird that is likely to be seen or heard every time in large numbers (50 birds or more)
  by an observer visiting its habitat at the proper season.
- C Common - A bird that may be seen or heard most of the time or in smaller numbers (10-49 birds/day/area) by an observer visiting its habitat in the proper season.
- U Uncommon - A bird that may be seen or heard quite regularly in small numbers (0.1-9 birds/day/area)
  by an observer visiting its habitat in the proper season.
- O Occasional - A bird seen only a few times during a season in suitable habitat.
- R Rare - A rare bird is usually seen or heard only by an experienced observer (0.1 or less birds/day/area)
  and occupies only a small percentage of its preferred habitat or occupies a very specific limited habitat.

SEASON

- S Spring March to May
- Su Summer June to August
- F Fall September to November
- W Winter December to February

SPECIAL CLASSES

- (N) Birds that breed in North America but winter in Mexico, the Caribbean Islands, and Central and South
  America. This group contains those birds recognized as neotropical migratory birds.
- (n) Birds that breed and rear young in the United States and Canada, but winter in more temperate zones,
  such as the southern United States or Mexico.
- (b) Birds that breed and winter in North America but part of their populations migrate south.
- * Threatened or Endangered (T/E), candidates for listing as T/E, or species of special concern to BLM.

Species	Abundance				Habitat
LOONS	S	Su	F	W	
___ Red-throated Loon			R		Lakes
___ Pacific Loon			O		Lakes
___ Common Loon*	M	R	M		Lakes, Marshes
GREBES	S	Su	F	W	
___ Horned Grebe	R	R	R		Lakes, Marshes
___ Eared Grebe (n)	A	A	A		Lakes, Marshes, Rivers
___ Western Grebe (n)	A	A	C		Lakes, Marshes
___ Clark's Grebe (n)	U	U	U		Lakes, Marshes
___ Pied-billed Grebe (n)	C	C	U		Lakes, Marshes, Rivers
PELICANS & CORMORANTS	S	Su	F	W	
___ American White Pelican (N)	C	C	C		Lakes, Rivers
___ Double-crested Cormorant (n)	C	C			Lakes, Rivers
HERONS	S	Su	F	W	
___ Great Blue Heron	C	C	U	R	Lakes, Marshes, Rivers
___ Green Heron (N)	R	R			Lakes, Marshes
___ Black-crowned Night-heron (n)	C	C			Lakes, Marshes
BITTERNS	S	Su	F	W	
___ American Bittern (n)	U	U			Marshes
EGRETS	S	Su	F	W	
___ Great Egret (N)	U	U			Marshes

___ Snowy Egret (N)	C	C	U		Lakes, Marshes
___ Cattle Egret (N)		R			Marshes, Wet Pastures
IBISES	S	Su	F	W	
___ White-faced Ibis* (N)	C	C	U		Marshes, Wet Meadows
STORKS	S	Su	F	W	
___ Wood Stork	R	R			Wet Meadows
CRANES	S	Su	F	W	
___ Sandhill Crane (N)	C	U			Marshes, Grasslands
___ Whooping Crane*	R	R			Marshes, Grasslands
RAILS & COOTS	S	Su	F	W	
___ Virginia Rail (n)	U	U	U	R	Marshes
___ Sora (N)	U	U	U	R	Marshes
___ American Coot (n)	A	A	A	U	Lakes, Marshes, Rivers, Ponds
SWANS, GEESE, DUCKS & MERGANSERS	S	Su	F	W	
___ Tundra Swan	C		C	R	Lakes, Marshes
___ Trumpeter Swan*	U	O	U	O	Lakes, Marshes
___ Greater White-fronted Goose	R		R	R	Marshes
___ Snow Goose	C		U		Marshes, Pastures
___ Ross' Goose	R		R		Marshes, Pastures
___ Canada Goose	A	A	A	C	Marshes, Meadows, Rivers
___ Mallard (n)	A	A	A	A	Lakes, Marshes, Ponds
___ Gadwall (n)	C	C	C	U	Marshes, Grassy Areas
___ Northern Pintail (n)	C	C	C	U	Lakes, Marshes, Rivers, Ponds
___ Green-winged Teal (n)	C	C	C	U	Lakes, Marshes, Ponds

___ Blue-winged Teal (N)	C	C	C	U	Lakes, Marshes, Slow Streams
___ Cinnamon Teal (N)	C	C	C		Lakes, Marshes, Ponds
___ American Wigeon (N)	C	C	C		Lakes, Marshes
___ Northern Shoveler (n)	C	C	C	O	Marshes
___ Wood Duck (n)	O	U	O		Wooded Swamps, Marshes, Ponds
___ Canvasback (n)	C	C	C	U	Lakes, Marshes, Ponds
___ Redhead (n)	C	C	C	U	Lakes, Marshes
___ Greater Scaup	R		R		Lakes, Rivers
___ Lesser Scaup (n)	C	C	C	R	Lakes, Marshes, Ponds
___ Harlequin Duck*	R	R		R	Fast Streams
___ Oldsquaw	R		O	R	Lakes
___ Barrow's Goldeneye	U	U	U	O	Lakes, Rivers, Ponds
___ Common Goldeneye	U	R	U	O	Lakes, Rivers, Ponds
___ Bufflehead (n)	C	C	C	U	Lakes, Rivers, Ponds
___ Common Merganser	C	C	C	U	Lakes, Rivers
___ Red-breasted Merganser	U		U		Lakes, Rivers, Ponds
___ Hooded Merganser	U	O	U	O	Lakes, Marshes, Streams
___ Ruddy Duck (n)	C	C	U	M	Lakes, Marshes

AVOCETS & STILTS	S	Su	F	W	
___ American Avocet (N)	C	C	O		Marshes, Ponds, Mudflats
___ Black-necked Stilt (N)	C	C	O		Marshes, Ponds, Mudflats

PLOVERS	S	Su	F	W	
___ Semipalmated Plover (N)	M	M	M		Lakes, Marshes, Pond Shores, Mudflats
___ Black-bellied Plover (N)	M	M	M		Lakes, Pond Shores
___ Lesser Golden-Plover (N)	M	M			Lakes, Pond Shores
___ Killdeer (nb)	C	C	C	R	Meadows, Pastures, Mudflats

SANDPIPERS & PHALAROPES	S	Su	F	W	
___ Marbled Godwit (N)	M	M	M		Marshes
___ Long-billed Curlew* (N)	U	U	U		Grasslands, Pastures

