

FISHERIES MANAGEMENT PLAN 2013-2018

Table of Contents

| | |
|---|----|
| INTRODUCTION | 5 |
| HOW TO USE THIS DOCUMENT | 5 |
| PART 1—STATEWIDE MANAGEMENT | 5 |
| Funding of Programs..... | 5 |
| Accomplishments from 2007-2012 | 6 |
| Idaho Fish Species..... | 6 |
| Fishing Economics in Idaho..... | 15 |
| The Compass, Our Strategic Plan | 16 |
| Our Mission | 16 |
| Our Vision | 17 |
| Our Core Values..... | 17 |
| Goals, Objectives & Desired Outcomes..... | 17 |
| Statewide Fisheries Management Principles | 19 |
| Management | 19 |
| Public Involvement | 20 |
| Rules | 20 |
| Access..... | 21 |
| Importations and Introductions | 21 |
| Cooperation with other Agencies | 21 |
| Indian Tribes..... | 21 |
| Outfitting and Guiding..... | 21 |
| Habitat Restoration and Protection | 22 |
| Mitigation..... | 22 |
| Statewide Fisheries Programs..... | 23 |
| Resident Fisheries Management..... | 24 |
| Native Trout..... | 24 |
| White Sturgeon (Snake and Kootenai Rivers)..... | 28 |
| Non-native Sport Fish..... | 31 |
| Special Rules in Resident Fisheries Management..... | 36 |
| Native Nongame Species | 37 |
| Alpine (High Mountain) Lake Management..... | 39 |
| Anadromous Fisheries Management..... | 40 |
| Wild/Natural..... | 41 |

| | |
|--|----|
| Fish Hatchery Program | 43 |
| Resident Fish Hatcheries..... | 43 |
| Anadromous Fish Hatcheries | 44 |
| Fisheries Research | 45 |
| Fish Habitat Program | 49 |
| Special Management Issues | 49 |
| Other Aquatic Species..... | 49 |
| Endangered Species Act..... | 50 |
| Fish Species at Risk..... | 52 |
| State Wildlife Action Plan..... | 53 |
| Private Fish Ponds | 58 |
| Aquatic Invasive Species Prevention and Control..... | 58 |
| Special Fishing Opportunities | 60 |
| Commercial Fisheries..... | 61 |
| Fishing Contests..... | 62 |
| Aquatic Education | 63 |
| Fishing and Boating Access | 64 |
| Outfitting and Guiding..... | 65 |
| Other Statewide Fisheries Activities | 65 |
| Law Enforcement and Public Outreach..... | 65 |
| 2011 Angler Opinion Survey..... | 69 |
| Fishing Habits..... | 69 |
| Fisheries Management..... | 70 |
| Special Rules | 71 |
| Conflict Management..... | 71 |
| Gear Type | 71 |
| White Sturgeon..... | 72 |
| Statewide Programs and Strategies | 73 |
| LITERATURE CITED..... | 92 |

List of Tables

| | |
|--|----|
| Table 1. Summary of accomplishments by program from the 2007-2012 planning period..... | 8 |
| Table 2. A list of Idaho fish species and their distribution by drainage, current as of 2012. | 11 |
| Table 3. Geographic locations of wild populations of salmon and steelhead. | 42 |

| | |
|---|----|
| Table 4. Resident species mitigation research, 2012-2017. | 46 |
| Table 5. Management needs scheduled to be addressed by discretionary (DJ) research. | 48 |
| Table 6. Fishes recognized as Species of Greatest Conservation Need in Idaho along with conservation status ranks and state and federal status. See Appendix 1 for definitions of conservation status. | 56 |
| Table 7. Fishery enforcement priorities by Department administrative region for 2013-2018..... | 67 |
| Table 8. Most preferred species of fish sought in Idaho by total anglers from 2007-2011..... | 69 |
| Table 9. Anadromous salmon and steelhead research, monitoring and evaluation efforts that will be addressed during the 2013-2018 planning period..... | 82 |

List of Figures

| | |
|---|----|
| Figure 1. Fishery programs (top panel) and associated fund sources (bottom panel) for fiscal year 2013 for the Idaho Department of Fish and Game’s Bureau of Fisheries..... | 7 |
| Figure 2. Current and historical range (distribution) of anadromous fish in Idaho. | 83 |
| Figure 3. Historic adult passage of summer steelhead, spring/summer Chinook salmon, and fall Chinook salmon at the upper most dam and counting facility chronologically in time in the Snake River, 1960-2012. | 84 |
| Figure 4. Historic adult passage of Snake River sockeye salmon, coho salmon, and Pacific lamprey at the upper most dam and counting facility chronologically in time in the Snake River, 1960-2012. | 85 |
| Figure 5. Annual numbers of Idaho adult hatchery spring/summer Chinook salmon in the sport harvest (red bars) and the spring/summer Chinook salmon hatchery run sizes (gray bars) at Lower Granite Dam 1996-2011 compared to the mitigation hatchery run size expectation. | 86 |
| Figure 6. Annual numbers of Idaho adult hatchery steelhead in the sport harvest (red bars) and the hatchery steelhead run sizes (gray bars) at Lower Granite Dam 1996-2011 compared to the mitigation hatchery run size expectation. | 87 |

INTRODUCTION

The 2013 – 2018 Fisheries Management Plan describes the management direction of the Idaho Department of Fish and Game (Department) and is the guiding policy document for fisheries activities over the six-year period. The document's goals, objectives, and deliverables are tiered to the Department's strategic plan known as the "Compass." This management plan establishes policy direction for Department personnel that maintains their focus on priorities identified by our angling constituency and other stakeholders.

Idaho Code section §36-106 directs the Department to, "...preserve, protect, perpetuate, and manage..." the fisheries resources of the state for the citizens of Idaho and "... provide fishable populations." The plan describes both general and specific Department policies and establishes our major goals and objectives. In some cases, the management direction outlined in this plan is a continuation of long-established programs. In other cases, new issues and management challenges, whether they are biological or social in nature, are discussed and relevant Department actions are proposed. After public review and approval by the Idaho Fish and Game Commission, this document will guide fishery management in Idaho from 2013 through 2018. Annual work activities of Department field and headquarters fisheries staff will be guided by the priorities and framework approved in this plan.

HOW TO USE THIS DOCUMENT

The plan is divided into two parts:

1. Part 1 of this plan deals with fisheries management on a statewide basis, and provides Department goals, objectives, and desired outcomes. Department policies and fisheries management programs are described. Results of the 2011 Angler Opinion Survey are summarized, statewide issues and programs are discussed, and strategies are identified to attain the goals.
2. Part 2 of this plan proposes specific management direction for all drainages in the state. This document contains currently relevant management issues and detailed plans for major water bodies in the state. It is a description of objectives and strategies for what the Department deems the most important waters per drainage as determined by angler use and complexity of the management program. A narrative overview describes the location, gives pertinent statistics on use, land management activities, demographics, and describes the habitat and important fisheries. Objectives and specific programs by drainage are listed. Management direction for important waters by drainage is presented. This section is intended to be adaptive to respond to changing biological, temporal, and social climates.

PART 1—STATEWIDE MANAGEMENT

Funding of Programs

Budget preparation for Bureau of Fisheries activities of the Department will be within the guidelines of this plan as needed to support annual activities and objectives. The Bureau of

Fisheries of the Department receives approximately \$11.0 million annually from the sale of fishing licenses and through the Federal Sport Fish Restoration Program. Funds for this program come from a National trust fund generated from excises taxes on fishing tackle, associated equipment, and motor boat fuels. The Bureau of Fisheries also receives approximately \$13.8 million in federal grant funds to address specific objectives; many of which are associated with mitigation programs for salmon and steelhead. In addition to the above, the Bureau of Fisheries receives approximately \$3.2 million annually in non-federal or private grants to address specific mitigation objectives. Programs supported with the above funds include fishery management and research, fish hatchery production (anadromous and resident species), boating and fishing access, fish screens and fish ways, and aquatic education. A breakdown of specific fund sources and programs is presented in Figure 1.

Accomplishments from 2007-2012

During the past 2007-2102 planning period, the Department established goals and objectives for a number of fisheries programs. A summary of significant accomplishments of the Bureau of Fisheries during the 2007-2012 planning period is included in Table 1.

Idaho Fish Species

The Department has management responsibility for 82 species of fish in Idaho of which 12 species are native game fish. An additional 30 species are game fish that have been introduced (Table 2).

