U.S. Department of the Interior
Bureau of Land Management
Wyoming State Office

Wyoming Resident Fish Habitat Management Strategy

Resident Fish Habitat Management Strategy for Wyoming

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prepared by

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State Director's Preface

The Bureau of Land Management (BLM) manages approximately 2,000 miles of streams and 6,500 acres of surface water known to support resident fish species in Wyoming.

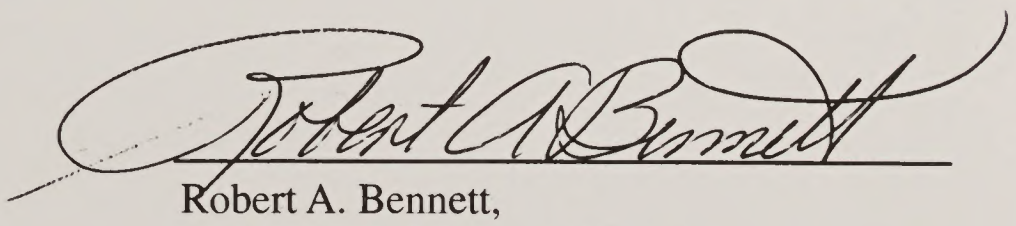
BLM has developed a strategic plan titled *Fish and Wildlife 2000 — A Plan for the Future*, which establishes goals and objectives for the management of fish, wildlife, and special status plant resources. Supplementing *Fish and Wildlife 2000* are a number of plans that cover a wide range of resources, such as anadromous fish, nongame migratory birds, and special status plants.

The Bureau's *Resident Fish Habitat Management* plan refines *Fish and Wildlife 2000* resident fish goals. It describes BLM's role in river, stream, and lake ecosystem management and recommends ways to improve conservation efforts relative to resident fish. It contains many actions that will improve the resident fishery resources for the social and economic benefit of the public. In addition, the *Resident Fish Habitat Management* plan complements other BLM national initiatives and plans, including *Range of Our Vision, Riparian-Wetland Initiative for the 1990's*, and *Recreation 2000*.

This *Resident Fish Habitat Management Strategy for Wyoming* emphasizes the importance and benefits of the proper management of resident fishery resources on public lands in Wyoming. In addition, it lists specific strategies for implementing and meeting the objectives of both the National and the Wyoming resident fish habitat plans.

For any resource management program to be successful, we must have healthy ecosystems. This can come about only by managing BLM lands in concert with other Federal, State, and local agencies, partners, and interested individuals. Resident fishery resources are an important component of the ecosystems in which they occur. This plan provides guidance and encourages cooperative management for these resources on an ecosystem basis.

I strongly endorse this plan and the ecosystem management direction it takes in managing resident fishery resources.



Robert A. Bennett,
Acting State Director, Wyoming
Bureau of Land Management

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Executive Summary

The Bureau of Land Management in Wyoming accounted for between 400,000 and 600,000 recreational days of fishing in 1991; that generated a minimum of $19 million in expenditures in the State. Wyoming is home to a wide variety of fish habitats ranging from high mountain streams to large rivers and from stock ponds of less than an acre in size to large reservoirs. Most of those habitat types can be found on BLM lands in the State.

BLM's *Fish and Wildlife 2000 - A Plan for the Future* established national goals and objectives for managing fish, wildlife, and plant resources. The *Wyoming Fish and Wildlife 2000 - An Administrative Strategy* is the State's stepped down version of the national plan. BLM's *Resident Fisheries Habitat Management Plan* communicated the national strategy for managing resident fish species habitat. This document, dealing with the management of resident fish species habitats in Wyoming, is the State level version of the national resident fisheries strategy.

Resident fish are any species naturally occurring, either presently or historically, in any ecosystem of the United States. This strategy identifies two goals necessary to ensure that viable populations of resident fish and the benefits that they provide are maintained. These goals are "to manage for the biological integrity of aquatic ecosystems and associated watersheds for the benefit of resident fishery resources" and "to manage aquatic ecosystems and associated watersheds to provide for social and economic benefits and recreational uses by the public."

To attain the resident fish goals in Wyoming, the eight objectives from the national plan have been adopted. All the subordinate strategies from the national plan will be initiated or continued. To accomplish the goals and objectives of this strategy by the year 2000 will require approximately $3,775,000 and the workload equivalent of an additional 20 positions, primarily in recreation and fisheries.

The management of resident fisheries habitats in Wyoming will be part of the overall ecosystem management in the State. Ecosystem management, especially in the arid West, demands that special attention be paid to monitoring the condition of drainages and water bodies. This is a step toward assuring that those waters suitable for resident fish will be monitored and maintained in healthy ecological condition. Implementation of this strategy will ensure healthy and productive populations of resident fish.

Introduction

The Federal Land Policy and Management Act (FLPMA) of 1976 and numerous other laws, regulations, policies, Executive orders, and Memorandums of Understanding (MOUs) direct the Bureau of Land Management (BLM) to manage its lands in a manner that will provide habitat for fish and wildlife and protect the quality of water resources. BLM has developed *Fish and Wildlife 2000 - A Plan for the Future* to carry out these charges. *Fish and Wildlife 2000* established national goals and objectives for managing fish, wildlife and special status plant resources on BLM-administered lands. The *Wyoming Fish and Wildlife 2000 - An Administrative Strategy* is the State's stepped down version of the national plan.

Under the umbrella of the national Fish and Wildlife 2000, several strategies dealing with specific groups of species have been written. BLM's *Resident Fisheries Habitat Management Plan* is one of these management strategies. The purpose of that document was to communicate BLM's national strategy for managing resident fish species habitat. This document, dealing with the management of resident fish species habitats in Wyoming, is the State level version of the national resident fisheries strategy and is in conformance with Goal 5 (Resident Fish Species) of the *Wyoming Fish and Wildlife 2000.* Its purpose is to inform BLM managers and the public about the status and potential of resident fish habitats on public lands in Wyoming.