___ Willet (N)	C	U	R	Marshes
___ Greater Yellowlegs (N)	M		M	Marshes
___ Lesser Yellowlegs (N)	M		M	Marshes
___ Solitary Sandpiper (N)	M		M	Marshes, Ponds
___ Spotted Sandpiper (N)	C	C	U	Lakes, Streams, Ponds
___ Short-billed Dowitcher	R		R	Lakes, Marshes, Ponds
___ Long-billed Dowitcher (N)	M		M	Lakes, Marshes, Ponds
___ Stilt Sandpiper (N)	M		M	Lakes, Marshes, Ponds
___ Common Snipe (n)	C	C	C	Marshes, Wet Grassy Areas
___ Dunlin (N)	M		M	Marshes, Pond and Lake Shores
___ Sanderling (n)	M		M	Mudflats, Pond and Lake Shores
___ Least Sandpiper (N)	M		M	Mudflats, Pond and Lake Shores
___ Western Sandpiper (N)	O	O	C	Mudflats, Shores
___ Baird's Sandpiper (N)		O	U	Mudflats, Shores
___ Upland Sandpiper*	R	R		Grasslands, Meadows, Pastures
___ Wilson's Phalarope (N)	O	C	U	Marshes, Wet Meadows, Mudflats
___ Red-necked Phalarope (N)	R		U	Lakes, Ponds

GULLS & TERNS	S	Su	F	W	
___ Franklin's Gull	A	A	U		Marshes
___ Bonaparte's Gull	R		R		Marshes, Rivers, Lakes, Ponds
___ Ringed-billed Gull	A	A	U		Lakes, Rivers, Ponds, Irrigated Fields
___ Herring Gull	U		U		Lakes, Rivers
___ California Gull	A	A	U		Lakes, Rivers, Ponds, Irrigated Fields
___ Common Tern	M		M		Lakes, Rivers, Marshes
___ Forster's Tern	C	C	U		Marshes, Rivers
___ Black Tern*	C	C	U		Marshes, Rivers, Wet Meadows
___ Caspian Tern	U	U	U		Lakes, Marshes, River

HAWKS, EAGLES & OSPREYS	S	Su	F	W	
___ Golden Eagle (n)	U	U	U	U	Found in most areas
___ Bald Eagle*	U	U	U	C	Lakes, Rivers
___ Northern Harrier (nb)	C	C	C	U	Marshes, Grasslands, Sagebrush
___ Sharp-shinned Hawk (nb)	U	U	U		Juniper Foothills, Mixed Forests
___ Cooper's Hawk (nb)	U	U	U		Juniper Foothills, Open Woodlands
___ Northern Goshawk* (nb)	U	U	U	U	Juniper, Open Woodlands
___ Red-tailed Hawk (nb)	C	C	C	U	Grasslands, Juniper Foothills, Forests
___ Swainson's Hawk (N)	C	C	U		Grasslands, Juniper Foothills, Farmlands
___ Rough-legged Hawk			C	C	Grasslands, Farmlands
___ Ferruginous Hawk* (nb)	U	U	R		Sagebrush, Juniper Foothills, Grasslands
___ Osprey (N)	U	U	U		Lakes, Rivers

VULTURES	S	Su	F	W	
___ Turkey Vulture (N)	C	U	C		Found in most areas

FALCONS	S	Su	F	W	
___ American Kestrel (nb)	C	C	C	U	Sagebrush, Farmlands
___ Merlin (N)	R	R	R		Open Woodlands, Grasslands
___ Prairie Falcon (nb)	U	U	U		Grasslands, Juniper Foothills
___ Peregrine Falcon* (N)	U	U	U		Lakes, Marshes, Rivers, Grasslands
___ Gyrfalcon				R	Grasslands

GROUSE, PHEASANTS & TURKEYS	S	Su	F	W	
___ Ruffed Grouse	C	C	C	C	Deciduous and Mixed Woodlands

___ Blue Grouse	U	U	U	U	Deciduous and Coniferous Forests
___ Sharp-tailed Grouse*	U	U	U	U	Grasslands, Sagebrush
___ Sage Grouse	C	C	C	C	Sagebrush. Grasslands
___ Northern Bobwhite	O	O	O	O	Mixed Woodlands, River Valleys
___ Chukar	U	U	U	U	Grasslands, Mountain Slopes
___ Gray Partridge	C	C	C	C	Grasslands, Farmlands
___ Ring-necked Pheasant	U	U	U	U	Grasslands
___ Wild Turkey	R	R	R	R	Deciduous and Coniferous Forests

DOVES	S	Su	F	W	
___ Rock Dove	C	C	C	C	Found in most areas
___ Mourning Dove (nb)	C	C	C		Found in most areas

CUCKOOS	S	Su	F	W	
___ Yellow-billed Cuckoo* (N)		R			Forests, Open Woodlands

OWLS	S	Su	F	W	
___ Barn Owl (N)	O	O	O		Marshes, Grasslands, Juniper Woodlands
___ Short-eared Owl (nb)	U	U	U	O	Marshes, Grasslands, Meadows
___ Long-eared Owl (nb)	U	U	U	O	Meadows, Coniferous and Deciduous Forests
___ Great Horned Owl	C	C	C	C	Open Woodlands, Forests, Streams
___ Great Gray Owl*	U	U	U	U	Meadows, Woodlands, Forests
___ Western Screech-owl	U	U	O	O	Riparian Woodlands, Deciduous Forests
___ Flammulated Owl* (N)	O	O			Coniferous Forests
___ Northern Pygmy-Owl*	O	O			Grasslands, Mixed Woodlands
___ Boreal Owl*	O			O	Mature Forests
___ Northern Saw-whet Owl	U	U	U		Mixed Woodlands
___ Barred Owl	R	R	R		Coniferous Woodlands

___ Snowy Owl			R	R	Farmlands
___ Burrowing Owl* (N)	O	O			Grasslands
POORWILLS & NIGHTHAWKS	S	Su	F	W	
___ Common Poorwill (nb)	U	U	U		Woodlands, Rocky Canyons
___ Common Nighthawk (N)	U	C	U		Open Woodlands, Grasslands
SWIFTS & HUMMINGBIRDS	S	Su	F	W	
___ White-throated Swift (N)	U	U			Cliffs, Canyons, Grasslands
___ Black-chinned Hummingbird (N)	O	U	O		Open and Riparian Woodlands, Gardens
___ Calliope Hummingbird (N)	U	U	U		Forests, Meadows
___ Broad-tailed Hummingbird (N)	C	C	C		Open Woodlands, Shrub Hillsides
___ Rufous Hummingbird (N)	O	O	O		Coniferous Forests, Shrub Hillsides
KINGFISHERS	S	Su	F	W	
___ Belted Kingfisher (nb)	C	C	C	U	Lakes, Streams, Rivers, Marshes
WOODPECKERS	S	Su	F	W	
___ Northern Flicker (n)	C	C	C	U	Forests, Open and Riparian Woodlands
___ Lewis' Woodpecker (N)	U	U			Open Forests and Woodlands
___ Williamson's Sapsucker (N)	U	U	U		Coniferous Forests
___ Red-naped Sapsucker (N)	C	C	U		Coniferous or Mixed Forests
___ Downy Woodpecker	U	U	O		Deciduous and Mixed Forests, Urban Areas
___ Hairy Woodpecker	U	U	O		Deciduous and Mixed Forests
___ Three-toed Woodpecker*	U	U	U	R	Coniferous Forests
___ Black-backed Woodpecker*	O	O	O	O	Coniferous Forests, Barns