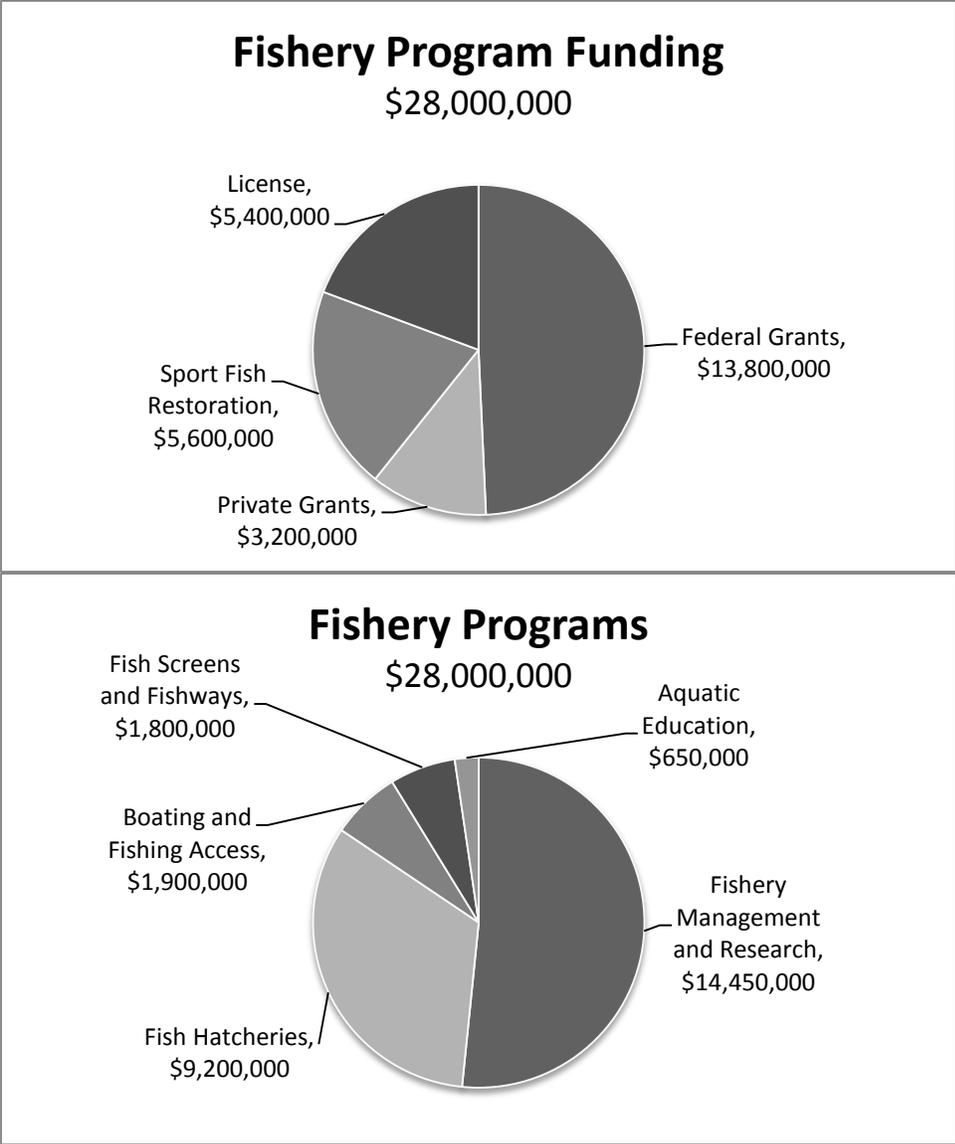


Figure 1. Fishery programs (top panel) and associated fund sources (bottom panel) for fiscal year 2013 for the Idaho Department of Fish and Game’s Bureau of Fisheries.

Table 1. Summary of accomplishments by program from the 2007-2012 planning period.

| Program | 2007-2012 Goals | Accomplishments |
|--|---|--|
| Increase emphasis on habitat protection. | <p>Conduct habitat improvement projects.</p> <p>Expand volunteer involvement.</p> <p>Expand involvement in habitat restoration</p> | <p>Numerous stream fencing, diversion screening, and fish passage projects completed. Reconnected tributaries to mainstem rivers.</p> <p>Utilized volunteers in nearly all habitat projects. Fish habitat program established in 2007 with hiring of statewide coordinator and biologists in all but two regions. Habitat program engineer hired in 2010. Implemented intensive fish population monitoring program in Clearwater and Salmon regions.</p> |
| Provide a diversity of angling opportunity. | <p>Provide a mix of hatchery trout and wild trout management, and general and quality management.</p> <p>Evaluate potential new species introductions and stock if appropriate.</p> | <p>Done throughout the state.</p> <p>New or reestablished fisheries for white sturgeon, yellow perch, kokanee, tiger muskie, and channel catfish. Established fall Chinook salmon fishery and additional areas opened for spring/summer Chinook fisheries.</p> |
| Provide increased family fishing opportunity and manage as consumptive fisheries with simple fishing rules. | <p>Provide additional access and information on where to go.</p> <p>Identify sites and initiate development of new fishing waters.</p> | <p>Reprinted <i>The Official Guide to Fishing in Idaho</i>.</p> <p>Family Fishing Water brochures produced for each region.</p> <p>Established 88 Family Fishing Waters with simplified fishing rules.</p> <p>Created Deer Creek Reservoir in the Clearwater Region. New community fisheries created in the Upper Snake, Southeast, Magic Valley, and Southwest regions.</p> |
| Continue quality and trophy fishing opportunities. | <p>Manage existing quality and trophy waters.</p> <p>Establish additional quality and trophy waters.</p> | <p>Produced new state records for nine game fish species.</p> <p>Deleted 3 waters from quality/trophy management since they did not attain objectives. No new waters added.</p> |
| Increase emphasis on protection and enhancement of wild trout. | <p>Enhance wild trout habitat protection.</p> <p>Increase public awareness of wild trout values.</p> <p>Reduce potential impacts of hatchery trout on wild trout.</p> <p>Implement statewide wild trout management program.</p> | <p>Numerous stream fencing, diversion screening, and fish passage projects completed. Reconnected tributaries to mainstem rivers.</p> <p>Built informational signs and fish identification boards, produced and distributed stickers and brochures; press and TV coverage.</p> <p>Maintained sterile (triploid) hatchery rainbow trout program. Stock sterile lake trout in Bear Lake and sterile brook trout in Henrys Lake</p> <p>Ongoing program to integrate native trout conservation plans with reduced harvest rules.</p> |

Table 1. Continued.

| Program | 2007-2012 Goals | Accomplishments |
|--|--|--|
| Continue emphasis on hatchery trout programs in streams, lakes, and reservoirs. | <p>Designate, sign and publicize locations of put-and-take trout streams.</p> <p>Concentrate stockings in high-use/high-return streams increase the number and frequency of fish stockings.</p> | <p>Signing completed to assist anglers wanting to fish on put-and-take streams.</p> <p>Done in a majority of sites. Improved stocking reports on Department website.</p> <p>Implemented stocking criteria protocols to refine allocation and maximize benefits of hatchery fish.</p> |
| Continue emphasis on protection and restoration of salmon and steelhead. | <p>Enhance hatchery fish health and smolt quality.</p> <p>Maintain a secure wild fish management program.</p> <p>Emphasize management for natural production.</p> <p>Provide continued fisheries for surplus hatchery fish.</p> <p>Intensify efforts to improve migration survival.</p> | <p>An ongoing program that includes extensive disease sampling, modified rearing strategies to reduce stress, structural modifications, and the completion of netting to reduce avian disease transmittal.</p> <p>Have maintained wild management-only drainages. Assisted in habitat protection and/or improvement in key production areas in Salmon River. For many years have allowed harvest of only adipose-clipped fish.</p> <p>Supplementation research on-going; releasing all natural Chinook that arrive at hatchery weir so they spawn naturally.</p> <p>Conducted salmon and steelhead fishing seasons each year.</p> <p>Department participating in collaborative science processes and in-season migration management forums.</p> |
| Provide additional angling information to the public. | <p>Continue production of maps, brochures and other information.</p> <p>Finish developing Anglers Guide brochures on lowland lakes and reservoirs.</p> <p>Informative signs and brochures, and use of electronic media.</p> <p>Provide locations of put-and-take stocking sites with signs and maps and informing media.</p> <p>Improve angler ability to identify various fish and increase awareness of regulations.</p> | <p>Updated and reprinted <i>The Official Guide to Fishing in Idaho</i>. Published Access Guide. Brochures developed for eight (12 total).</p> <p>Brochures developed for three waters (11 total). Continued this ongoing program into wild trout activities. Numerous informational signs, stream drainage maps and brochures completed or updated; angling information provided on Department website via Fish Planner</p> <p>Standardized put-and-take signs posted at all put-and-take stream stocking sites, new angler guide with expanded maps produced.</p> <p>Improved quality and quantity of fish pictures in rule books. Distributed placemats, bumper stickers, leaflets, and other printed materials to help anglers identify key species. Used 3-D Fish ID display at various events to test anglers' identification skills.</p> |
| Improve condition of boating and fishing access sites. | <p>Continue program of acquiring lease, easement or fee title to key areas to provide angler access.</p> <p>Expend approximately \$2,100,000 per year on maintenance or development of new fishing, handicap, docks and boating access facilities.</p> | <p>325 access sites are provided. New access/fishing ponds provided 2007-2012: (Spirit Lake addition; Falk Bridge; Edson Fichter Pond; North Fork; Bayhorse; Deer Creek; Deyo Reservoir; Springfield Pond; Ryder Pond; Filer Pond; Carmen Bridge; Highway 52 Bridge; Colton Creek; Pahsimerol River; Weiser Pond).</p> <p>\$9,721,390 spent on renovations and operations. 41 sites renovated. Standardized kiosks and signs at access sites.</p> |

Table 1. Continued.

| Program | 2007-2012 Goals | Accomplishments |
|--|--|---|
| Increased emphasis on recruiting and retaining new anglers. | <p>Conduct youth fishing clinics.</p> <p>The Department will continue to foster cooperative educational programs such as Trout in the Classroom and Idaho Salmon and Steelhead Days.</p> | <p>Department fishing clinics conducted each year throughout the state with thousands of participants. Fishing trailers with equipment available in all regions.</p> <p>Increased focus on promoting participation in recreational fishing.</p> <p>Evaluated the effectiveness of the aquatic education programs administered.</p> <p><i>Idaho Salmon and Steelhead Days and Trout in the Classroom</i> held annually. <i>Viable Trout in the Classroom</i> programs established throughout the state. Aquaria now found in many elementary schools around state.</p> |
| Simplify and standardize fishing rules. | <p>Make fewer changes to fishing rules to reduce confusion.</p> <p>Increase signage, information, and other means of making rules more understandable.</p> | <p>Minor changes made during planning period.</p> <p>Maps explaining rules updated for several river systems; numerous special signs developed, fish identification signs developed and placed near streams.</p> <p>Standardized bag limits and regulation options for fishing (e.g., 6 trout, 6 bass).</p> <p>Clarified winter stream fishing rules and open most streams year-round.</p> <p>Reduced/condensed definitions.</p> <p>Standardized signage statewide.</p> <p>Extended the 2008 – 2009 fishing rules booklet an additional year so it was valid for three years (2008 – 2010).</p> <p>Only exceptions to standard rules and seasons are listed in the rules booklet.</p> <p>Developed interactive map for updates on salmon and steelhead fisheries.</p> <p>Established salmon season Hotline on the phone.</p> <p>Created hatchery database for the public.</p> |
| Improve knowledge on native nongame fish species | | <p>We completed a population genetics assessment of Shoshone sculpin and a basin-wide status assessment for Wood River sculpin. The Department finished a status report for Pacific lamprey. Completed a population status assessment report of nongame species for the upper Snake River basin. We became signatories to conservation strategies for Pacific lamprey, northern leatherside chub and bluehead sucker.</p> |
| Develop management plans for native game and nongame species. | | <p>Management plans completed for Snake River white sturgeon, Yellowstone and Bonneville cutthroat trout, Big Lost River mountain whitefish, and Bear Lake endemics.</p> |

Table 2. A list of Idaho fish species and their distribution by drainage, current as of 2012.