Fish species addressed in this strategy fall into the following categories as defined by BLM:

Resident Species: Any species naturally occurring, either presently or historically, in any ecosystem of the United States.

Native Species: Any species that naturally occurred within a given body of water.

Exotic Species: Any species not naturally occurring, either presently or historically, in any ecosystem of the United States. (Note: while by definition not a resident species, exotic species, like carp and brown trout, are addressed in this strategy because of their common occurrence or high recreational value.)

This document will not address in detail the needs of Special Status Species (any species listed as threatened or endangered by the Federal government or Federal candidate species.)

Resident Fisheries Resources

BLM has management responsibility for over 2,600 miles of creeks, streams, and rivers in Wyoming, but only 1,926 miles of that are known to support resident fish species. The unaccounted for mileage may be represented by streams that have not been inventoried or small headwater stream sections which are inaccessible to fish.

BLM manages over 20,000 acres of ponds, lakes, and reservoirs in Wyoming; this includes over 4,000 livestock watering facilities. Only 6,434 of those acres are managed as sport fisheries or are known to support fish populations. Further inventory may find that there are additional ponds or reservoirs which support other fish or are suitable habitat for resident fish species.

Very little of the aquatic habitats described above is covered by specific objectives in activity plans for the management of resident fish species or their habitats.

The Wyoming Game and Fish Department's *Annual Report - 1992* shows that fishing generated $194 million in expenditures in Wyoming in 1991; there were just over 4 million recreation days of fishing in Wyoming that year. Although BLM manages approximately 30 percent of the land mass in Wyoming, much of that is uplands, and only 10 to 15 percent of the State's fishing pressure is estimated to occur on BLM lands.

Basins

Wyoming is a headwaters State; it provides water to 14 US Geological Survey (USGS) basin subregions. The following rivers, listed with their subregion designations, start or head in Wyoming:

Madison (Missouri Headwaters)
Big Horn (Big Horn)
Tongue (Powder-Tongue)
Cheyenne (Cheyenne)
Green (Great Divide-Upper Green)
Yellowstone (Upper Yellowstone)
Powder (Powder-Tongue)
Little Missouri (Missouri-Little Missouri)
Niobrara (Niobrara)
Snake (Upper Snake)

In addition, the North Platte River drains about one fourth of the State. Other tributary streams in Wyoming contribute to the South Platte, the White-Yampa, the Bear, and the Great Salt Lake subregions. Figure 1 shows the major drainages and water bodies in Wyoming.