KINGBIRDS	S	Su	F	W	
___ Eastern Kingbird (N)	C	C	U		Sagebrush, Grasslands, Riparian
___ Western Kingbird (N)	C	C	U		Sagebrush, Grasslands, Riparian Woodlands
___ Cassin's Kingbird	R				Farmland, Sagebrush

FLYCATCHERS	S	Su	F	W	
___ Ash-throated Flycatcher (N)	R	O			Juniper Woodlands, Deciduous Forests
___ Olive-sided Flycatcher (N)	U	U			Forests and Woodlands
___ Western Wood-Pewee (N)	C	C			Deciduous and Coniferous Forests
___ Say's Phoebe (nb)	U	U			Cliffs, Deciduous Forests
___ Gray Flycatcher (N)	O	O			Juniper, Grasslands, Sagebrush
___ Dusky Flycatcher (N)	C	C			Aspen Groves, Coniferous Forests
___ Hammond's Flycatcher (N)	C	U			Coniferous Forests
___ Willow Flycatcher (N)	U	U			Meadows, Streams, Upland Pastures
___ Cordilleran Flycatcher (N)	U	U			Coniferous Forests

LARKS	S	Su	F	W	
___ Horned Lark (nb)	C	C	C	C	Grasslands, Sagebrush, Grazed Pastures

SWALLOWS	S	Su	F	W	
___ Tree Swallow (N)	C	C	U		Open areas along water
___ Violet-green Swallow (N)	C	C	U		Open mixed forests
___ Bank Swallow (N)	U	U	U		Sand and Gravel Banks
___ Northern Rough-winged Swallow (N)	C	C	U		Open areas along water
___ Cliff Swallow (N)	C	C	U		Open areas along water, Cliffs, Bridges

___ Barn Swallow (N)	C	C	C		Open areas along water, Barns, Bridges
JAYS, MAGPIES, & CROWS	S	Su	F	W	
___ Scrub Jay	O	O	O	O	Juniper Woodlands
___ Pinyon Jay	U	U	U	U	Juniper Woodlands
___ Steller's Jay	U	U	U	U	Deciduous and Coniferous Forests
___ Gray Jay	U	U	U	U	Deciduous and Coniferous Forests
___ Clark's Nutcracker	U	U	U	U	Alpine and Coniferous Forest
___ Black-billed Magpie	A	A	A	C	Found in most areas
___ American Crow	C	C	C	O	Found in most areas
___ Common Raven	U	U	U	U	Found in most areas
TITMICE & CHICKADEES	S	Su	F	W	
___ Plain Titmouse	U	U	U	U	Juniper Woodlands
___ Black-capped Chickadee	C	C	C	C	Deciduous and Coniferous Forests
___ Mountain Chickadee	C	C	U	U	Deciduous and Coniferous Forests
BUSHTITS	S	Su	F	W	
___ Bushtit	R	R	R		Juniper Woodlands, Deciduous Forests
CREEPERS	S	Su	F	W	
___ Brown Creeper (nb)	C	C	U	U	Mixed Forests
NUTHATCHES	S	Su	F	W	
___ White-breasted Nuthatch	U	U	U		Mixed Forests
___ Red-breasted Nuthatch	C	C	C	C	Mixed Forests

WRENS	S	Su	F	W	
___ House Wren (N)	C	C	U		Deciduous Forests
___ Marsh Wren (nb)	C	C	U	O	Marshes
___ Canyon Wren	U	U			Cliffs, Canyons, Rocky Outcrops
___ Rock Wren (nb)	C	C	O	R	Exposed Rocks, Cliffs, Canyons

KINGLETS & THRUSHES	S	Su	F	W	
___ Golden-crowned Kinglet (N)	U	U	U	U	Coniferous Forests
___ Ruby-crowned Kinglet (n)	C	C	U	R	Deciduous and Coniferous Forests
___ Blue-gray Gnatcatcher (N)	U	U			Juniper Woodlands
___ Mountain Bluebird (nb)	C	C	U	O	Meadows, Mixed and Juniper Woodlands
___ Townsend's Solitaire (nb)	U	U	O	O	Coniferous Forests, Rocky Cliffs
___ Veery (N)	U	U	U		Deciduous Forests
___ Swainson's Thrush (N)	C	C	U		Coniferous Forests, Aspen and Willow
___ Hermit Thrush (N)	C	C	U		Mixed Woodlands
___ American Robin (nb)	C	C	C	O	Juniper Woodlands, Mixed Forests

SHRIKES	S	Su	F	W	
___ Loggerhead Shrike* (nb)	U	U	U		Juniper Woodlands, Sagebrush/Grasslands
___ Northern Shrike	R		O	U	Mixed Forests, Juniper/Sagebrush

MOCKINGBIRDS & THRASHERS	S	Su	F	W	
___ Gray Catbird (N)	U	U	U		Deciduous Forests
___ Northern Mockingbird (nb)	R	R	R		Juniper Woodlands,

					Deciduous Forests
___ Sage Thrasher (nb)	C	C	C		Grasslands, Sagebrush
PIPITS	S	Su	F	W	
___ American Pipit (nb)	U	R	U		Lake Shores, Alpine Zone
DIPPERS	S	Su	F	W	
___ American Dipper	C	C	U	U	Mountain Streams
WAXWINGS	S	Su	F	W	
___ Bohemian Waxwing	U		U	C	Juniper Woodlands, Mixed Forests
___ Cedar Waxwing (nb)	U	U	U		Juniper Woodlands, Mixed Forests
STARLINGS	S	Su	F	W	
___ European Starling	C	C	C	C	Found in most areas
VIREOS	S	Su	F	W	
___ Solitary Vireo (N)	C	U	U		Mixed Woodlands
___ Red-eyed Vireo (N)	U	U	U		Coniferous Forests
___ Warbling Vireo (N)	C	C	U		Deciduous Forests
WARBLERS, SPARROWS, GROSBEAKS & BUNTINGS	S	Su	F	W	
___ Orange-crowned Warbler (N)	U	U			Deciduous and Coniferous Forests
___ Nashville Warbler (N)	O	O	O		Open Deciduous and Coniferous Forests