| Common Name | Family | Species | | Origin ^b | Drainage ^a | | | | | | | | |
|-----------------|--|-----------------------------|--------------------------------------|---------------------|-----------------------|----------------|----------------|----|----|----------------|----------------|----------------|----------------|
| | | Common Name | Scientific Name | | K | P | S | Pa | Sb | Sa | B | I | |
| Trout | Salmonidae | Lake whitefish | <i>Coregonus clupeaformis</i> | I | | X | | | | | | | |
| | | Bear Lake whitefish | <i>Prosopium abyssicola</i> | N | | | | | | | X | | |
| | | Pygmy whitefish | <i>Prosopium coulteri</i> | N | | X | | | | | | | |
| | | Bonneville cisco | <i>Prosopium gemmifer</i> | N | | | | | | | X | | |
| | | Bonneville whitefish | <i>Prosopium splanotus</i> | N | | | | | | | X | | |
| | | Mountain whitefish | <i>Prosopium williamsoni</i> | N | X | X | X | | X | X | X | X | |
| | | Coho salmon | <i>Oncorhynchus kisutch</i> | I ^c | | | | | X | X | | | |
| | | Sockeye salmon | <i>Oncorhynchus nerka</i> | N | | | | | X | | | | |
| | | Kokanee | <i>Oncorhynchus nerka kennerlyi</i> | N | X | X ¹ | X ¹ | | X | X ¹ | | X ¹ | |
| | | Chinook salmon | <i>Oncorhynchus tshawytscha</i> | N | | | X ¹ | | X | | | | |
| | | Golden trout | <i>Oncorhynchus aguabonita</i> | I | X | | X | | X | X | | X | |
| | | Westslope cutthroat trout | <i>Oncorhynchus clarkii lewisi</i> | N | X | X | X | | X | | | | |
| | | Yellowstone cutthroat trout | <i>Oncorhynchus clarkii bouvieri</i> | N | | | | | | X | | X | |
| | | Bonneville cutthroat trout | <i>Oncorhynchus clarkii utah</i> | N | | | | | | | X | | |
| | | Lahontan cutthroat trout | <i>Oncorhynchus clarkii henshawi</i> | I | | | | | X | X | | X | |
| | | Rainbow trout | <i>Oncorhynchus mykiss</i> | N | X | X ¹ | X | X | X | X | X ¹ | X ¹ | X ¹ |
| | | Redband trout | <i>Oncorhynchus mykiss gairdneri</i> | N | X | | | | X | | | | |
| | | Steelhead trout | <i>Oncorhynchus mykiss gairdneri</i> | N | | | | | X | | | | |
| | | Brown trout | <i>Salmo trutta</i> | I | | X | X | X | X | X | X | X | |
| | | Atlantic salmon | <i>Salmo salar</i> | I | | | | | X | | | | |
| | | Blueback trout | <i>Salvelinus alpinus oquassa</i> | I | | | | | X | | | | |
| | | Brook trout | <i>Salvelinus fontinalis</i> | I | X | X | X | X | X | X | X | X | |
| | | Bull trout | <i>Salvelinus confluentus</i> | N | X | X | X | | X | | | X | |
| Lake trout | <i>Salvelinus namaycush</i> | I | | X | | | X | X | X | | | | |
| Splake | <i>Salvelinus namaycush x fontinalis</i> | I | | X | X | | X | X | | | | | |
| Arctic grayling | <i>Thymallus arcticus</i> | I | X | | X | | X | X | | X | | | |
| Lamprey | Petromyzontidae | Pacific lamprey | <i>Lampetra tridentata</i> | N | | X | | X | | | | | |

Table 2. Continued.

| Common Name | Family | Species | | Origin ^b | Drainage ^a | | | | | | | |
|-------------|--------------------|---------------------------|-------------------------------------|---------------------|-----------------------|---|---|----|----|----------------|---|---|
| | | Common Name | Scientific Name | | K | P | S | Pa | Sb | Sa | B | I |
| Sturgeon | Acipenseridae | White sturgeon | <i>Acipenser transmontanus</i> | N | X | | | | X | X ¹ | | |
| Pike | Esocidae | Northern pike | <i>Esox lucius</i> | I | | X | X | | | | | |
| | | Tiger muskie | <i>Esox lucius x E. masquinongy</i> | I | X | X | X | | X | | X | X |
| Minnow | Cyprinidae | Chiselmouth | <i>Acrocheilus alutaceus</i> | N | | | | | X | | | |
| | | Goldfish | <i>Carassius auratus</i> | I | | | | | X | | | X |
| | | Lake chub | <i>Couesius plumbeus</i> | N | X | | | | | | | |
| | | Common carp | <i>Cyprinus carpio</i> | I | | | | X | X | X | X | |
| | | Grass carp (triploid) | <i>Ctenopharyngodon idella</i> | I | | X | X | X | X | X | X | |
| | | Utah chub | <i>Gila atraria</i> | N | | | | | X | X | X | X |
| | | Tui chub | <i>Gila bicolor</i> | I | | | | | X | | | |
| | | Northern leatherside chub | <i>Lepidomeda copei</i> | N | | | | | | X | X | |
| | | Peamouth | <i>Mylocheilus caurinus</i> | N | X | X | X | | X | | | |
| | | Spottail shiner | <i>Notropis hudsonius</i> | I | | | | | X | X | X | |
| | | Fathead minnow | <i>Pimephales promelas</i> | I | | X | | | X | X | | |
| | | Northern pikeminnow | <i>Ptychocheilus oregonensis</i> | N | X | X | X | X | X | | | |
| | | Longnose dace | <i>Rhinichthys cataractae</i> | N | X | X | X | X | X | X | X | X |
| | | Leopard dace | <i>Rhinichthys falcatus</i> | N | | | | | X | | | |
| | | Speckled dace | <i>Rhinichthys osculus</i> | N | | | X | X | X | X | X | X |
| | | Redside shiner | <i>Richardsonius balteatus</i> | N | X | X | X | X | X | X | X | X |
| Tench | <i>Tinca tinca</i> | I | | X | X | | | | | | | |
| Sucker | Catostomidae | Utah sucker | <i>Catostomus ardens</i> | N | | | | | | X | X | X |
| | | Longnose sucker | <i>Catostomus catostomus</i> | N | X | X | X | | | | | |
| | | Bridgelip sucker | <i>Catostomus columbianus</i> | N | | | X | X | X | | | |
| | | Bluehead sucker | <i>Catostomus discobolus</i> | N | | | | | | X | X | |
| | | Largescale sucker | <i>Catostomus macrocheilus</i> | N | X | X | X | X | X | | | |
| | | Mountain sucker | <i>Catostomus platyrhynchus</i> | N | | | | | X | X | X | X |
| Catfish | Ictaluridae | Black bullhead | <i>Ameiurus melas</i> | I | | | X | | X | | | |
| | | Brown bullhead | <i>Ameiurus nebulosus</i> | I | X | X | X | X | X | X | X | |

Table 2. Continued.

| Common Name | Family | Species | | Origin ^b | Drainage ^a | | | | | | | |
|-------------|---------------|-------------------|-------------------------------|---------------------|-----------------------|---|---|----|----|----|---|---|
| | | Common Name | Scientific Name | | K | P | S | Pa | Sb | Sa | B | I |
| | | Yellow bullhead | <i>Ameiurus natalis</i> | I | | | | | X | X | | |
| | | Blue catfish | <i>Ictalurus furcatus</i> | I | | | | | X | | | |
| | | Channel catfish | <i>Ictalurus punctatus</i> | I | X | X | X | | X | X | X | |
| | | Tadpole madtom | <i>Noturus gyrinus</i> | I | | | | | X | | | |
| | | Flathead catfish | <i>Pylodictis olivaris</i> | I | | | | | X | | | |
| Trout-perch | Percopsidae | Sand roller | <i>Percopsis transmontana</i> | N | | | | | X | | | |
| Cod | Gadidae | Burbot (ling) | <i>Lota lota</i> | N | X | | | | | | | |
| Livebearer | Poeciliidae | Mosquitofish | <i>Gambusia affinis</i> | I | | | | | X | X | X | |
| | | Guppy | <i>Poecilia reticulata</i> | I ^d | | | | | | | X | X |
| | | Green swordtail | <i>Xiphophorus helleri</i> | I ^d | | | | | X | | X | X |
| | | Platy | <i>Xiphophorus</i> spp. | I ^d | | | | | | | X | X |
| Sunfish | Centrarchidae | Green sunfish | <i>Lepomis cyanellus</i> | I | | | X | | | | X | |
| | | Pumpkinseed | <i>Lepomis gibbosus</i> | I | X | X | X | X | X | X | | |
| | | Warmouth | <i>Lepomis gulosus</i> | I | | | | | X | | | |
| | | Bluegill | <i>Lepomis macrochirus</i> | I | X | X | X | X | X | X | X | |
| | | Smallmouth bass | <i>Micropterus dolomieu</i> | I | | X | X | | X | X | X | |
| | | Largemouth bass | <i>Micropterus salmoides</i> | I | X | X | X | X | X | X | X | |
| | | Black crappie | <i>Pomoxis nigromaculatus</i> | I | X | X | X | X | X | X | X | X |
| | | White crappie | <i>Pomoxis annularis</i> | I | | | | | X | | | |
| Perch | Percidae | Yellow perch | <i>Perca flavescens</i> | I | X | X | X | | X | X | X | X |
| | | Walleye | <i>Stizostedion vitreum</i> | I | | X | | | X | | X | |
| | | Sauger | <i>Stizostedion canadense</i> | I | | | | | | | X | |
| Sculpin | Cottidae | Mottled sculpin | <i>Cottus bairdi</i> | N | | | | | X | X | X | X |
| | | Paiute sculpin | <i>Cottus beldingi</i> | N | | | | | X | X | X | |
| | | Slimy sculpin | <i>Cottus cognatus</i> | N | X | X | | | X | | | |
| | | Shorthead sculpin | <i>Cottus confusus</i> | N | | | X | | X | | | X |
| | | Bear Lake sculpin | <i>Cottus extensus</i> | N | | | | | | | X | |
| | | Shoshone sculpin | <i>Cottus greenei</i> | N | | | | | X | | | |

Table 2. Continued.

| Common Name | Family | Species | | Origin ^b | Drainage ^a | | | | | | | |
|----------------------|-----------------|---------------------------|-----------------------------------|---------------------|-----------------------|---|---|----|----------------|----|---|---|
| | | Common Name | Scientific Name | | K | P | S | Pa | Sb | Sa | B | I |
| | | Wood River sculpin | <i>Cottus leiopomus</i> | N | | | | | X | | | |
| | | Torrent sculpin | <i>Cottus rhotheus</i> | N | X | X | X | X | X | | | |
| Cichlid ^d | Cichlidae | Mozambique (Java) tilapia | <i>Tilapia mossambica</i> | I ^d | | | | | X | | | X |
| | | Redbelly (Zill's) tilapia | <i>Tilapia zilli</i> | I ^d | | | | | X | | | |
| | | Convict cichlid | <i>Cichlasoma nigrofasciatum</i> | I ^d | | | | | X | | | X |
| Loach | Cobitidae | Oriental weatherfish | <i>Misgurnus anguillicaudatus</i> | I | | | | | X | | | |
| Shad | Clupeidae | American shad | <i>Alosa sapidissima</i> | I | | | | | X | | | |
| Killifish | Cyprinodontidae | Banded killifish | <i>Fundulus diaphanus</i> | | | | | | X ¹ | | | |

^a K=Kootenai River drainage, P=Pend Oreille River drainage, S=Spokane River drainage, Pa=Palouse River drainage, Sb=Snake River below Shoshone Falls, Sa=Snake River above Shoshone Falls, B=Bear River drainages, and I=Independent drainages.