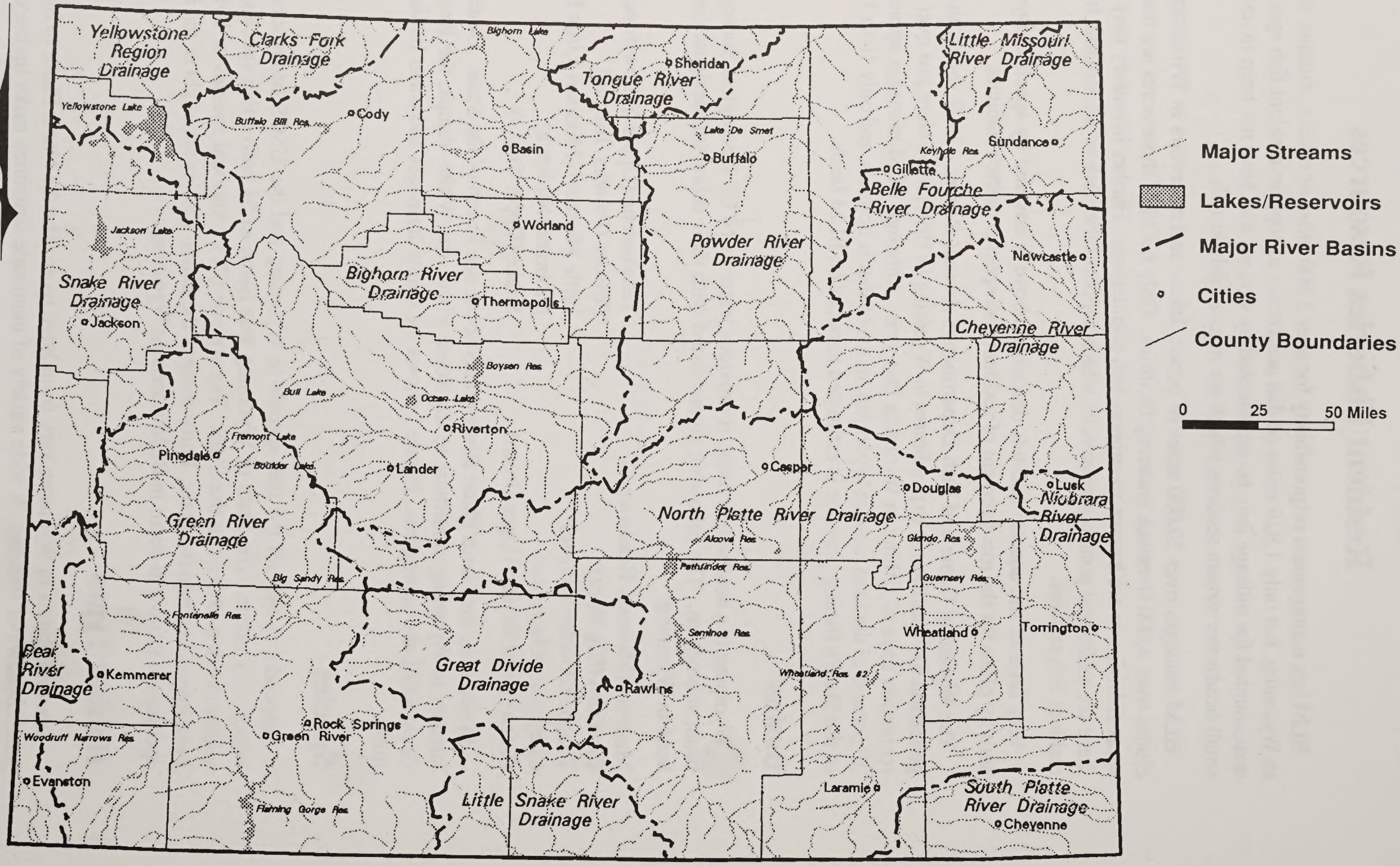
Species

Appendix A lists all the fish species in Wyoming and the USGS basin subregions in which they occur. The State of Wyoming was home to 54 native fish species when the whiteman first arrived in the State. Twenty-one (21) additional species or hybrids have been introduced into the State. Forty-three of the native species and eight of the introduced species are known to occur in BLM waters in Wyoming.

Habitat Types

Stream habitats in Wyoming vary from large rivers like the North Platte to innumerable small headwater streams. A wide variety of manmade structures make up the majority of

Major Drainages and Water Bodies in Wyoming



BLM lentic (nonflowing) habitats in Wyoming; these include everything from small (less than one surface acre) livestock watering structures to multi-million dollar structures for which BLM may manage only a limited number of access sites. There are very few natural lakes and ponds on BLM lands in Wyoming.

Most of the waters in Wyoming, whether natural or man-made, have been planted with or infiltrated by non-indigenous species, subspecies or hybrids. Most of the plantings have been to enhance the recreational fishing.

Funding/Staffing/Management

During the 1970's and early 1980's, extensive fisheries inventory work was done on BLM lands in Wyoming. However, the late 1980's were a low point in both funding and staffing for the entire BLM Fish and Wildlife Program, nationally and in Wyoming; for example, in 1988 there were no BLM fisheries biologists in the State. There is naturally less emphasis on the fisheries program when there is no fisheries professional on a staff. Individual wildlife biologists or others may or may not have the time, knowledge or opportunity to carry fisheries issues through planning, funding and development phases.

In 1993, there were fisheries biologists in two of the four Wyoming District Offices, a fisheries Cooperative Education Student filled a position in another District, and there was a State Office fisheries biologist. These professionals were the catalysts for initiating fisheries planning and on the ground work on BLM lands. Increased funding generated these new fisheries staff positions, and those individuals, in turn, have further increased the funding used to address resident fisheries issues. In addition, the presence of riparian coordinators in most field offices has increased the attention given to fisheries issues as they relate to the interdisciplinary management of riparian areas.

Some of the management actions from over the last few years involving resident fisheries in Wyoming are listed below. The ten to twenty year old fisheries inventories have been updated with new inventory or monitoring data collected or acquired by BLM in specific areas throughout the State. The new data has been used to develop and update various activity plans to account for the needs of fisheries habitats. Fishing maps for use by the general public have been developed in each of the four Districts. Project funding has been enhanced through participation in the National Fish and Wildlife Foundation's "Bring Back the Natives" initiative and through cooperation with numerous local organizations such as chapters of Trout Unlimited. Close coordination with the Wyoming Game and Fish Department is a very important part of BLM's fisheries program; this includes planning, cost-sharing and development. Outreach activities, such as National Fishing Week celebrations, have been fostered throughout the State. Internal coordination, especially with the Recreation Program and within the Riparian Initiative, has been important to accomplish objectives within the fisheries program.

Wyoming Strategy

The goals and objectives in this plan parallel those in the national Resident Fish Habitat Management Plan.

Goals

Primary Goal

To manage for the biological integrity of aquatic ecosystems and associated watersheds for the benefit of resident fishery resources.

Secondary Goal

To manage aquatic ecosystems and associated watersheds to provide social and economic benefits and recreational uses by the public.

To attain the resident fish goals in Wyoming, the eight objectives from the national plan have been adopted. All the subordinate strategies from the national plan will be initiated or continued. The numbers and other site specific strategies for Wyoming are presented in the following discussions for each objective. The data for the numbers in these discussions were collected in 1992 and were reviewed and were current as of January 1994.

Objectives Pertaining to the Primary Goal

Objective 1

Prioritize resident fishery resources, uses, and management opportunities.

The focus of this objective is to inventory and identify resident fishery resources, their uses, and management opportunities in order to make sound management decisions. Intensity of inventory varies based on needs. Habitat and population monitoring are needed to determine the effectiveness of management activities in achieving resident fishery resource objectives and to develop revisions to management objectives and associated actions.

Strategies

- Inventory resident fish habitats as outlined in Table 1 and provide the appropriate funding and staffing.
- In coordination with the Wyoming Game and Fish Department, monitor biological populations and their interrelated ecosystem functions to assure the maintenance of biodiversity at levels necessary for maintaining viable aquatic communities.

Table 1
Resident Fisheries Habitat Inventory Needs - FY 95-2000

Fiscal Year	Level I[1] Inventory Miles/Acres	Level II[2] Inventory Miles/Acres	LevelIII[3] Inventory Miles/Acres	Work Months/# New Staff	Total Costs[4] ($000)
95	—	175/1310	190/1600	62/4	233
96	—	170/1600	170/500	58/3	238
97-98	—	100/610	300/110	65/3	267
99-2000	—	—	280/150	45/1	171

[1] Level I provides a general description of the amount and associated values of aquatic resources and a summary of existing information. It is the minimum amount of information needed for preplanning activities for RMP's.

[2] Level II uses qualitative measurements to make interpretations of aquatic habitat condition based on delineated reaches. It is the minimum amount of information needed for EIS and RMP documents.