___ Virginia's Warbler (N)	O	O	O		Juniper and Deciduous Woodlands
___ Yellow-rumped Warbler (nb)	C	C	C	R	Deciduous and Coniferous Forests
___ Black-throated Gray Warbler (N)	U	U	U		Juniper Woodland
___ Townsend's Warbler (N)	U		U		Mixed Forests
___ Yellow Warbler (N)	C	C	U		Deciduous and Riparian Woodlands
___ MacGillivray's Warbler (N)	C	C	U		Deciduous Forests, Water Areas
___ Northern Waterthrush (N)	O	O	O		Woodland Bogs
___ Common Yellowthroat (N)	U	U	U		Marshes, Grassy Fields
___ Yellow-breasted Chat (N)	C	C	C		Riparian Thickets, Woodland Undergrowth
___ American Redstart (N)	U	R	U		Mixed Forests
___ Wilson's Warbler (N)	U	U	U		Willow Riparian
___ Black-headed Grosbeak (N)	U	C	U		Deciduous Forests
___ Lazuli Bunting (N)	C	C	U		Deciduous and Coniferous Forests
___ Green-tailed Towhee (N)	C	C	U		Deciduous Forests, Juniper Woodlands
___ Rufous-sided Towhee (nb)	C	C	O	R	Deciduous Forests
___ Grasshopper Sparrow (N)	U	U	U		Grasslands, Sagebrush
___ Vesper Sparrow (N)	C	C	U		Grasslands, Sagebrush, Farmlands
___ Savannah Sparrow (N)	C	C	U		Grasslands, Sagebrush, Farmlands, Marshes
___ Lark Sparrow (N)	U	U	O		Juniper Woodlands, Grasslands, Sagebrush
___ Sage Sparrow (nb)	U	U	U		Grasslands, Sagebrush
___ American Tree Sparrow	U		U	U	Deciduous Forests, Grasslands, Sagebrush
___ Chipping Sparrow (N)	C	C	U		Juniper, Coniferous, Deciduous Forests
___ Brewer's Sparrow (N)	U	U	U		Grasslands, Sagebrush, Meadows
___ Dark-eyed Junco (nb)	C	C	C	U	Mixed Forests
___ White-crowned Sparrow (nb)	C	C	U	R	Deciduous Forests, Marshes
___ Fox Sparrow (nb)	C	C	U		Riparian Woodlands
___ Song Sparrow (n)	C	C	U	U	Deciduous Forests, Marshes, Water Areas

___ Lincoln's Sparrow (N)	U	U	U		Wet Meadows, Deciduous Forests
___ Lapland Longspur			U	U	Grasslands, Sagebrush
___ Snow Bunting			O	U	Grasslands, Sagebrush
___ Lark Bunting (N)	R	R			Grasslands, Sagebrush

BLACKBIRDS & ORIOLES	S	Su	F	W	
___ Western Tanager (N)	C	C	U		Coniferous Forests
___ Bobolink (N)	U	U	U		Grasslands, Meadows
___ Western Meadowlark (nb)	C	C	U	R	Grasslands, Sagebrush, Farmlands
___ Yellow-headed Blackbird (N)	A	A	C		Marshes, Farmlands
___ Red-winged Blackbird (nb)	A	A	C		Grasslands, Sagebrush, Marshes, Farmlands
___ Brewer's Blackbird (nb)	C	C	C		Marshes, Riparian Woodlands
___ Brown-headed Cowbird (nb)	C	C	U		Grasslands, Mixed Forests, Sagebrush
___ Northern Oriole (N)	C	C	O		Riparian Woodlands, Marshes
___ Common Grackle (N)	U	U	U		Riparian Woodlands, Urban Areas

WEAVERS	S	Su	F	W	
___ House Sparrow	C	C	C	C	Farmlands, Woodlands, Urban Areas

FINCHES	S	Su	F	W	
___ Common Redpoll	R		R	O	Mixed Forests, Parks
___ Pine Siskin (n)	C	C	O	O	Mixed Forests
___ American Goldfinch (n)	C	C	C	O	Grasslands, Deciduous Forests, Farmlands
___ Red Crossbill	U	U	U		Coniferous Forests
___ White-winged Crossbill	O	O	O		Coniferous Forests
___ Pine Grosbeak	U	U	U	U	Mixed Forests
___ Gray-crowned Rosy-finch	U	U	U	U	Cliffs, Grasslands, Rocky Areas

___ Cassin's Finch (nb)	C	C	U		Deciduous and Coniferous Forests
___ House Finch	C	C	C	U	Grasslands, Sagebrush, Farmlands
___ Evening Grosbeak	C	U	C	O	Mixed Forests, Parks

For More Information, Contact:

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NEOTROPICAL MIGRATORY BIRD CONSERVATION PROGRAM

A partnership of government agencies, educational institutions and conservation organizations in Canada, the U.S., Latin America and the Caribbean working for the conservation of neotropical migratory birds and their habitats.

This resource is based on the following source:

Hapner, Nina. No Date. Idaho Falls District Bird Guide. United States Department of the Interior Bureau of Land Management and Partners in Flight. Unpaginated.

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Appendix J

Fish Stocking In Idaho Stream Segments of the Headwaters Subbasin.

Source: Kemner, D., Idaho Department of Fish and Game, 2001

STREAM	DATE PLANTED	SPECIES	SIZE	LENGTH (in)	NUMBER PLANTED
SNAKE R	3/16/1998	DOMESTIC KAMLOOPS	CAT	10	3132
SNAKE R	6/9/1998	DOMESTIC KAMLOOPS	CAT	10	3000
SNAKE R	6/22/1998	HAYSPUR RAINBOW	FING	6.2	38000
SNAKE R	6/23/1998	HAYSPUR RAINBOW	FING	6.2	12350
SNAKE R	7/2/1998	DOMESTIC KAMLOOPS	CAT	10	2400
SNAKE R	7/7/1998	DOMESTIC KAMLOOPS	CAT	10	625
SNAKE R	8/4/1998	DOMESTIC KAMLOOPS	CAT	10	3000
SNAKE R	6/10/1999	HAYSPUR RAINBOW	FING	6.1	49000
SNAKE R	3/1/2000	TROUTLODGE	CAT	10	910
SNAKE R	3/2/2000	TROUTLODGE	CAT	10	2158
SNAKE R	3/14/2000	TRIPLOID TROUTLODGE KAMLOOP	CAT	10	832
SNAKE R	5/30/2000	HAYSPUR RAINBOW	FING	6	33000
SNAKE R	6/7/2000	TROUTLODGE	CAT	10	3000
SNAKE R	6/21/2000	HAYSPUR RAINBOW	FING	6.3	48500
SNAKE R	6/29/2000	TROUTLODGE	CAT	10	1995
SNAKE R	8/1/2000	TRIPLOID TROUTLODGE KAMLOOP	CAT	12	3003
SNAKE R	3/23/1999	DOMESTIC KAMLOOPS	CAT	11	2027
SNAKE R	6/14/1999	DOMESTIC KAMLOOPS	CAT	10	3025
SNAKE R	7/7/1999	DOMESTIC KAMLOOPS	CAT	10	3335
SNAKE R	8/9/1999	DOMESTIC KAMLOOPS	CAT	10	2760
SNAKE R	8/10/1999	DOMESTIC KAMLOOPS	CAT	10	300
SNAKE R	3/17/1998	DOMESTIC KAMLOOPS	CAT	9	3001
SNAKE R	6/30/1998	DOMESTIC KAMLOOPS	CAT	10	2500
SNAKE R	7/21/1998	DOMESTIC KAMLOOPS	CAT	10	2520
SNAKE R	8/5/1998	DOMESTIC KAMLOOPS	CAT	10	4000
SNAKE R	9/8/1998	DOMESTIC KAMLOOPS	CAT	10	1998
SNAKE R	3/22/1999	DOMESTIC KAMLOOPS	CAT	10	3024
SNAKE R	7/12/1999	DOMESTIC KAMLOOPS	CAT	10	2400