^b N=Native and I=Introduced.

^c Natural population of Coho extirpated; new population of hatchery origin.

^d Confined to geothermal water.

¹ Native in part of the state, but introduced into this drainage.

Fishing Economics in Idaho

The Idaho Department of Commerce estimates that the recreation and tourism industry is the third largest in the state. Sport fishing comprises a substantial part of this business. The Department conducted a fishery economics survey in 2011 by mailing out 59,200 surveys to Idaho fishing license holders. In 2011, Idaho's population was 1,584,986 with one in five eligible people residing in Idaho purchasing a fishing license. Based on the results of almost 26,000 completed responses from this survey, the Department estimated that 425,415 anglers spent more than 3.6 million days (nearly 2.8 million trips) on Idaho waters. Fishing in Idaho generated \$548,351,483 in statewide retail sales in 2011 with an additional \$14,962,572 for fishing licenses and permits (IDFG, unpublished data). Comparatively, recreational fishing in Idaho generated \$437,631,735 in statewide retail sales in 2003 with an additional \$12,289,806 for fishing licenses and permits (Grunder et al. 2008).

The Department conducted an economic survey following the 2010 Chinook salmon season that generated an estimated direct angler expenditure of \$39.6 million. This survey did not measure any indirect economic activity or jobs created. Approximately 103,407 days of effort were expended during nearly 75,000 angler trips. The average cost per trip was over \$500.

Fisheries Management in Idaho

In Idaho, the primary fish species are native sport fish including rainbow trout, cutthroat trout, steelhead, Chinook salmon, and white sturgeon. Two of these species, steelhead and Chinook salmon, migrate to the ocean to complete a portion of their life cycle (i.e., they are "anadromous" species), and thus management of these two species involves cooperative agreements among other state and federal agencies and Indian tribes. Introduced or non-native game fish that provide important sport fisheries include rainbow trout stocks, brown trout, lake trout, brook trout, kokanee, smallmouth and largemouth bass, a variety of sunfish, yellow perch, black and white crappie, channel catfish, walleye, and tiger muskie.

Department fisheries management activities will strive to meet the goals outlined in the strategic plan and in particular the following goals: "Sustain fish and wildlife, and the habitats upon which they depend," and "Meet the demand for fish and wildlife recreation." A top priority is to manage populations so that sport-fishing demands are met through natural production of fish species. A wide range of research projects and other information-gathering activities support management functions. In areas where sufficient fish habitat exists but natural production is insufficient to meet angling demands, fish stocks may be rebuilt through supplementation. Wherever possible, appropriate wild stocks will be evaluated and utilized in suitable habitat. Hatchery put-grow-and-take and put-and-take programs are primarily used in other heavily-fished, altered habitats to provide recreational fishing opportunity. Emphasis is given to those areas that will allow a high proportion of hatchery-produced fish to be caught by anglers. The Department uses a variety of rules on different waters to provide a mixture of sport fishing opportunities. As feasible, new fishing opportunities will be developed through reclamation of damaged habitats and development of new fishing areas.

The six-year focus of the anadromous fish program is to maintain hatchery supported steelhead and Chinook salmon fisheries in Idaho and take management actions in Idaho necessary to preserve wild steelhead, Chinook, and sockeye salmon. In addition, the Department will continue its efforts working toward and promoting improvement of the mainstem Snake River and Columbia River migration route for these fish. These efforts are essential to improve the survival of salmon

and steelhead leaving Idaho and returning from the ocean. Improved survival is the key to restoring wild salmon and steelhead runs and the traditional fisheries they once supported.

The Department also has responsibility for management of commercial fisheries in Idaho. Commercial fishing in public waters has traditionally been limited to nongame fish species and crayfish. The Commission authorized a commercial rod-and-reel fishery for lake trout in Lake Pend Oreille in 2002 as part of an ongoing effort to reduce predator populations to keep the kokanee population from collapsing. Commercial fishing operations are regulated by the Department to minimize the potential for adverse effects on sport fisheries.

The Department's Fisheries Program is divided into five areas: 1) resident fisheries management, 2) anadromous fisheries management, 3) hatcheries, 4) fisheries research, and 5) fish habitat.

The Compass, Our Strategic Plan

In 2005, the Department issued its strategic plan, "The Compass" (Idaho Department of Fish and Game 2005). The Department developed the Compass to accomplish the following:

1. Align Department programs and actions with the values, needs, and expectations of Idaho hunters, anglers, and citizens as a whole.
2. Involve the public in deciding what the Department will attempt to accomplish in the next 15 years.
3. Enable the Department to respond to the anticipated changes in the physical, biological, and social environments.
4. Initiate business practices that link strategic and action plans to the budget, evaluate progress toward goals, and employ adaptive management.

There are a number of important reasons for the strategic plan including 1) clearly conveying the Department's management goals and how they will be achieved; 2) assisting the Commission in developing policies, priorities, and direction; 3) providing overall direction to Department staff in developing and implementing fish and wildlife programs; 4) assisting others in developing plans and implementing programs that are compatible with fish and wildlife conservation and management; and 5) encouraging a cooperative approach in addressing fish and wildlife issues in Idaho.

Our Mission

(Idaho Code Section 36-103)

All wildlife, including all wild animals, wild birds, and fish, within the state of Idaho, is hereby declared to be the property of the state of Idaho. It shall be preserved, protected, perpetuated, and managed. It shall only be captured or taken at such times or places, under such conditions, or by such means, or in such manner, as will preserve, protect, and perpetuate such wildlife, and provide for the citizens of this state and, as by law permitted to others, continued supplies of such wildlife for hunting, fishing and trapping.

Working under the guidance of the Commission, the Department manages the fish and wildlife of the state.

Our Vision

The Idaho Department of Fish and Game shall work with the citizens of Idaho in providing abundant, diverse fish and wildlife and ensuring a rich outdoor heritage for all generations.

Our Core Values

Public Service

We believe in having open, two-way communication with the public, facilitating understanding and participation in management decisions, and providing diverse fish- and wildlife-based recreational opportunities and educational experiences.

Science

We believe that scientifically developed knowledge and information are the foundation of fish and wildlife management and that we are obligated to develop, use, and share such knowledge and information.

Sustainability

We believe our management responsibility is to foster solutions to fish and wildlife issues that are ecologically viable, economically feasible, and socially acceptable.

Ecosystem Management

We believe productive habitats and healthy ecosystems are essential in sustaining diverse fish and wildlife and Idaho's communities and economies.

Credibility

We believe that we maintain credibility by achieving the highest level of employee and agency objectivity, expertise, professionalism, and effectiveness.

The 2013-2018 Fisheries Management Plan describes how the Department will attain identified goals of the Compass, our strategic plan. This plan will describe Department programs and strategies, and how progress toward achieving the goals will be measured. The biological and social systems in which the Department operates are complex and the results of management actions are often difficult to predict. During the course of this plan, Department staff will monitor and evaluate the performance of our programs, projects, and activities. Measuring progress and performance will determine whether activities achieve the desired results. During this planning period, if anticipated or desired results are not attained, the Department will make adjustments as necessary.

Goals, Objectives & Desired Outcomes

The Compass contains broad goals and objectives that cover all the Department's current and future activities and responsibilities. The goals specify what the Department is trying to achieve. The objectives contribute to achieving the goals. Additionally, the Compass contains desired outcomes for each goal. The desired outcomes or performance measures are the future condition we are striving for as a result of achieving the goals.

Goal 1: Sustain Idaho's fish and wildlife and the habitats upon which they depend.

- Objective 1. Maintain or improve game populations to meet the demand for hunting, fishing, and trapping.
- Objective 2. Ensure the long-term survival of native fish, wildlife, and plants.
- Objective 3. Increase the capacity of habitat to support fish and wildlife.
- Objective 4. Eliminate the impacts of fish and wildlife diseases on fish and wildlife populations, livestock, and humans.

Desired Outcomes:

- Hunters, anglers, and trappers are highly satisfied with the number and variety of fish and game available for harvest.
- Idaho citizens are highly satisfied with the diversity and health of the state's native fish, wildlife, and plants.
- Idaho's fish and wildlife is managed by the state.
- There is no net loss of habitat.
- Fish and wildlife diseases do not significantly impact fish and wildlife, humans, or domestic animals.
- The Department is highly regarded as a comprehensive source of objective, scientifically-based information on fish, wildlife, and plants in Idaho.

Goal 2: Meet the demand for fish and wildlife recreation.

- Objective 1. Maintain a diversity of fishing, hunting, and trapping opportunities.
- Objective 2. Sustain fish and wildlife recreation on public lands.
- Objective 3. Increase the variety and distribution of access to private land for fish and wildlife recreation.
- Objective 4. Maintain broad public support for fish and wildlife recreation and management.

Desired Outcomes:

- Hunters, anglers, trappers, and wildlife viewers are highly satisfied with fish and wildlife recreation opportunities.
- Landowners allow access for fish and wildlife recreation.
- Recreational opportunities are abundant and well distributed around the state, while conflicts between recreationists are few and far between.
- Hunters, anglers, trappers, and wildlife viewers enjoy broad public support for their recreational activities.
- There is broad recognition and support in Idaho for the economic and social benefits of fish and wildlife recreation and management.

Goal 3: Improve public understanding of and involvement in fish and wildlife management.

Objective 1. Improve citizen involvement in the decision-making process.