[3] Level III requires the use of quantitative measurements of aquatic habitat components. It is the minimum amount of information needed for activity plans.

[4] Total costs include work months, contracts, materials and overhead (e.g. 18%).

Objective 2

Protect, restore, and/or enhance resident fish habitat and the ecosystem in which it occurs.

Protection, restoration, and enhancement of resident fishery resources requires ecosystem management and a recognition that anything that occurs within a particular watershed may have an impact on the water, and hence the fish, within that drainage. Planning and cooperative management agreements with other landowners are needed to eliminate conflicts or reduce impacts through avoidance, minimization of adverse impacts, compensatory actions, or other mitigation measures. Integrated activity plans are the tool used by BLM to initiate actions on the ground.

Wyoming activity plans have objectives that address the protection, restoration and/or enhancement of 77 miles and 100 acres of resident fish habitat. Of that, 54% of that stream mileage and all of the reservoir acreage currently are meeting management objectives. However, a large portion of the fish habitat on BLM lands in Wyoming have no objectives specific to resident fish habitat management. There are currently 15 stream miles in Areas of Critical Environmental Concern (ACEC), 40 stream miles/40 surface acres in Wilderness Study Areas, and 15 stream miles that have been proposed for special designation.

Strategies

- Develop 10 new activity plans, revise 9 existing activity plans, and implement existing activity plans to protect, restore, and/or enhance resident fishery resources as listed in Table 2.
- Monitor existing plans at a level adequate to identify successes and failures and to provide the scientific data to recommend changes.

Table 2
Resident Fisheries Activity Plans Needed - FY 93-2000

Fiscal Year	Develop New Plans (Number)	Revise Existing Plans (Number)	Implement Existing Plans (Number)	Work Months	Total Costs[1] ($000)
95	5	1	11	26	151
96	2	2	11	24	147
97-98	2	4	14	23	152
99-2000	1	2	13	19	244

[1] Total costs include work months, contracts, materials and overhead (e.g. 18%).

Objective 3

Ensure an ecosystem management approach is incorporated into existing and future management plans.

BLM fisheries management programs have traditionally focused on single species, rather than on aquatic communities. Moreover, the agency's approach to habitat has tended to focus on portions of rivers within the agency's jurisdiction, instead of an ecosystem approach that recognizes that all actions within a watershed are inextricably bound.

Scientists and managers are increasingly aware that successful management of resident fish species requires a perspective that includes, at least, entire watersheds, rather than individual reaches or artificial boundaries. Such an ecosystem approach incorporates all features of aquatic ecosystems, including physical, chemical, and biological components. Equally important, however, is the need to transcend traditional boundaries, both within the agency and among different government and private organizations.

Strategies

To ensure that the agency adopts an ecosystem approach to resident fisheries management, these concepts must be incorporated into Wyoming's 11 Land Use Plans, which include existing and proposed RMPs. Resident fisheries concerns should be addressed in all RMPs. All completed RMPs should be reviewed to ensure that resident fish concerns are addressed. These plans constitute an important opportunity to include the goals and objectives of the Resident Fish Habitat Management plan, including the strategies outlined below for ecosystem-oriented management planning.

Objective 4

Emphasize protection or restoration of native species' habitats within the historic ranges of those species.

Protection and restoration of native species is recognized by all Federal and State fisheries management agencies. Significant reductions in native fish populations and the habitat they historically occupied have been documented in all areas of the nation, but particularly in the Western States. There are two primary reasons for this downward trend:

1. Habitat degradation through human-caused impacts;
2. Introduction of exotic or nonnative fish.

Research and management have shown that it is best to protect and maintain the natural ecosystem and leave a species in the habitat where it originally evolved. The value of a native species is often not realized or appreciated until its population has declined to the point where it no longer functions as an integral part of an ecosystem. In many cases, the value of a particular native species may simply be in the role it plays in relation to other plants and animals, or in biological terms, the ecological niche it occupies. It is for these reasons that the Bureau has supported the Bring Back the Natives initiative specifically designed to protect, maintain, and augment native fish populations. The intent of maintaining natural ecosystems is supported in several Bureau manuals.

Strategies

- Maintain or restore natural biodiversity and protect genetic integrity of native species through the use of ecosystem management concepts.
- Determine species occurrence, range of species present, historic range of species present and those extirpated.
- Assess current habitat condition, potential of the habitat given existing physical limitations, and limiting factors suppressing native fisheries.
- Protect habitat for native species by acquiring additional habitat through land exchange, retaining essential habitats in Federal ownership, encouraging the setting aside of water rights for instream flow or for fisheries purposes, and ensuring adequate water quality through control of point and nonpoint source pollution and basic watershed improvements.

Objectives Pertaining to the Secondary Goal

Objective 5

- *Develop public awareness and support for resident fisheries programs and promote partnerships with other agencies, landowners, interest groups, and individuals.*

An ever increasing number of people are taking part in activities related to both the consumptive and nonconsumptive use of resident fishery resources. Recreational, commercial, and subsistence use of fish and the waters they inhabit continues to rise.

BLM welcomes the multiple uses of fisheries resources on lands it manages. However, BLM realizes that effective management requires cooperation between Bureau programs and the public. Input from individuals, landowners, local governments, interest groups other Federal and State agencies, and academia, is vital to proper fisheries management. Coordinated and responsible management promotes a greater awareness and understanding of Bureau management objectives and willingness of interest groups and individuals to join with BLM in maintaining healthy fisheries.

Environmental Education

Public concern in environmental matters has led BLM to become involved in environmental education. Much of the educational thrust is directed toward the children and young adults in our schools, user groups, outdoor enthusiasts, and other interested individuals.

Private sector partners have helped in this effort by providing funding and by developing and making fisheries related activities available to BLM. These activities are shared with school-aged children during National Fishing Week or other outdoor day programs. There are currently 3 annual educational events identified as ongoing among BLM offices in Wyoming.