STREAM	DATE PLANTED	SPECIES	SIZE	LENGTH (in)	NUMBER PLANTED
SNAKE R	8/10/1999	DOMESTIC KAMLOOPS	CAT	10	2120
SNAKE R	9/7/1999	DOMESTIC KAMLOOPS	CAT	10	2060
SNAKE R	3/1/2000	TROUTLODGE	CAT	10	1820
SNAKE R	6/29/2000	TROUTLODGE	CAT	10	3006
SNAKE R	8/2/2000	TRIPLOID TROUTLODGE KAMLOOP	CAT	12	2025
SNAKE R	9/5/2000	TRIPLOID TROUTLODGE KAMLOOP	CAT	11	2002
WILLOW CR	5/23/1968	UNSPECIFIED RAINBOW	CAT	0	840
WILLOW CR	5/23/1968	UNSPECIFIED RAINBOW	CAT	0	1680
WILLOW CR	6/4/1968	UNSPECIFIED RAINBOW	FRY	0	36000
WILLOW CR	6/17/1968	BROWN TROUT	FRY	0	46000
WILLOW CR	6/17/1968	UNSPECIFIED RAINBOW	CAT	0	1575
WILLOW CR	6/17/1968	UNSPECIFIED RAINBOW	CAT	0	630
WILLOW CR	6/19/1968	UNSPECIFIED RAINBOW	FING	0	22500
WILLOW CR	8/16/1968	UNSPECIFIED RAINBOW	CAT	0	500
WILLOW CR	8/16/1968	UNSPECIFIED RAINBOW	CAT	0	1600
WILLOW CR	8/28/1968	UNSPECIFIED RAINBOW	CAT	0	1700
WILLOW CR	8/28/1968	UNSPECIFIED RAINBOW	CAT	0	500
WILLOW CR	9/4/1968	CUTTHROAT	FRY	0	37584
WILLOW CR	9/6/1968	UNSPECIFIED RAINBOW	FING	0	13300
WILLOW CR	5/22/1969	UNSPECIFIED RAINBOW	CAT	0	1750
WILLOW CR	5/22/1969	UNSPECIFIED RAINBOW	CAT	0	875
WILLOW CR	5/23/1969	UNSPECIFIED RAINBOW	CAT	0	500
WILLOW CR	5/26/1969	UNSPECIFIED RAINBOW	CAT	0	2100
WILLOW CR	6/6/1969	UNSPECIFIED RAINBOW	FRY	0	33750
WILLOW CR	7/10/1969	UNSPECIFIED RAINBOW	CAT	0	1785
WILLOW CR	8/18/1969	CUTTHROAT	FRY	0	24300
WILLOW CR	8/29/1969	UNSPECIFIED RAINBOW	CAT	0	1260
WILLOW CR	8/29/1969	UNSPECIFIED RAINBOW	CAT	0	1365
WILLOW CR	9/9/1969	CUTTHROAT	FRY	0	145124
WILLOW CR	4/9/1970	BROWN TROUT	FRY	0	2320
WILLOW CR	5/22/1970	UNSPECIFIED RAINBOW	CAT	0	800
WILLOW CR	5/26/1970	UNSPECIFIED RAINBOW	CAT	0	1960
WILLOW CR	5/26/1970	UNSPECIFIED RAINBOW	CAT	0	1120
WILLOW CR	6/19/1970	UNSPECIFIED RAINBOW	CAT	0	1680
WILLOW CR	6/19/1970	UNSPECIFIED RAINBOW	CAT	0	560

STREAM	DATE PLANTED	SPECIES	SIZE	LENGTH (in)	NUMBER PLANTED
WILLOW CR	7/9/1970	BROWN TROUT	FRY	0	31752
WILLOW CR	7/9/1970	BROWN TROUT	FRY	0	4200
WILLOW CR	7/16/1970	UNSPECIFIED RAINBOW	CAT	0	1050
WILLOW CR	7/16/1970	UNSPECIFIED RAINBOW	CAT	0	1050
WILLOW CR	8/21/1970	UNSPECIFIED RAINBOW	CAT	0	1800
WILLOW CR	8/21/1970	UNSPECIFIED RAINBOW	CAT	0	1800
WILLOW CR	9/8/1970	UNSPECIFIED RAINBOW	CAT	0	900
WILLOW CR	9/9/1970	UNSPECIFIED RAINBOW	CAT	0	2400
WILLOW CR	9/17/1970	CUTTHROAT	FRY	0	68572
WILLOW CR	5/22/1971	UNSPECIFIED RAINBOW	CAT	0	800
WILLOW CR	5/24/1971	UNSPECIFIED RAINBOW	CAT	0	1620
WILLOW CR	5/24/1971	UNSPECIFIED RAINBOW	CAT	0	1080
WILLOW CR	5/25/1971	UNSPECIFIED RAINBOW	CAT	0	2903
WILLOW CR	6/25/1971	UNSPECIFIED RAINBOW	CAT	0	750
WILLOW CR	6/25/1971	UNSPECIFIED RAINBOW	CAT	0	1750
WILLOW CR	8/23/1971	CUTTHROAT	FRY	0	63000
WILLOW CR	8/31/1971	UNSPECIFIED RAINBOW	CAT	0	1200
WILLOW CR	8/31/1971	UNSPECIFIED RAINBOW	CAT	0	3600
WILLOW CR	9/14/1971	BROWN TROUT	FING	0	40533
WILLOW CR	9/17/1971	UNSPECIFIED RAINBOW	FING	0	35250
WILLOW CR	5/22/1972	UNSPECIFIED RAINBOW	CAT	0	2400
WILLOW CR	6/28/1972	UNSPECIFIED RAINBOW	CAT	0	1210
WILLOW CR	7/31/1972	UNSPECIFIED RAINBOW	CAT	0	1575
WILLOW CR	8/31/1972	UNSPECIFIED RAINBOW	CAT	0	1980
WILLOW CR	9/12/1972	CUTTHROAT	FRY	0	125400
WILLOW CR	9/12/1972	BROWN TROUT	FING	0	28800
WILLOW CR	5/24/1973	UNSPECIFIED RAINBOW	CAT	0	1700
WILLOW CR	5/24/1973	UNSPECIFIED RAINBOW	CAT	0	3570
WILLOW CR	5/24/1973	UNSPECIFIED RAINBOW	CAT	0	1700
WILLOW CR	6/21/1973	UNSPECIFIED RAINBOW	CAT	0	1820
WILLOW CR	6/21/1973	UNSPECIFIED RAINBOW	CAT	0	1820
WILLOW CR	7/30/1973	CUTTHROAT	FRY	0	55500
WILLOW CR	9/17/1973	BROWN TROUT	FING	0	45100
WILLOW CR	9/19/1973	UNSPECIFIED RAINBOW	FING	0	37500
WILLOW CR	4/4/1974	UNSPECIFIED RAINBOW	FING	0	800
WILLOW CR	5/22/1974	UNSPECIFIED RAINBOW	CAT	0	2400