Objective 2. Increase public knowledge and understanding of Idaho's fish and wildlife.

Desired Outcomes:

- A broad spectrum of the public participates in and supports management decisions.
- Idaho citizens are well-informed and knowledgeable about fish and wildlife resources and the Department's management role.
- Fish and wildlife management is based on sound science and is responsive to the needs and expectations of Idaho citizens.
- Information related to Idaho's fish, wildlife, plants, and ecosystems is easily accessible in a variety of formats.

Goal 4: Enhance the capability of the Department to manage fish and wildlife and serve the public.

Objective 1. Attract and retain a diverse and professional workforce.

Objective 2. Provide equipment and facilities for excellent customer service and management effectiveness.

Objective 3. Improve information management and business systems.

Objective 4. Improve funding to meet legal mandates and public expectations.

Desired Outcomes:

- Employees are recognized and respected for public service and leadership in fish and wildlife management.
- The Department attracts and keeps highly qualified personnel.
- The Department is recognized as an effective and efficient state agency.
- Funding is sufficient to manage fish and wildlife and serve the public.
- All that pay benefit; all that benefit pay.
- Facilities, equipment, and information systems are safe, reliable, and cost effective.

Statewide Fisheries Management Principles

The Fisheries Bureau of the Department has a number of long-standing principles that assist Fisheries staff in accomplishing our mission. These principles appropriately lay the foundation and provide direction for staff to attain the goals and objectives of the strategic plan.

Management

1. The Department will recommend that fish and wildlife receive equal treatment with all other resources in land and water management decisions.
2. The fish resources of Idaho belong to the residents of the state, and while regional and national interests will also be considered, these resources will be managed for the

recreational and other legitimate benefits that can be derived primarily by the residents of Idaho.

3. Fish management will be designed to provide a variety of consumptive and non-consumptive recreational opportunities as well as scientific and educational uses.
4. Fish habitat and populations will be preserved, protected, perpetuated, and managed for their intrinsic and ecological values as well as their direct benefit to humans.
5. The Department will use the best available biological and sociological information in making resource decisions and support research efforts to provide state-of-the-art techniques and data.
6. Native populations of resident and anadromous fish species will receive priority consideration in management programs.
7. Management programs will emphasize maintenance of self-sustaining populations of fish.
8. The Department will strive to maintain genetic integrity of native stocks of resident and anadromous fish and naturally-managed fish when using hatchery supplementation.
9. Hatchery-reared fish will be stocked as appropriate to preserve, establish, or reestablish depleted fish populations and to provide angling opportunity to the public.
10. Factors affecting downstream smolt survival will receive priority attention in anadromous fish management.

Public Involvement

11. The Department is the principal government agency speaking on behalf of Idaho's fish resources and habitats and has a responsibility to inform interested citizens of potential threats to those resources.
12. The Department will provide information on Idaho's fishing to identify recreational opportunities and to meet specific management goals.
13. The Department will emphasize individual recreational opportunities rather than promoting contests or competitions, or activities that may result in commercialization of fish resources.

Rules

14. Within the range of biologically sound alternatives, the Department will consider legal and economic factors, desires of the sporting public, social acceptability, and administrative feasibility when promulgating rules.
15. Rules will be designed for ease of understanding and will include only those restrictions necessary to meet desired management objectives.

Access

16. On land open to the public, the Department will recommend access that provides a variety of fish-associated recreational opportunities while achieving habitat and population management goals.
17. The Department will cooperate with sportsmen and landowners to minimize negative impacts of outdoor recreation on private lands and ensure the continued availability of recreational access by permission to private lands for fish-associated recreation.
18. The Department will actively pursue acquiring easements, leases, or purchase and development of key areas to provide access for anglers and other recreationists. Priority will be given to easements collaboratively developed with landowners.
19. Department funds will not be used to manage waters closed to public fishing access except where such closures are part of a Department-approved management program.

Importations and Introductions

20. Maintaining self-perpetuating populations of fish will receive priority over the use of hatchery stocking programs.
21. Introduction of fish species may be considered when a) substantial benefits are anticipated; b) sufficient and suitable habitat is available; c) impacts to native species and existing sport fisheries are benign; and d) where necessary, approval is obtained from appropriate agencies or private landholders. To protect populations of native fish, and to protect existing public fisheries, the Department will follow the American Fisheries Society recommended seven-step process for evaluating proposed new species introductions before recommending any new introductions into Idaho waters.

Cooperation with other Agencies

22. Agreements with other governing agencies will be developed to ensure cooperative management of fish resources shared in common. The Department will work with neighboring states and consult on issues of mutual interest regarding fisheries management and aquatic ecosystems in shared waterways.

Indian Tribes

23. Native American treaty rights will be recognized in the management of fish and wildlife.

Outfitting and Guiding

24. The Department will provide comment on the issuance of outfitting licenses and special use permits to the Outfitter and Guides Licensing Board and appropriate land management agency. We will not recommend issuance of licenses or special use permits where the impacts to fish resources are biologically unacceptable or the opportunity for non-guided public recreation is significantly impaired.
25. The Department will request that outfitting licenses be specific to individual waters so that outfitting activities can be customized to fit social and biological needs.

26. The Department will not place additional fishing restrictions on outfitters that are not already required of the public without specific Commission approval.

Habitat Restoration and Protection

27. The Department will work with a variety of state and federal agencies, non-governmental organizations, tribes, and private landowners to identify, fund, and implement high-priority aquatic habitat restoration projects.
28. The Department will conduct effectiveness monitoring of aquatic habitat restoration actions.
29. The Department will seek stable long-term funding sources for fish habitat personnel and for implementing restoration actions.
30. The Department will expand the fish habitat program statewide.
31. The Department will participate in the review of proposed land and water use activities, policies, or programs that could result in significant loss of or degradation of fish habitat or populations, and will suggest alternative project designs and make recommendations that minimize or avoid such losses.
32. The Department will review and make recommendations on any activity that has the potential to result in significant loss or degradation of habitat capable of supporting self-sustaining game fish populations or important recreational fisheries.
33. The Department will participate in the Federal Energy Regulatory Commission process for licensing hydroelectric projects on Idaho waters to ensure that adverse effects to aquatic resources are avoided or appropriately mitigated.
34. The Department will actively support state and federal agencies, Tribes, private entities, and landowners on projects that protect or enhance water quality and fish habitat.

Mitigation

35. Whenever unavoidable fish habitat or population losses occur, the Department will, where practical and legally possible, actively seek compensation under the following guidelines:
 - a. For long-term losses caused by habitat elimination or degradation, compensation by acquisition and improvement of alternate habitat will be sought rather than monetary restitution. Compensation must be permanent and include funding necessary for annual operations, maintenance, and monitoring if these are required to ensure that target goals for mitigation are achieved.
 - b. Monetary restitution, based on costs to replace lost resources, will be sought for losses caused by direct mortality if replacement of animals is not feasible.
 - c. Whenever possible, replacement of losses will be by the same fish species or by habitat capable of producing the same species that suffered the loss, and compensation programs will be located in the immediate area of loss.
 - d. Offsite locations and different species may be substituted in compensation programs if “onsite” and “in kind” compensation is not possible.

- e. Compensation levels will be based on loss of habitat and loss of potential for fish production and recreation rather than numbers of animals or days of use of animals occurring at the time of loss.
- f. In jointly funded projects requiring fish mitigation, participating entities will share mitigation credit proportional to their contribution.

Statewide Fisheries Programs

Within the Bureau of Fisheries, professional staff are organized into operational sections including: 1) Resident Fisheries Management, 2) Anadromous Fisheries Management, 3) Hatcheries (resident and anadromous), 4) Research, and 5) Habitat.

The primary responsibility of the resident and anadromous fisheries management sections of the Bureau of Fisheries is to monitor and manipulate fish populations to maintain/create public fisheries, protect and enhance fish habitat, develop angler access, provide information to anglers, coordinate with the general fishing public, and develop fishing rules. Most of the management effort involves Department field staff (biologists, technicians, and others) working in coordination with headquarters staff, and with personnel of state and federal agencies, Indian tribes, and non-governmental organizations. The programmatic function of habitat protection and technical assistance is currently implemented through the Director's Office of the Department. Regional and headquarters fisheries staff supply data and provide technical support to regional environmental staff biologists and the Director's Office.

The fish habitat section designs and implements fish habitat restoration projects focused on addressing the primary factor(s) limiting native fish production and productivity. Projects are designed to be ecologically sustainable over the long-term. Staff interact with a variety of state and federal agencies, non-governmental organizations, and private landowners to develop and implement projects. The majority of funding comes from federal or private sources. Because of this, staff also develop proposals and compete for available funding.

The hatcheries section raises fish to meet specific fishery management objectives. New technologies are developed to raise healthy fish in the most cost-effective manner. The hatcheries section includes a fish health unit designed to identify and treat various fish diseases and to improve the health of particular stocks. Fisheries projects that benefit directly from the hatchery program include put-and-take and put-grow-and-take fish stocking programs, supplementation of salmon and steelhead natural production, supplementation of reduced populations of resident fish, and production of other game fishes to produce sport fisheries (e.g., tiger muskie).

The fisheries research section serves to enhance management capabilities by providing detailed information on specific fisheries or biological systems to address specific needs. In addition to collecting and analyzing biological data, the fisheries research section also assists in development of management recommendations and methods, and summarizes existing information. Since the spring of 2002, the Department has operated the Eagle Fish Genetics Laboratory to provide an efficient, cost-effective means of generating detailed genetic information necessary for the management and conservation of Idaho's native fish species.

Resident Fisheries Management

Native Trout

Native trout are the original inhabitants of Idaho's waterways and are indigenous to a particular river basin or area. These indigenous trout were present before the arrival of Europeans to the United States. Maintaining native trout fisheries in Idaho continues to be a significant challenge. Resident trout species native to Idaho include the redband trout (a type of rainbow trout), three subspecies of cutthroat trout (westslope, Yellowstone, and Bonneville), and bull trout (a char). Bull trout are a fall spawning char and the only species of its type native to Idaho. In waters accessible to anadromous or "sea-run" trout, many populations of steelhead (the anadromous redband trout), Chinook salmon, and sockeye salmon are also native Idaho trout. The Department strives to perpetuate native trout in numbers adequate to provide fishing opportunity. Native trout are important to Idaho biologically because they evolved here and are best adapted to their historical waters; ecologically, because their presence is an indicator of the overall health of Idaho's waters; and socially, because Idaho anglers place a high value on native trout. Economically, native trout populations are self-sustaining, and thus are less costly to manage than hatchery supplemented fisheries. Many anglers also specifically target native trout for their uniqueness thus adding great value to Idaho's economy. The Department, by statute, is the steward for Idaho's native fishery resources and must protect and perpetuate these populations.