Outreach Partnerships

BLM has and is developing cooperative partnerships with a variety of public land user groups and individuals as well as private companies. Potential partners include, but are not limited to: conservation groups, the recreational fishing industry, local government, private landowners, the outdoors publication industry, and nonfisheries-oriented commodity groups. These groups aid in managing fishery resources by becoming involved in rehabilitation, enhancement, access, and environmental education projects. Help comes in many forms including volunteer labor, technical knowledge, printed information, funding, access to land, and project supplies.

BLM recognizes the importance of a strong working relationship in the form of outreach partnerships. There are 2 partnership projects related to resident fisheries now in place in Wyoming. BLM has identified 29 additional plans/projects that would benefit the fishery resource and the public if implemented.

Promotional Activities

With the increasing demand for outdoor recreation, fisheries biologists, in cooperation with the recreation program and its Recreation 2000 initiative, are developing strategies to inform visitors of ways to enjoy fishery resources and to showcase projects and techniques used in day-today management.

There are 8 BLM-initiated promotional activities currently in operation. Another 14 plans/projects related to promotion are developed, but are not in operation due to funding constraints.

Strategies

- Coordinate management between BLM and other agencies and institutions through formal documents such as Memorandums of Understanding and Cooperative Agreements.
- Expand and continue to implement an Environmental Education Program that would include education activities, curriculum development, and information dissemination through guest lectures, field trips, workshops, cooperative projects, and reading material.
- Develop cooperative partnerships with concerned public land user groups, individuals, and private companies.
- Coordinate and train within BLM to promote development and use of fisheries resources.

Table 3
Plans and/or Projects that Promote Cooperative Programs with other State Agencies, Landowners and Interest Groups for Public Support of Resident Fish

Plans/ Projects	Number Currently In Operation	Number Developed But Not In Operation	Number In Need of Review/ Modification	Number That Need To Be Developed Through Year 2000
HMP's	14	2	10	18
MOU's	8	1	1	9
Environmental Education[1]	3	0	0	6
Outreach Partnership[2]	2	0	0	29
Internal Promotional Activities[3]	8	1	2	13
Other				
RMP	—	—	1	—
AMP	1	—	—	—

[1] Environmental Education — guest lectures, field trips, workshops, outdoor days, school projects, National Fishing Week, and Educational Materials.

[2] Outreach Partnerships — (with private land owners-interest groups) rehabilitation, enhancement, and adopt-a-habitat.

[3] Internal Promotional Activities — signing, visitor centers, kiosks, watchable wildlife areas, and fishing brochures.

Objective 6

Promote existing and potential recreational and other uses and economic benefits, while ensuring protection of resident fishery resources.

Development and maintenance of recreation sites are budgeted within the Wildlife and Fisheries, Recreation Management, and Recreation Maintenance Programs. Close coordination among these programs is absolutely essential. In addition, interdisciplinary cooperation among all BLM programs (i.e., Range, Soil/Water/Air, Forestry, Minerals, etc.) is necessary to assure maintenance, protection, and enhancement of the resident fisheries habitat while providing public access.

Numerous types of recreation sites have been developed on BLM lands including: campgrounds, concessions, roads, fishing docks, interpretive signs, access stiles, access ramps, trails, viewing boxes, boat access, boat ramps, parking, day-use sites, and access for the physically challenged. However, many BLM fishing sites will remain "undeveloped", to accommodate more primitive recreational pursuits.

In Wyoming, BLM currently maintains access/campgrounds/etc., at numerous sites which promote recreational activities based on residential fishery resources. In addition, at least 23 new areas could be developed during the next six years. Approximately $317,000 a year could be used for development, expansion, and maintenance of recreation sites during that period.

Strategies

- Maintain existing recreational use sites as listed below:
  - Green River Fishing Access
  - New Fork River Campground
  - Fontenelle Res. Campground/Boat Ramp
  - Green River Weeping Rock Camp Ground
  - Green River Tail Race Campground
  - Green River Slate Creek Campground
  - Sweetwater River Access/Campground
  - Encampment River/Encampment
  - North Platte River/Bennett Peak/Corral Creek
  - N. Platte River/Dugway
  - Teton Reservoir
  - Goldeneye Reservoir
  - North Platte River/Trappers Route
  - Middlefork Powder River
  - North Fork Powder River, Red Fork Powder River, Crazywoman Cr.
  - Powder River, Reservoirs

- Work with interest groups to identify, develop, and expand recreation sites, including those listed below, to support the Bureau's recreational fishing policy and to accommodate growing fishing demands:
  - Sage Creek - Rim Lake
  - Baggs - Retention/Wild Horse Res.
  - Saratoga Valley - Encampment River
  - Ferris/Seminoe - N. Platte River/Dugway
  - Sage Creek - Teton Reservoir
  - Saratoga Valley - Bennett Peak
  - Saratoga Valley - Corral Creek
  - Red Desert - A & M Reservoir
  - Saratoga Valley - Prospect Creek Road
  - Baggs - Cherokee No. 2
  - Meadow Draw HMP - Meadow Draw Reservoir
  - North Platte River RAMP - North Platte River/Trappers Route No. 1 (Possible project for Physically Challenged Anglers Fishing Platform
  - Bishop HMP - Casper Creek/ Bishop Water-fowl/Fisheries and Recreation Enhancement Project
  - Bighorn River HMP/RAMP - Handicap access sites, Manderson area
  - Cody Rivers RAMP - To be written 94. Various river tracts
  - West Slope Special Recreation Area Plan - S. Trapper Cr. easement
  - West Slope Special Recreation Area Plan - Canyon Cr. easement and site development
  - Boulder Lake Rec. Plan - Boulder Lake
  - 14 Mile Rest area - 14 Mile Reservoir

Objective 7

Secure lands and waters important to improve manageability of or access to resident fishery habitats.