STREAM	DATE PLANTED	SPECIES	SIZE	LENGTH (in)	NUMBER PLANTED
WILLOW CR	5/22/1974	UNSPECIFIED RAINBOW	CAT	0	1800
WILLOW CR	7/3/1974	UNSPECIFIED RAINBOW	CAT	0	1500
WILLOW CR	7/3/1974	UNSPECIFIED RAINBOW	CAT	0	1500
WILLOW CR	9/26/1974	BROWN TROUT	FING	0	43200
WILLOW CR	10/16/1974	CUTTHROAT	FRY	0	38915
WILLOW CR	10/16/1974	CUTTHROAT	FRY	0	79925
WILLOW CR	6/24/1975	UNSPECIFIED RAINBOW	CAT	0	900
WILLOW CR	6/24/1975	UNSPECIFIED RAINBOW	CAT	0	2250
WILLOW CR	8/21/1975	UNSPECIFIED RAINBOW	CAT	0	2800
WILLOW CR	10/6/1975	CUTTHROAT	FRY	0	73248
WILLOW CR	10/29/1975	CUTTHROAT	FRY	0	83200
WILLOW CR	11/3/1975	CUTTHROAT	FRY	0	71000
WILLOW CR	11/4/1975	UNSPECIFIED RAINBOW	FING	0	19800
WILLOW CR	11/4/1975	UNSPECIFIED RAINBOW	FING	0	19800
WILLOW CR	11/5/1975	CUTTHROAT	FRY	0	50000
WILLOW CR	11/5/1975	UNSPECIFIED RAINBOW	FRY	0	20000
WILLOW CR	11/7/1975	UNSPECIFIED RAINBOW	FING	0	18000
WILLOW CR	11/7/1975	UNSPECIFIED RAINBOW	FING	0	18000
WILLOW CR	11/10/1975	UNSPECIFIED RAINBOW	FING	0	23400
WILLOW CR	11/24/1975	CUTTHROAT	FING	0	36000
WILLOW CR	6/26/1976	UNSPECIFIED RAINBOW	CAT	0	910
WILLOW CR	6/28/1976	UNSPECIFIED RAINBOW	CAT	0	1820
WILLOW CR	7/28/1976	UNSPECIFIED RAINBOW	CAT	0	1934
WILLOW CR	7/28/1976	UNSPECIFIED RAINBOW	CAT	0	966
WILLOW CR	8/4/1976	CUTTHROAT	FRY	0	32000
WILLOW CR	8/26/1976	BROWN TROUT	FING	0	40000
WILLOW CR	8/27/1976	BROWN TROUT	FING	0	36600
WILLOW CR	8/27/1976	BROWN TROUT	FING	0	13800
WILLOW CR	9/17/1976	CUTTHROAT	FRY	0	103275
WILLOW CR	10/25/1976	UNSPECIFIED RAINBOW	FING	0	8550
WILLOW CR	10/25/1976	UNSPECIFIED RAINBOW	FING	0	8550
WILLOW CR	10/26/1976	UNSPECIFIED RAINBOW	FING	0	14400
WILLOW CR	6/22/1977	BROWN TROUT	FRY	0	50760
WILLOW CR	6/22/1977	BROWN TROUT	FRY	0	47000
WILLOW CR	4/6/1978	UNSPECIFIED RAINBOW	CAT	0	760
WILLOW CR	6/28/1978	UNSPECIFIED RAINBOW	CAT	0	1100

STREAM	DATE PLANTED	SPECIES	SIZE	LENGTH (in)	NUMBER PLANTED
WILLOW CR	6/28/1978	UNSPECIFIED RAINBOW	CAT	0	1100
WILLOW CR	9/15/1978	BROWN TROUT	FING	0	16530
WILLOW CR	10/16/1978	CUTTHROAT	FING	0	13524
WILLOW CR	10/16/1978	CUTTHROAT	FRY	0	63252
WILLOW CR	5/23/1979	UNSPECIFIED RAINBOW	CAT	0	1225
WILLOW CR	5/23/1979	UNSPECIFIED RAINBOW	CAT	0	2450
WILLOW CR	7/30/1979	UNSPECIFIED RAINBOW	CAT	0	1960
WILLOW CR	7/30/1979	UNSPECIFIED RAINBOW	CAT	0	980
WILLOW CR	8/23/1979	UNSPECIFIED RAINBOW	CAT	0	570
WILLOW CR	8/23/1979	UNSPECIFIED RAINBOW	CAT	0	1330
WILLOW CR	5/20/1980	BROWN TROUT	FRY	0	44908
WILLOW CR	5/22/1980	UNSPECIFIED RAINBOW	CAT	0	5395
WILLOW CR	6/17/1980	UNSPECIFIED RAINBOW	CAT	0	3750
WILLOW CR	7/14/1980	UNSPECIFIED RAINBOW	CAT	0	2550
WILLOW CR	4/24/1981	BROWN TROUT	FRY	0	46600
WILLOW CR	5/18/1981	UNSPECIFIED RAINBOW	CAT	0	2310
WILLOW CR	6/4/1981	UNSPECIFIED RAINBOW	CAT	0	2640
WILLOW CR	6/17/1981	UNSPECIFIED RAINBOW	CAT	0	2750
WILLOW CR	7/2/1981	UNSPECIFIED RAINBOW	CAT	0	2880
WILLOW CR	4/29/1982	BROWN TROUT	FRY	0	34200
WILLOW CR	5/27/1982	UNSPECIFIED RAINBOW	CAT	0	3885
WILLOW CR	6/18/1982	UNSPECIFIED RAINBOW	CAT	0	2160
WILLOW CR	6/29/1982	UNSPECIFIED RAINBOW	CAT	0	2160
WILLOW CR	7/6/1982	BROWN TROUT	FRY	0	28640
WILLOW CR	7/14/1982	UNSPECIFIED RAINBOW	CAT	0	2760
WILLOW CR	6/13/1983	UNSPECIFIED RAINBOW	CAT	0	3000
WILLOW CR	6/27/1983	UNSPECIFIED RAINBOW	CAT	0	5060
WILLOW CR	7/11/1983	UNSPECIFIED RAINBOW	FING	0	4268
WILLOW CR	7/11/1983	UNSPECIFIED RAINBOW	FING	0	4268
WILLOW CR	7/25/1983	BROWN TROUT	FRY	0	25600
WILLOW CR	7/25/1983	BROWN TROUT	FRY	0	24000
WILLOW CR	6/1/1984	UNSPECIFIED RAINBOW	CAT	0	3640
WILLOW CR	6/20/1984	UNSPECIFIED RAINBOW	CAT	0	3480
WILLOW CR	7/30/1984	UNSPECIFIED RAINBOW	CAT	0	3016
WILLOW CR	8/13/1984	MT WHITNEY RAINBOW	CAT	0	3024
WILLOW CR	6/4/1985	UNSPECIFIED RAINBOW	CAT	0	3055