As described above, the Department uses the term "native" to refer to indigenous trout species in Idaho drainages. Native species have also been referred to as "wild trout." However, there are other game fish species such as introduced rainbow trout, brown trout, and brook trout that were stocked generations ago and have established self-sustaining populations. They can also be considered "wild" in origin. Some "wild" populations also hold high sport value, particularly introduced rainbow trout. The Department is entrusted to protect Idaho's native species while also providing sport fishing opportunities to the public. Native salmonid species are given priority management attention by the Department. For self-sustaining trout populations, whether native or introduced, the Department will typically manage harvest with reduced bag limits, referred to as the "wild trout" rule (See Part 2, Drainage Management).

Since the early 1990s, the status of Idaho's native trout and salmon has been scrutinized through petitions for listing under the federal Endangered Species Act. Sockeye salmon were listed as endangered in 1991, most of Idaho's naturally produced Chinook salmon were listed as threatened in 1992, and steelhead were listed as threatened in 1997. Several related populations of hatchery Chinook salmon and steelhead were also listed as threatened in 2005. Bull trout were listed as threatened in 1998. More recently, westslope, Yellowstone, and Bonneville cutthroat trout, and redband trout have been petitioned for listing under the Endangered Species Act. As of 2012, the U.S. Fish and Wildlife Service (USFWS) consistently determined that federal protection was not warranted for these four trout.

The Department has progressively taken steps to conserve and manage native trout. Pioneering research in the late 1960s and early 1970s on the north Idaho waters of Kelly Creek, St. Joe River, and Lochsa River documented significant benefit to westslope cutthroat trout populations from catch-and-release or from restrictive bag and size limits. Currently waters in the state that support native trout populations have some kind of fishing rule that limits harvest. Examples of restrictive harvest rules are catch-and-release, where the general trout limit is six but only two may be cutthroat trout, or where a minimum size limit is employed for harvest (e.g., none under 16 inches). In a few waters, no native trout may be harvested. In the case of bull trout, there is a

statewide prohibition on harvest. Key to the effectiveness of special regulations to protect native trout is the ability of the angling public to accurately identify affected species of fish. Research in several states suggests that fish identification should receive additional emphasis as an aspect of angler education.

Over the years, the Department has taken other steps to protect native trout. Some important actions include 1) discontinuing the Department's brook trout stocking program in native trout streams; 2) increasing the daily limit of brook trout from six to 25; 3) using sterile rainbow trout for most stockings including private ponds in native trout drainages to significantly reduce the likelihood of hatchery rainbow trout hybridizing with native trout; 4) discontinuing all stocking of rainbow trout in Panhandle Region streams and rivers managed for native westslope cutthroat trout; 5) increasing harvest of non-native rainbow trout in the South Fork Snake River to protect Yellowstone cutthroat trout with a no-limit regulation on rainbow trout; 6) implementing a number of non-native species suppression efforts across the state; and 7) hiring professional genetics staff starting in 2001 and establishing a fish genetics lab in 2002. The Department has also expended considerable effort in identifying the status and distribution of native trout to ensure their persistence.

Maintaining high-quality habitat is critical to ensuring the persistence of native trout populations. The Department's role in fish habitat is discussed later in this plan.

During this six-year period, the Department will prioritize native trout management by continuing or implementing the following measures:

- Regulate harvest as needed to protect native trout populations and to maintain acceptable catch rates;
- Reduce or eliminate hybridization and introgression with hatchery trout;
- Where feasible, remove or suppress populations of non-native trout species that compete with or hybridize with native trout;
- Continue efforts to restore and protect aquatic, riparian, and wetland habitat;
- Continue to enhance the statewide fish habitat program implemented during the last planning period;
- Work with land and water users, Indian tribes, and federal and state resource agencies to reduce human-caused impacts to native trout habitat;
- Encourage partnerships with resource agencies, water users, private landowners, Indian Tribes, and non-governmental organizations to provide adequate fish screens and migration bypass design at irrigation diversions to provide suitable flows to protect native trout and to provide fish passage at all other locations where necessary;
- Provide pamphlets, brochures, signs, posters, and cards that improve anglers' ability to identify various trout species and how to release wild trout with minimal injury; and
- The Department will complete management plans for westslope cutthroat trout and redband trout.

As described previously, the Department manages many native trout populations under its “wild trout” rules which are generally a bag limit of two fish with additional harvest opportunity provided on non-native or hatchery trout if present. This selective rule emphasizes protection for native trout while allowing ample harvest on hatchery-reared and non-native trout. This encourages anglers to limit harvest of native trout. Where needed, harvest on native trout will be further restricted with length limits or catch-and-release regulations. As a last resort for conservation purposes, streams or lakes will be closed to fishing.

In lightly fished streams, the reduction in bag limit to two native trout may do little to affect harvest and may not be biologically necessary. When limits are liberal, anglers rarely harvest their limit and the reduction in total harvest resulting from a more conservative limit is small relative to the total fish population. However, a conservative bag limit for native trout directs more consumption-oriented anglers to waters managed with liberal limits on hatchery trout or warmwater fish species. The reduced bag limit also reinforces the non-consumptive values of native trout.

Cutthroat Trout

The three “subspecies” of native cutthroat trout in Idaho are the westslope, Yellowstone, and Bonneville. When a species such as cutthroat trout is comprised of distinct, geographically separate groups that are not yet distinct enough to constitute a separate species, the term “subspecies” is used. Historically, all three subspecies occupied larger ranges than they do currently. Populations have been impacted across their ranges by a host of human-caused factors including habitat degradation, water management, and non-native species. The Department will continue to ensure that cutthroat trout are considered in fisheries, land, and water management in their remaining habitat by collaborating with other agency partners and stakeholders, and providing technical information to land and water management decision-makers. Emphasis will be placed on continuing our collaborative habitat restoration efforts with other agencies and stakeholders.

During this planning period, the Department will continue to explore and implement actions to manage recreational fishing and reduce genetic introgression with non-native trout. The Department will continue implementing projects removing or suppressing populations of non-native salmonids such as introduced rainbow trout and brook trout where feasible to benefit and recover native cutthroat trout. However, the Department recognizes that many anglers enjoy opportunities to fish for non-native sport fish such as brook trout, brown trout, and rainbow trout. We will specifically target drainages for non-native species removal where we believe we can enhance persistence and expand the range of native cutthroat trout.

During the 2007-2012 planning period, the Department completed management plans for Yellowstone (Idaho Department of Fish and Game 2007) and Bonneville cutthroat trout (Idaho Department of Fish and Game and U.S. Forest Service 2007). During this six-year planning period, the Department will complete a management plan for the westslope subspecies.

Redband Trout

Redband trout are found in the interior Columbia River basin from east of the Cascades upstream to geologic barriers such as Shoshone Falls on the Snake River and Kootenai Falls on the Kootenai River and in the upper Fraser River. However, they are not present in the Clark Fork and Coeur d’Alene river drainages. Redband trout are present in the Salmon and Clearwater drainage along with anadromous steelhead. However, due to difficulties identifying

juveniles of these two life forms, redband trout in these drainages are included under the steelhead distribution. During the 2007-2012 planning period, the Department completed a statewide assessment of redband trout in drainages where anadromous fish were extirpated. Populations of redband trout above Hells Canyon and Dworshak dams are locally abundant as is the case in the Boise, Weiser, Payette, Bruneau, Owyhee, and Wood/Malad river drainages.

In Part 2 of this Fisheries Management Plan, we list introduced stocks of rainbow trout separately from the native redband trout in the individual drainages.

During the 2007-2012 planning period, the Department completed an assessment of population structure and intra-/interspecific hybridization of redband trout above Hells Canyon Dam (upper Snake River, 8 basins, 61 sample locations) (Kozfkay et al. 2011).

The Department recommends the following management actions for redband trout during this planning period: 1) continue statewide population and trend monitoring; 2) continue stocking sterile fish in areas where redband trout and introduced hatchery fish overlap; 3) maintain or reestablish connectivity of current redband trout metapopulations; 4) publish a state status assessment for redband trout; and 5) complete a management plan.

Bull Trout

Bull trout were federally listed as a “threatened” species under the Endangered Species Act in 1998. They are widely distributed in Idaho and are found in varying abundance depending on location. Overall, bull trout have declined in abundance and distribution from their historical range; however, in Idaho, they are faring much better than elsewhere across their range due to the vast areas of federally designated wilderness and roadless areas. They are especially abundant in the Salmon and Clearwater river basins.

Bull trout exhibit two distinct life history forms, resident and migratory. Resident populations generally spend their entire lives in small headwater streams while migratory bull trout rear in tributary streams for several years before either migrating into larger river systems (fluvial) or lakes (adfluvial). Migratory (fluvial and adfluvial) bull trout can reach much larger sizes than resident fish with the state angling record for bull trout being over 30 pounds.

Bull trout have specific habitat requirements but importantly they require cold clear water, abundant instream cover including woody debris and deep pools, and intact migration corridors. In many instances, habitat modification has influenced the status, abundance, and distribution of bull trout populations in Idaho. Because of habitat modification, the migratory form of bull trout is no longer present in many streams, and populations are comprised wholly of small resident populations that are more susceptible to environmental or biological disturbance.

Bull trout do not compete well with other non-native chars such as brook trout and lake trout. Brook trout are a pervasive species and will outcompete and hybridize with bull trout. The latter threat is particularly alarming for small isolated bull trout populations. Lake trout pose a serious threat to the adfluvial form of bull trout. Bull trout numbers, along with other native sport fish, have plummeted in Idaho lakes such as Pend Oreille and the Priest Lake system where lake trout and Mysis shrimp are present. Mysis shrimp were introduced into a number of Idaho lakes decades ago to provide forage for introduced kokanee; however, this did not work in north Idaho’s deep oligotrophic lakes since kokanee do not forage in the depths where Mysis shrimp are found. Instead, Mysis shrimp provided the perfect prey for young lake trout which allowed lake trout populations to explode and displace native species such as bull trout.

The Department instituted statewide “no harvest” rules for bull trout in 1994. Additionally, the Department developed an active public education program including signs to notify anglers about the presence of bull trout and how to correctly identify them from other salmonid species. Additionally, enforcement patrols were enhanced in drainages inhabited by bull trout.