BLM's land ownership pattern is often scattered (i.e., "checkerboard") and is not situated for the best management of resident fishery habitats. In some cases, private or other landowners may inhibit direct recreational or managerial access to BLM-administered lands. In addition, waters and lands in nonFederal ownership within specific watersheds may be managed for many uses, often with conflicting objectives, in ways which adversely affect fishery habitats on BLM lands.

The Bureau has many avenues to follow to assure proper management of fishery habitats on BLM-administered lands. The Bureau functions within mandated laws, regulations, and guidelines to foster multiple-use management which can protect and maintain fishery habitats. BLM can initiate partnerships and cooperative agreements with other landowners and managers to foster the enhancement or maintenance of fishery habitats. With an active Lands Program, the Bureau can initiate exchanges, easements, donations, and acquisitions of lands and water to improve manageability of resident fishery habitats. Coordination with other Federal, State, and local agencies is important to protect the rights and resources of private landowners.

The acquisition of land, water, and water rights could cost as much as $525,000 between 1994 and 2000. This includes proposed Land & Water Conservation Fund acquisitions. In lieu of purchasing, lands and waters can be secured through management partnerships, cooperative agreements, donations, exchanges, and easements.

Strategies

- Identify opportunities to secure lands, water, and access easements (Tables 4 and 5).

Table 4
Sites Where Resident Fish, Fishing Access is Limited and What is Limiting It
This includes such things as physically challenged access, rights-of-ways, roads, trails, docks, etc.
Estimate of funding needed to right the problem.

Activity Plan Name	Water Body	Limiting Factor	Solution
North Platte River RAMP	North Platte River	Physically Challenged Access	Install Fishing Platform
Bishop HMP	Casper Creek	Right of way access	Obtain legal access, road construction
South Bighorns HMP	North Fork Powder, Red Fork Powder, Crazywoman Cr.	Private lands, Access, Politics	Land exchanges, easements, management commitment
Saratoga Valley/ Saga Creek	N. Platte River	Access	Obtain public access along N. Platte River
Ferris/Seminoe	N. Platte River	Access	Obtain public access along N. Platte River
Sage Creek	Rim Lake	Legal Access	Obtain public access

Table 4 (Continued)
Sites Where Resident Fish, Fishing Access is Limited and What is Limiting It
This includes such things as physically challenged access, rights-of-ways, roads, trails, docks, etc.
Estimate of funding needed to right the problem.

Activity Plan Name	Water Body	Limiting Factor	Solution
Bighorn River HMP/RAMP	Bighorn River	Handicap access, Road access, Legal access across private land to BLM, putin-takeout points.	Site plans for developments, easements, facilities.
Cody RV's RAMP (est. FY94)	Shoshone, N. Fk. Shoshone, S.FK. Shoshone, Clark Fk.	Road access, Legal access across private land to BLM, putin-takeout points.	Site plans for developments, easements, facilities.
West Slope RAMP	S. Trapper Cr., Canyon Cr.	physical and legal access	Easements
VARIOUS - Rock Springs DO	Fontenelle Res Boulder Lake New Fork Res 14 Mile Res		Handicap access could be improved or created

Table 5
Lands and/or Waters Needed to Improve Manageability

Activity Plan Name	Water Body	Need	Possible Method
Baggs/Daley/Grizzly	McKinney/Grove/Stoney Creeks	8,000 acres	Exchange
Baggs/ Savery	Little Savery Creek	12,000 acres	State/Private Exchange
Saratoga Valley	Beaver Creek (Loco Creek)	3,000 acres	State Exchange
Green River RMP, Currant Creek/Sage Creek HMP	Trout Creek and Currant Creek	Private and State Lands	Exchange for stream and riparian area
South Bighorns	North Fork Powder, Red Fork Powder, Crazywoman Cr., Beartrap Cr.	Access for Inventory and Management. Public Access.	Management Emphasis on Exchange/ Pooling
Green River RMP	Big Sandy River	Private and State Lands	Exchange for stream and riparian area

Objectives Pertaining to Both Goals

Objective 8

Identify and design national and regional research and study needs, incorporating ecosystem management concepts, for the conservation and management of resident fishery resources.

BLM-administered lands in Wyoming contain many unique populations of resident fish. There are many questions that need to be answered to adequately manage them within a multiple-use scenario. Major research needs include:

- Assessing habitat requirements and life histories for resident native fish.

- Evaluating the potential for native fish reintroduction.
- Describing fish and invertebrate communities.
- Modeling long-term effects of various land use practices.
- Identifying consequences of long-term environmental changes.

To enable integrated Bureau management teams to conserve and manage resident fish, research must answer management's current questions, provide models for new management challenges, and provide baseline data to help managers meet unspecified long-term climate and use-based changes.

Elements of resident fish research involve other agencies, partners, universities, and the public at large. Research will be undertaken in consultation and partnership with all affected entities.

Many actions currently being considered by the Bureau will assist the development of the state-by-state and Bureauwide research plans. It is assumed this research will strengthen the Bureau's anadromous and special status fish management as well as resident fish management. It is also assumed research to protect and restore native fishes will be given highest priority.

Currently, BLM has identified 6 studies in Wyoming that would require approximately $270,000 to implement.

Strategies

- In coordination with the Wyoming Game and Fish Department, identify and prioritize research needs for native species within their historic ranges.