STREAM	DATE PLANTED	SPECIES	SIZE	LENGTH (in)	NUMBER PLANTED
WILLOW CR	7/17/1985	UNSPECIFIED RAINBOW	CAT	0	2998
WILLOW CR	7/22/1985	BROWN TROUT	FING	0	24000
WILLOW CR	8/20/1985	UNSPECIFIED RAINBOW	CAT	0	3600
WILLOW CR	5/20/1986	MT LASSEN RAINBOW	CAT	0	2025
WILLOW CR	6/24/1986	MT LASSEN RAINBOW	CAT	0	2240
WILLOW CR	7/15/1986	MT LASSEN RAINBOW	CAT	0	3150
WILLOW CR	8/11/1986	MT LASSEN RAINBOW	CAT	0	3240
WILLOW CR	5/14/1987	MT LASSEN RAINBOW	CAT	0	2325
WILLOW CR	6/29/1987	MT LASSEN RAINBOW	CAT	0	2210
WILLOW CR	7/20/1987	MT LASSEN RAINBOW	CAT	0	2200
WILLOW CR	8/26/1987	MT LASSEN RAINBOW	FING	0	2003
WILLOW CR	9/8/1987	BROWN TROUT	FING	0	20000
WILLOW CR	5/18/1988	MT LASSEN RAINBOW	CAT	0	2040
WILLOW CR	6/15/1988	MT LASSEN RAINBOW	CAT	0	2550
WILLOW CR	7/26/1988	MT LASSEN RAINBOW	CAT	0	1176
WILLOW CR	7/27/1988	BROWN TROUT	FRY	0	20800
WILLOW CR	5/22/1989	MT LASSEN RAINBOW	CAT	0	2001
WILLOW CR	6/23/1989	BROWN TROUT	FING	0	19487
WILLOW CR	6/29/1989	MT LASSEN RAINBOW	CAT	0	1800
WILLOW CR	7/19/1989	MT LASSEN RAINBOW	CAT	0	1815
WILLOW CR	5/16/1990	DOMESTIC KAMLOOPS	CAT	0	2025
WILLOW CR	6/8/1990	MT SHASTA RAINBOW	CAT	0	351
WILLOW CR	6/8/1990	UNSPECIFIED RAINBOW	CAT	0	1000
WILLOW CR	6/25/1990	RAINBOW x CUTTHROAT	CAT	0	1000
WILLOW CR	5/21/1991	HAYSPUR RAINBOW	CAT	0	1998
WILLOW CR	6/10/1991	BROWN TROUT	FING	0	18450
WILLOW CR	6/18/1991	HAYSPUR RAINBOW	CAT	0	2002
WILLOW CR	7/11/1991	HAYSPUR RAINBOW	CAT	0	1035
WILLOW CR	5/12/1992	HAYSPUR RAINBOW	CAT	0	2040
WILLOW CR	5/27/1992	BROWN TROUT	FRY	0	25204
WILLOW CR	6/9/1992	HAYSPUR RAINBOW	CAT	0	2080
WILLOW CR	6/12/1992	UNSPECIFIED RAINBOW	CAT	0	250
WILLOW CR	6/13/1992	ARLEE RAINBOW	CAT	0	235
WILLOW CR	5/25/1993	HAYSPUR RAINBOW	CAT	0	2000
WILLOW CR	6/11/1993	HAYSPUR RAINBOW	CAT	0	280
WILLOW CR	6/24/1993	BROWN TROUT	FING	0	16380

STREAM	DATE PLANTED	SPECIES	SIZE	LENGTH (in)	NUMBER PLANTED
WILLOW CR	6/29/1993	HAYSPUR RAINBOW	CAT	0	1995
WILLOW CR	7/19/1993	HAYSPUR RAINBOW	CAT	0	2000
WILLOW CR	10/6/1993	RAINBOW x CUTTHROAT	FRY	0	6736
WILLOW CR	10/6/1993	HENRYS LAKE CUTTHROAT	FRY	0	7178
WILLOW CR	5/25/1994	HAYSPUR RAINBOW	CAT	10.5	2365
WILLOW CR	6/6/1994	BROWN TROUT	FING	4	10000
WILLOW CR	6/8/1994	HAYSPUR RAINBOW	CAT	10.2	2242
WILLOW CR	5/23/1995	HAYSPUR RAINBOW	CAT	10.4	2002
WILLOW CR	6/14/1995	HAYSPUR RAINBOW	CAT	10.8	1040
WILLOW CR	6/27/1995	HAYSPUR RAINBOW	CAT	11	969
WILLOW CR	6/27/1995	BROWN TROUT	FRY	4	10080
WILLOW CR	7/10/1995	HAYSPUR RAINBOW	CAT	12	1045
WILLOW CR	7/25/1995	HAYSPUR RAINBOW	CAT	11	1150
WILLOW CR	5/24/1996	DOMESTIC KAMLOOPS	CAT	11	1440
WILLOW CR	6/13/1996	BROWN TROUT	FING	3	10453
WILLOW CR	6/14/1996	DOMESTIC KAMLOOPS	CAT	11	713
WILLOW CR	6/28/1996	DOMESTIC KAMLOOPS	CAT	11	350
WILLOW CR	7/11/1996	DOMESTIC KAMLOOPS	CAT	12	750
WILLOW CR	7/19/1996	DOMESTIC KAMLOOPS	CAT	11	375
WILLOW CR	5/6/1997	BROWN TROUT	FING	3	20930
WILLOW CR	5/8/1998	BROWN TROUT	FING	3	10200
S F SNAKE R (DRY BED)	4/29/1998	HAYSPUR RAINBOW	FING	3	12528
S F SNAKE R (DRY BED)	4/28/1999	HAYSPUR RAINBOW	FING	2.4	12510
S F SNAKE R (DRY BED)	4/27/2000	HAYSPUR RAINBOW	FING	2.6	12584
ANNIS SLOUGH	2/28/1998	HAYSPUR RAINBOW	FING	3	5046
ANNIS SLOUGH	4/29/1998	HAYSPUR RAINBOW	FING	3	5046
ANNIS SLOUGH	4/28/1999	HAYSPUR RAINBOW	FING	2.4	5007
ANNIS SLOUGH	5/31/2000	HAYSPUR RAINBOW	FING	2.8	5130
YEAMAN CR	6/2/1998	HAYSPUR RAINBOW	CAT	10	1022
YEAMAN CR	6/11/1999	HAYSPUR RAINBOW	CAT	9.9	998
YEAMAN CR	6/6/2000	HAYSPUR RAINBOW	CAT	10.4	898