The Department will continue to work closely with the U.S. Fish and Wildlife Service and relevant stakeholders in bull trout conservation and recovery programs.

Mountain Whitefish

Mountain whitefish are members of the family Salmonidae which also includes trout and char. They are a recognized game fish in Idaho although often overlooked and underutilized by anglers. Mountain whitefish are widely distributed in Idaho’s rivers and lakes and they require clean, cold water. This species spawns from October into December. As a game fish, it readily takes artificial flies or bait and puts up a good fight when hooked. During the winter when most fishing activity slows down in Idaho, mountain whitefish can provide some good fishing because of their active winter feeding habits.

Mountain whitefish populations are adversely affected by similar factors that impact trout populations including water management, channel degradation, water pollution, disease, and non-native species interactions. Because they are geographically and physically isolated, mountain whitefish in the Big Lost River basin are genetically distinct from other Snake River populations. During the 2007-2012 planning period, the Department completed a management plan for the Big Lost River basin population of mountain whitefish and has implemented the majority of conservation actions identified in the plan to conserve and protect this unique population. During this planning period, the Department will continue collaborating with other agencies and stakeholders to monitor population status and restore habitat.

White Sturgeon (Snake and Kootenai Rivers)

The white sturgeon is the largest freshwater fish in North America, reaching documented sizes of up to 18 feet in length and almost 1,400 pounds. White sturgeon historically occurred in the Snake River downstream from Shoshone Falls, the lower Salmon River, and in the Kootenai River. White sturgeon are given heightened management attention from the Department because they are unique, attain a large size, are long-lived, and provide tremendous sport fishing opportunities. In the Snake River, catch-and-release sport fishing for white sturgeon has continued for over 40 years.

Sturgeon have declined in Idaho for a variety of reasons but primarily due to construction of dams that began in the early 1900s through the late 1960s. This accelerated the decline as much of the large, free-flowing river habitat required by sturgeon was lost. Sturgeon populations in the Snake River drainage are generally restricted to short river reaches and are isolated from other populations by dams. While white sturgeon in the Kootenai River can move freely between Kootenay Lake in British Columbia, Canada, the Kootenai River in Idaho, and upstream as far as Kootenai Falls in Montana, they are significantly impacted by flow releases from Libby Dam and resultant changes in habitat quality.

Commercial fishing for sturgeon in Idaho was prohibited in 1943. Harvest of sturgeon from the Snake River drainage has been prohibited since 1970. Harvest of sturgeon was also prohibited in the United States’ section of the Kootenai River beginning in 1984 because this population

was also decreasing. Kootenai River white sturgeon were federally listed in 1994 as an endangered species under the Endangered Species Act. Because of the listing and continued population decline, for conservation purposes, the Kootenai River was closed to sturgeon fishing in 1995. Trapping of nutrients behind Libby Dam is potentially another contributing factor to reproductive failure. Lack of reproduction was a major factor in listing Kootenai sturgeon under the Endangered Species Act. The Department will continue to participate on the Kootenai Sturgeon Recovery Team led by the U.S. Fish and Wildlife Service to develop recovery measures that emphasize restoration of natural reproduction and recruitment to the Kootenai River white sturgeon population.

During the 2007-2012 planning period, the Department completed a management plan for Snake River white sturgeon. The Department's management goal for Snake River white sturgeon is to preserve, restore, and enhance populations capable of providing sport-fishing opportunities.

The Department's plan for Snake River white sturgeon emphasizes the following management activities:

1. Habitat protection and enhancement—the Department believes the most effective approach to maintaining healthy, reproducing white sturgeon populations within their native range is to protect stronghold populations and intact habitat, and as is feasible, to improve habitat. We will continue to provide technical support and input to state and federal regulatory agencies on land and water management activities and proposals.
2. Population monitoring—intensive assessments of white sturgeon abundance and size structure will occur in individual river reaches at approximately five to ten-year intervals. Idaho Power will perform the bulk of the population census work but will be supplemented by the Department and Nez Perce Tribe as necessary.
3. Evaluate fishing-related mortality—the effects of catch-and-release angling on white sturgeon are largely unknown. The Department has proposed to examine white sturgeon angling effort and catch in relation to population status and trends for key river reaches.
4. Fishing regulations, angler education, and enforcement—the Department will continue to provide barbless hook, catch-and-release fishing opportunity for white sturgeon in the Snake River. In the state fishing rules, we require the use of a sliding weight along with barbless hooks. We will continue to develop and distribute information on white sturgeon status and fishing opportunity and will promote angling and fish handling techniques that minimize mortality. Conservation officers will continue to educate the public and ensure compliance with rules on white sturgeon fisheries.
5. Translocation—the Department will collaborate with Idaho Power Company and other agency and tribal stakeholders in the translocation of wild white sturgeon with a goal of artificially restoring some degree of connectivity between river reaches.
6. Conservation aquaculture—while the top priority of the Department is the conservation of wild, self-sustaining populations of white sturgeon, in reaches where natural recruitment is absent or minimal, hatchery supplementation is a viable management option. In 2011, the Department and the College of Southern Idaho in Twin Falls, Idaho signed a cooperative agreement on the limited production of white sturgeon for management purposes.
7. Commercial aquaculture—the Department will work with the Idaho Department of Agriculture to monitor commercial aquaculture operations with respect to importing non-native white sturgeon into their hatcheries. Sturgeon are also regularly purchased by private pond owners for ornamental purposes in southern Idaho.

8. Mortality monitoring—the Department and Idaho Power Company have established protocols for investigating, examining, and collecting appropriate samples from mortalities when possible.

During the 2007-2012 planning period, the Department introduced hatchery-reared white sturgeon outside their native range in the Snake River in the vicinity of Idaho Falls to create additional catch-and-release fishing opportunity. This fishery is expected to be dependent on periodic stocking of hatchery-reared sturgeon. During this planning period, the Department may consider further expansion of white sturgeon fishing opportunity in appropriate habitats outside the historic range.

The Department's statewide fisheries management plan (Idaho Department of Fish and Game 2007), and white sturgeon management plan (Idaho Department of Fish and Game 2008) directs us to monitor the status of white sturgeon populations and evaluate potential factors that could negatively impact this species. White sturgeon are extremely long-lived fish, potentially living up to 100 years. Data collected by the Department indicates they are slow growing, averaging 1-4 cm per year in Hells Canyon fish <100 cm long and >140 cm in length, and 4-8 cm per year in fish 100-140 cm in length. Idaho Power Company studies have shown age of sexual maturity to be as high as 35-40 years, indicating a potential for population level effects with minimal increases in mortality. In addition, sturgeon do not reproduce every year, with reproduction occurring every 2-4 years for males and around five years for females, and in some cases, spawning periodicity may even range up to 11 years. These life history characteristics mean that increases in mortality through sport fishing could influence overall abundance of sturgeon. In the past few years, dead sturgeon with hooks inside of them have been found in the Snake River, raising concerns about the impact of sport fishing on the sturgeon population. This combined with recent increases in angling pressure have prompted the Department to initiate work to evaluate whether catch-and-release sport fishing is influencing survival of sturgeon and whether changes in fishing rules could be used to improve their survival. Past research on other fishes has shown that circle hooks can reduce deep hooking and mortality rates over J-hooks. This type of information is not available for white sturgeon. Our goal over the next five years is to sample enough white sturgeon to evaluate whether circle hooks provide a survival advantage over J-hooks.

To supplement this work, we will also be evaluating whether hook ingestions is influencing sturgeon survival. In recent years, hooks swallowed by sturgeon have become an issue of concern. As an example, the percentage of sturgeon with fishing tackle inside them was 57% in the Snake River below C.J. Strike Dam and 34% in the Hells Canyon reach. Bait gear consumed by sturgeon stems not only from sturgeon fishing, but also includes hooks broken off by anglers fishing for other species such as catfish, trout, and steelhead. The Department is working with other entities such as the Nez Perce Tribe and Idaho Power Company to assess gear uptake and retention in sturgeon. This is being done by x-raying sturgeon in each reach of the Snake River where they occur. Over the next 10 years, it is estimated that perhaps 100 sturgeon will be x-rayed more than once. X-raying recaptured fish will offer additional information, such as an estimate of the speed at which angling gear passes through the digestive system in wild fish. Laboratory studies are also being conducted to 1) assess stress levels in sturgeon that have ingested angling gear, 2) examine the passage speed of angling gear through the digestive system of hatchery sturgeon, and 3) determine hook corrosion rates (and therefore possible lifespan) in acidic solutions as a surrogate to sturgeon digestive systems. The results from this study will help determine whether additional angling restrictions are necessary to conserve sturgeon populations.

The Department's management plan for white sturgeon provides policy guidance for Idaho Power Company's White Sturgeon Conservation Plan (WSCP) (Idaho Power Company 2005). The Department, other agencies, and Indian tribes collaborated with Idaho Power Company on development of a WSCP for the Snake River. This effort occurred during a period when Idaho Power Company was seeking new licenses from the Federal Energy Regulatory Commission for its Snake River hydropower system between Shoshone Falls and the Hells Canyon Complex. Idaho Power Company's efforts, guided by their WSCP, are intended to mitigate for operational impacts of its hydropower projects on white sturgeon throughout the Snake River. During this six-year planning period, the Department, as per its mandate, will collaborate with Idaho Power Company, the States of Oregon and Washington, federal agencies, and Indian tribes to implement and monitor the success of Idaho Power Company's mitigation efforts for white sturgeon. Since new license terms for these hydropower projects are a minimum of 30 years, this will be a long-term commitment by the Department.

Non-native Sport Fish

Non-native sport fish include coldwater, coolwater, and warmwater species that are very popular with Idaho anglers and provide important sport fisheries in Idaho.

Anglers, especially bass anglers, have learned that length limit regulations can improve the average size of bass in some fisheries and that bass that can be produced and recycled many times for sport fishing enjoyment.

All of the warmwater and coolwater sport fish species in Idaho are introduced species. The major species that the Department manages are largemouth bass, smallmouth bass, black and white crappie, bluegill, channel catfish, yellow perch, walleye, and tiger muskie. The presence of these fish in Idaho presents both opportunities and challenges for the Department. On the positive side, these species can create productive sport fisheries in altered habitats and lowland lakes and ponds. The presence of these sport fish species can also be negative when their introduction affects native salmonid fisheries through competition and predation.