Table 6
Research/Studies Needs for Resident Fish

Activity Plan Name	Major Watershed	Number of Studies	Type of Research/ Studies	Est. WMs	Costs ($000)
Area wide: Great Divide RA	N.Platte R. S.Platte R. L.Snake R.	3	Species distribution inventory	6	100
Baggs/ Savery Creek	L.Snake R.	1	Life History studies of species of concern in L. Snake R (4 species)	6	80
Newcastle RA		1	Baseline inventory to determine species	10	10
Bighorn River HMP	Bighorn River	1	Determine population status of Sturgeon - contract or COOP with WGFD or F&WS	6	80
TOTAL				**28**	**270**

Funding and Personnel Needs

Through the year 2000, Wyoming BLM projects a need for the equivalent of approximately 20 new positions, primarily in recreation and fisheries, to meet the goals of the BLM's *Resident Fisheries Habitat Management Plan and the Resident Fish Habitat Management Strategy for Wyoming*. Together with the workmonths for existing personnel, there would be an annual expenditure of about $340,000 for all needed labor costs. Overall, the average annual cost to fully implement the strategy in Wyoming would be about $629,000 for a six year period; that compares to the $300,000 to $400,000 now being spent each year. The larger variations in expenditures from year to year would be explained by the differences in land acquisitions, project developments, and the awarding of contracts.

Benefits

Implementation of the *Resident Fish Habitat Management Strategy for Wyoming* will result in many benefits. The most important of these is to provide for healthy and productive populations of resident fish through incorporation of regional ecosystem management concepts. A secondary benefit is to provide public recreational fishing opportunities.

Healthy fish populations require good quality water. Meeting this requirement is facilitated by restoring and maintaining healthy riparian-wetland ecosystems. Properly functioning riparian wetland systems benefit wildlife and other aquatic organisms, filter runoff, absorb energy from floodflows, provide desirable recreation sites, etc. Proper management of uplands in a watershed reduces siltation and nonpoint pollution sources and helps to ensure continued productivity.

Implementation of this strategy will provide recreational, economic, biological, aesthetic, and ecosystem benefits in the State of Wyoming and will enhance the values of the public lands for the American people.

APPENDIX A

Resident Fish Species In Wyoming

(USGS Basin Subregion Codes: 1002-Missouri Headwaters; 1007-Upper Yellowstone; 1008-Big Horn; 1009-Powder-Tongue; 1011-Missouri-Little Missouri; 1012-Cheyenne; 1015-Niobrara; 1018-North Platte; 1019 South Platte; 1404-Great Divide-Upper Green; 1405-White-Yampa; 1601-Bear; 1602-Great Salt Lake; 1704-Upper Snake.)

* These species may no longer occur in these drainages.

Species Common Name	Scientific Name	Species Code	USGS Basin Subregion
Shovelnose Sturgeon	*Scaphirhynchus platorynchus*	SCPL	1008* 1009 1018*
Gizzard Shad	*Dorosoma cepedianum*	DOCE	1018 Introduced 1012
Goldeye	*Hiodon alosoides*	HIAL	1008* 1009 1011 1018*
Mountain Whitefish	*Prosopium williamsoni*	PRWI	1002 1007 1008 1009 1404 1405 1601 1704
Yellowstone Cutthroat Trout (also Snake River)	*Oncorhynchus clarki bourieri*	SACLBO	1002 1007 1008 1009 1704 Introduced 1018
Colorado River Cutthroat Trout	*Oncorhynchus clarki pleuriticus*	SACLPL	1404 1405 Introduced 1018
Grayling	*Thymallus arcticus*	THAR	1002 1007 Introduced 1008 1009 1404

APPENDIX A (Continued)

Species Common Name	Scientific Name	Species Code	USGS Basin Subregion
Northern Pearl Dace	*Semotilus margarita nachtriebi*	SEMANA	1015
Creek Chub	*Semotilus atromaculatus*	SEATRO	1008
			1009
			1012
			1015
			1018
			1019
			Introduced
			1404
			1405
Finescale Dace	*Phoxinus neogaeus*	PHNE	1012
			1015
Lake Chub	*Couesius plumbeus*	COPL	1008
			1009
			1011
			1012
			1018
			Introduced
			1007
			1404
Hornyhead Chub	*Nocomis biguttatus*	NOBI	1012
			1018
Flathead Chub	*Hybopsis gracilis*	HYGRA	1008
			1009
			1011
			1012
			1018
Sturgeon Chub	*Hybopsis gelida*	HYGEL	1008
			1009
			1018 *
Utah Chub	*Gila atraria*	GIAT	1601
			1704
			Introduced
			1404
Roundtail Chub	*Gila robusta*	GIRO	1404
			1405
Bonytail Chub	*Gila elegans*	GIEL	1404 *
Leatherside Chub	*Gila copei*	GICOP	1601
			1704
Bonneville Redside Shiner	*Richardsonius balteatus hydrophlox*	RIBAHY	1601
			1704
			Introduced
			1007
			1404
			1405

APPENDIX A (Continued)

Species Common Name	Scientific Name	Species Code	USGS Basin Subregion
Colorado Squawfish	*Ptychocheilus lucius*	PTLU	1404 *
Speckled Dace	*Rhinichthys osculus*	RHOS	1404
			1405
			1601
			1704
Longnose Dace	*Rhinichthys cataractae*	RHCA	1002
			1007
			1008
			1009
			1011
			1012
			1015
			1018
			1019
			1601
			1704
			Introduced
			1404
Suckermouth Minnow	*Phenacobius mirabilis*	PHMIR	1018
Common Shiner	*Notropis cornutus*	NOCOR	1018
			1019
River Shiner	*Notropis blennius*	NOBL	1018
Red Shiner	*Notropis lutrensis*	NOLUT	1018
Bigmouth Shiner	*Notropis dorsalis*	NODO	1018
			1019
Sand Shiner	*Notropis stramineus missuriensis*	NOSTR	1009
			1011
			1012
			1015
			1018
			1019
			Introduced
			1008
Brassy Minnow	*Hybognathus hankinsoni*	HYHA	1009
			1011
			1015
			1018
			1019
Plains Minnow	*Hybognathus placitus*	HYPLA	1008
			1009
			1011
			1012
			1018