STREAM	DATE PLANTED	SPECIES	SIZE	LENGTH (in)	NUMBER PLANTED
TINCUP CR	6/24/1998	FINE SPOTTED CUTTHROAT	CAT	0	1000
TINCUP CR	7/23/1998	FINE SPOTTED CUTTHROAT	CAT	0	1000
TINCUP CR	7/2/1999	FINE SPOTTED CUTTHROAT	CAT	10	1008
TINCUP CR	7/16/1999	FINE SPOTTED CUTTHROAT	CAT	10	999
TINCUP CR	6/16/2000	FINE SPOTTED CUTTHROAT	CAT	9.9	600
TINCUP CR	7/5/2000	FINE SPOTTED CUTTHROAT	CAT	9.9	713
TINCUP CR	7/6/2000	FINE SPOTTED CUTTHROAT	CAT	9.9	437

Appendix K

Agencies and organizations contacted and asked to provide information for the Headwaters Subbasin Summary.

Federal Agencies

USFWS (US Fish & Wildlife Service)
Jackson Fish Hatchery
National Elk Refuge, Jackson, WY
NOAA (National Oceanographic & Atmospheric Admin)/NWS
NOAA (INEEL)
EPA (Environmental Protection Agency)
EPA Water Quality

ACOE (Army Corp of Engineers)
BOR (Bureau of Reclamation)
USGS (US Geological Service)
USGS Water Resources Division
USGS INEEL
USGS Regional
USFS (US Forest Service)
Bridger-Teton National Forest
Region 4
Targhee RD - R4
Palisades RD - R4
Targhee-Caribou
NRCS (National Resources Conservation Service)
BIA (Bureau of Indian Affairs)
BLM (Bureau of Land Management)
Palisades
Idaho Falls
NPS (National Park Service)
Grand Teton
Yellowstone National Park
NWSWRCC (National Weather Svc Western Region Climate Ctr)

Tribes

Shoshone Bannock Tribes
Columbia River InterTribal Fish Commission

Conservation Organizations

CRA (Columbia River Alliance)
DU (Ducks Unlimited)
Idaho & Wyoming
IFA (ID Falconers Association)

GYC (Greater Yellowstone Coalition)
ICL (ID Conservation League)
IWRRI (ID Water Resources Research Institute)
IWF (ID Wildlife Federation)
ISSU (ID Salmon & Steelhead Unlimited)
NAMF (N. American Moose Foundation)
PF (Pheasants Forever)
SCI (Safari Club International)
TU (Trout Unlimited)
IRU (ID Rivers United)
RMEF (Rocky Mtn Elk Foundation)
ERBM (Eagle Rock Bass Masters)
TTSS (The Trumpeter Swan Society)

Land Trusts

TNC (The Nature Conservancy)

TRLT (Teton Regional Land Trust)
JHLT (Jackson Hole Land Trust)

Agriculture & Industry

FPI (Food Producers of Idaho)
IWA (ID Woolgrowers Association)
ICA (ID Cattle Association)
IACI (ID Association of Commerce & Industry)

IWUA (ID Water Users Association)
IWPG (ID Water Policy Group)

Hydro/Power

ID Power Company
IF Power Company
Lower Valley Electric
Utah Power Company

State Agencies

IDF&G (ID Fish & Game)
IDF&G CDC (Conservation Data Center)
IDF&G Streamnet
ID DEQ (ID Dept of Environmental Quality)
GOSC (Governor's Office of Species Conservation)
ID DOL (ID Dept of Lands)
IDWR (ID Dept of Water Resources)
IACD (ID Assn Conservation Districts)
ISCC (ID Soil Conservation Comm.)
ISCC State
ID DOT (ID Dept of Transportation)
IDOA (ID Dept of Agriculture)

IDPR (ID Dept of Parks & Recreation)
IFPL (ID Foundation Parks & Land)
ID Geological Services/University of Idaho (UofI)
WDGF (WY Dept of Game & Fish)

Irrigation Districts

Committee of 9

ID Water Resource Board
Upper Snake River District 01

Counties / Commissioners

Jefferson
Bonneville
Bingham
Madison

ID County Commission
ID Association of Counties

Cities (Idaho)

Idaho Falls
Ririe
Rigby
Swan Valley/Irwin
Shelley
Rexburg

WAGs & BAGs

South Fork WAG
Willow Creek WAG
Upper Snake BAG
Bonneville County Waterways Committee

Other

Idaho Round Table
National Learning Site in Holistic Mgt

Educational/Universities

Utah State University, Department of Forest Resources
Utah State University, Department of Biology
Utah State University, Ecology Center
Utah State University, Department of Fisheries &Wildlife/Watershed Science
Utah State University, Department of Rangeland Resources
University of Idaho, ID Water Resources Research
University of Idaho, ID Dept of Plant, Soil & Entomological Science
University of Idaho, ID Dept of Fish & Wildlife Resources
University of Idaho, ID Dept of Forest Resources
University of Idaho, ID Dept Rangelands, Ecology & Management
University of Idaho, ID Dept Biological Sciences
Idaho State University Dept Biological Sciences
Idaho State University Dept Geological Sciences
Montana State University, Dept Earth Sciences
Montana State University, Dept of Ecology
University of Montana, Division of Biological Sciences
University of Montana, Dept of Environmental Studies
University of Montana, Dept of Forestry
Boise State University, Dept of Biology
Boise State University, Dept of Geosciences
University of Wyoming, Botany Dept
University of Wyoming, Zoology & Physiology
University of Wyoming, Natural Science Program