APPENDIX A (Continued)

Species Common Name	Scientific Name	Species Code	USGS Basin Subregion
Silvery Minnow	*Hybognathus nuchalis*	HYNU	1008
			1009
			1011
Fathead Minnow	*Pimephales promelas*	PIPR	1008
			1009
			1011
			1012
			1015
			1018
			1019
			Introduced
			1404
Stoneroller	*Campostoma anomalum*	CAANO	1015
			1018
			1019
Quillback	*Carpiodes cyprinus*	CACY	1018
River Carpsucker	*Carpiodes carpio*	CACAP	1008
			1009
			1011
			1012
			1018
Northern Redhorse	*Moxostoma macrolepidotum*	MOMA	1008
			1009
			1012
			1018
White Sucker	*Catostomus commersoni*	CACOM	1008
			1009
			1011
			1012
			1015
			1018
			1019
			Introduced
			1404
			1405
Utah Sucker	*Catostomus ardens*	CAAR	1601
			1704
Longnose Sucker	*Catostomus catostomus*	CACAT	1007
			1008
			1009
			1012
			1018
			1019
			Introduced
			1404

APPENDIX A (Continued)

Species Common Name	Scientific Name	Species Code	USGS Basin Subregion
Flannelmouth Sucker	*Catostomus latipinnis*	CALA ?	1404
			1405
Mountain Sucker	*Catostomus platyrhynchus*	CAPLA	1002
			1007
			1008
			1009
			1011
			1012
			1018 *
			1404
			1405
			1601
			1704
Bluehead Sucker	*Catostomus discobolus*	CADI	1404
			1405
			1601
			1704
June Sucker	*Chasmistes liorus*	CHLI	1704 *
Humpback Sucker	*Xyrauchen texanus*	XYTE	1404 *
Black Bullhead	*Ictalurus melas*	ICME	1008
			1009
			1011
			1012
			1015
			1018
			1019
Channel Catfish	*Ictalurus punctatus*	ICPUN	1008
			1009
			1011
			1012
			1018
			Introduced
			1404
			1405
Stonecat	*Noturus flavus*	NOFLAV	1007
			1008
			1009
			1012
			1018
Burbot	*Lota lota*	LOLOT	
			1008
			1009

APPENDIX A (Continued)

Species Common Name	Scientific Name	Species Code	USGS Basin Subregion
Plains Topminnow	*Fundulus sciadicus*	FUSC	1015
			1018
			1019
			Introduced
			1012
Plains Killifish	*Fundulus kansae*	FUKA	1008
			1015
			1018
			1019
Sauger	*Stizos tedion canadense*	STCAN	1008
			1009
			1018
Johnny Darter	*Etheostoma nigrans*	ETNIG	1018
			1019
Iowa Darter	*Etheostoma exile*	ETEX	1015
			1018
			1019
Orangethroat Darter	*Etheostoma spectabile pulchellum*	ETSPPU	1019
Mottled Sculpin	*Cottus bairdi*	COBAI	1002
			1007
			1008
			1404
			1405
			1601
			1704
Piute Sculpin	*Cottus beldingi*	COBE	1704
—NON-NATIVE—		**INTRODUCED**	
Kokanee Salmon	*Oncorhynchus nerka*	ONNE	1404
			1019
Rainbow Trout	*Oncorhynchus mykiss*	SAGA	1002
			1007
			1008
			1009
			1012
			1018
			1019
			1404
			1405
			1704

APPENDIX A (Continued)

Species Common Name	Scientific Name	Species Code	USGS Basin Subregion
Brown Trout	*Salmo trutta*	SATR	1002
			1007
			1008
			1009
			1018
			1404
Lake Trout	Salvelinus namaycush	SANA	1008
			1404
			1704
Brook Trout	Salvelinus fontinalis	SAFO	1007
			1008
			1009
			1012
			1018
			1019
			1404
			1405
			1601
			1704
Northern Pike	*Esox lucius*	ESLU	1012
			1018
Smallmouth Bass	*Micropterus dolomieui*	MIDO	1008
			1009
			1018
			1404
Largemouth Bass	*Micropterus salmoides*	MISA	1008
			1009
			1018
			1019
Green Sunfish	*Lepomis cyanellus*	LECY	1008
			1009
			1011
			1012
			1015
			1018
			1019
Bluegill	*Lepomis macrochirus*	LEMAC	1008
			1009
White Crappie	*Poxomis annularis*	POAN	1008
			1009
			1012
			1018
			1019

APPENDIX A (Continued)

Species Common Name	Scientific Name	Species Code	USGS Basin Subregion
Black Crappie	*Poxomis nigromaculatus*	PONIG	1008
			1009
			1012
			1018
			1019
Walleye	*Stizostedion vitreum*	STVIVI	1008
			1012
			1018
			1019
Yellow Perch	*Perca flavescens*	PEFLA	1008
			1009
			1018
			1019
Tiger Muskellunge	*Esox lucius X Esox masquinongy*	ESLU x ESMA	1018
Splake (trout)	*Salvelinus fontinalis x Salvelinus namaycush*	SAFO x SANA	1008 1018
Ohrid Trout	*Salmo letnica*	SALET?	1018
Carp	*Cyprinus Carpio*	CYCAR	1008
			1009
			1012
			1018
			1019
			1404
			1405
			1601
Emerald Shiner	*Notropis atherinoides*	NOAT	1018
Flathead Catfish	*Pylodictis olivaris*	PYOL	1018
Rainbow/Cut throat Hybrid	*Oncorhynchus mykiss x Oncorhynchus clarki*	SAGA x SACL	See Rainbow Trout

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