A majority of Idaho anglers still prefer trout fishing, but many of their preferred waters now contain introduced warmwater or coolwater species. While trout still provide the bulk of angling opportunity, bass angling has gained a strong following. Statewide, there are several instances of "two-story" fisheries that have increased angling opportunity using stocked or wild trout and warmwater fish populations in the same waters. Typically, costs to maintain a trout fishery through stocking are increased when warmwater species are abundant. The warmwater species present in Idaho can successfully reproduce in most areas, making them less expensive to manage than trout stocking programs.

Hatchery Trout

Hatchery trout, primarily rainbow trout, are used in reservoirs and streams where habitats are not capable of supporting wild or natural production sufficient to meet angler demand. These domesticated trout stocks typically do not survive well in streams and even fertile hatchery trout contribute little to natural reproduction. Hatchery trout stocking can generally be split into two categories. Put-and-take stocking includes catchable size fish where there is intensive angling pressure and long-term survival is not expected or needed. Put-and-grow stocking can include sizes from fry to catchable stocked into productive waters where long-term growth and survival is necessary for good returns to the angler. Because fingerling trout (3- to 7-inches) do not

survive well or grow to acceptable sizes in streams, most trout stocked in streams will be catchable size (8- to 10-inches) to provide immediate fishing opportunity.

Put-and-take (catchable-size) trout used in stocking programs are expensive. These trout must be stocked at times and places where they are available to anglers and where they are likely to be caught. Over the last 15 years, the Department has maintained stream stocking in locations where there is high harvest demand and high returns on hatchery fish, and has eliminated most stream stocking with poor return rates. These fish are typically stocked into waters that will yield high return rates such as urban ponds, and other waters with high amounts of angling pressure.

The Department will continue to adjust the use of hatchery fish and improve return to anglers. Biologists will look at various environmental factors such as water temperature, zooplankton densities and sizes, species composition, and predator populations to improve survival and return to creel of fingerling and catchable-size trout.

Largemouth and Smallmouth Bass

Both largemouth and smallmouth bass were some of the very first non-native species introduced into Idaho and they now support many popular fisheries. Bass are prolific enough to produce adequate numbers of young fish without stocking. However, the growing season for bass in Idaho is generally short due to the high altitude and northern latitude. Research studies indicated that bass growth is regulated primarily by water temperature and not food availability, so efforts to improve bass fisheries focus on regulations that allow bass to live longer.

Largemouth bass are generally most successful in smaller ponds and lakes that get warm, where vegetation is present, and have an abundant forage base of fish. However, 31,500-acre Coeur d'Alene Lake and the eight connecting "lateral lakes" support a very popular fishery for largemouth bass. Growth rate of largemouth bass in Idaho is limited primarily by water temperature and is generally much slower than areas of the country where bass are native. Due to their slow growth, largemouth bass are susceptible to overharvest. Despite slow growth rates and low productivity water in many areas of the state, Idaho anglers enjoy good bass fishing from a combination of restrictive regulations and voluntary support for catch-and-release fishing.

Smallmouth bass are most successful in Idaho's large lakes and reservoirs and the Snake River. Smallmouth bass have greatly expanded their range in Idaho. This species can thrive in waters with limited forage fish because they utilize crayfish as a preferred food item and will feed on zooplankton and aquatic insects longer than largemouth bass. Idaho's mainstem reservoirs and large lakes offer large expanses of rocky shorelines that generally support crayfish and other large aquatic insects. Smallmouth bass growth can also be slow, requiring five to seven years before they reach 12 inches. Anglers seek smallmouth bass because their aggressive nature and high abundance tends to provide fast fishing action.

Smallmouth bass populations are rapidly expanding in some waters where they are negatively impacting native species as well as other popular warmwater fisheries. Smallmouth bass were intentionally introduced in Hayden Lake in 1983, but were illegally moved to Coeur d'Alene Lake in about 1990. They have now spread upstream to most of the lateral lakes, the lower Coeur d'Alene, St. Joe, and St. Maries rivers as well as downstream to the Spokane River. Montana Fish Wildlife and Parks introduced smallmouth bass into Noxon Reservoir on the Clark Fork River in 1983 and 1986 and they are now well established in Lake Pend Oreille, the Pend Oreille River, and have moved upstream into the Priest Lake system. Smallmouth bass prey on juvenile westslope cutthroat trout and bull trout and they have significantly reduced many of the

native minnow species in these waters. In some waters, smallmouth bass are also impacting popular largemouth bass, crappie, and perch fisheries. In most northern Idaho waters, smallmouth bass are managed with liberal (6 fish) bag limits and no size restrictions. In the Salmon and Clearwater rivers and in the Snake River below Hells Canyon Dam, the Department also permits the harvest of any size bass in an attempt to reduce predation on salmon and steelhead juveniles.

Black and White Crappie

Crappie are one of the most popular panfish species in Idaho due to excellent table qualities and high-yield populations. Unfortunately, crappie are probably the most difficult warmwater species for the Department to manage successfully for anglers. In smaller water bodies in southern Idaho, crappie tend to stunt and do not reach a size preferred by anglers. Better population structure is generally found in larger, more productive lakes and reservoirs where crappie can provide tremendous harvest opportunity. Populations can fluctuate greatly from year to year depending on the survival rate of young crappie. In northern Idaho, a lack of large fish may be caused by the short growing season and inconsistent recruitment. These species eat primarily zooplankton when small, then become more opportunistic when they reach a large size. Crappie are usually most vulnerable to anglers when concentrated near shoreline structure during the spring spawning season. Despite this vulnerability, angler exploitation does not generally exceed 30% of the adult population, even in the most intense fisheries. During other times of the year, they suspend in open water areas making them more difficult to catch.

Hayden Lake in north Idaho has consistently low crappie recruitment and slow growth, and is the only quality crappie fishery in the state being managed with a 10-inch minimum size limit and a six fish limit. In most other crappie fisheries, harvest does not play a large role in structuring populations so there is no statewide bag limit for crappie. At Brownlee Reservoir, for example, with no bag limit anglers typically harvest just 25-30% of crappie larger than eight inches in a given year. This is a very sustainable harvest rate and restricting harvest would not result in noticeably better size or catch rates in this fishery.

Bluegill

Anglers enjoy bluegill because of their ease of capture, scrappy fight, and abundance. Bluegill, and to a lesser extent pumpkinseed sunfish, are the main prey for largemouth bass. Bluegill provide popular warmwater fisheries for harvest-oriented anglers in many waters. For either of these species to grow to an acceptable angler size, there must be considerable predation on their young. By managing largemouth bass with a quality or trophy regulation, the increased density of bass reduces young bluegill densities and allows for improved growth. Bluegill can reach weights of over a pound. In some lowland lakes with high angling effort, anglers have been able to crop off the larger bluegill preventing them from exceeding eight inches. Through dispersal or unlawful introductions, bluegill have become established in several north Idaho lakes. In most cases, they support popular fisheries and have not generally been detrimental. They appear to have successfully outcompeted pumpkinseed sunfish in nearly all north Idaho waters where they have been introduced. Hybrids between the two species exist in some lakes. Bluegill have however, replaced perch in some north Idaho lakes.

Yellow Perch

Yellow perch can produce important sport fisheries in Idaho's larger reservoirs and lakes (e.g., Cascade Reservoir). Many ice fisheries in north Idaho lowland lakes are supported by yellow

perch. Yellow perch are notoriously difficult for the Department to manage for consistent size structure and abundance. The species tends to have cyclic year class strength where the formation of strong year classes can dominate and suppress subsequent year classes. Stable yellow perch populations and fisheries are associated with productive waters generally larger than 10,000 acres which have complex fish communities. Complex fish communities are thought to be necessary to maintain adequate levels of predation to prevent stunting and, at the same time, provide alternate food items for other predators. Yellow perch are extremely fecund, producing up to 40,000 eggs per female, and can easily stunt because of overpopulation or, sometimes because of suppressed food supplies caused by poor water quality. In a mixed fishery, young yellow perch are an important food source for other predators. When yellow perch become established in trout fisheries, trout growth can be severely impacted. The Department has renovated fisheries because of illegal introductions of yellow perch into waters managed for trout. Once yellow perch are introduced, it is extremely difficult and expensive to eliminate them to allow a more desirable fish species to become established.

Catfish

Catfish species introduced into Idaho have included channel, flathead, brown and black bullhead species, as well as three other rarely found species (yellow bullhead, blue catfish, and tadpole madtom). All species are generally fished for with bait. The channel catfish is by far the preferred target species of anglers, especially in the Snake River system from Swan Falls Reservoir downstream. Channel catfish reproduce successfully in some Idaho waters and have become self-sustaining in many southwest Idaho waters. In north and eastern Idaho lowland lakes and reservoirs, channel catfish do not reproduce successfully due to the lack of suitable temperatures for spawning and early development. In these areas, fisheries for channel catfish have been supported by stocking. Size at stocking must exceed eight inches to avoid heavy predation by bass. Channel catfish have grown to sizes of 19 pounds in several north Idaho lakes and are providing popular fisheries. Supplies of hatchery channel catfish have been inconsistent and currently there are no bag, possession, or length limits on any catfish species. An extensive evaluation of channel catfish stocking rates, growth, and exploitation in northern Idaho indicates a high in-lake density at historical stocking rates and relatively low exploitation and growth rates. This suggests a reduction in stocking rates would not compromise the fishery and may improve growth.

Flathead catfish are generally confined to the middle Snake River and Brownlee Reservoir. This species is considered a trophy species in southwest Idaho with individuals commonly reaching over 20 pounds. Bullhead catfish are very successful in small water bodies, although they can tend to overpopulate and stunt. Bullhead catfish are easily captured and can tolerate poor water quality.

Walleye

Walleye is one of the most controversial introduced species in the western United States. In general, waters of the western U.S. do not have the diverse and abundant forage base needed to support these prolific keystone predators. As a result, walleye introduced in the western U.S. typically exhibit poor growth and often create conflict with management of other game species. The Idaho Fish and Game Commission approved a policy in the 1980s to introduce walleye only in closed systems where they have no chance of escaping to other waters. Walleye were first introduced into Salmon Falls Creek Reservoir in south-central Idaho in the mid-1970s. The Department currently manages walleye in Salmon Falls Creek Reservoir, Oakley Reservoir, and Oneida Reservoir.

Walleye have been documented in Hayden Lake since the early 1980s, in the Bear River system, lower Snake River, and Ririe Reservoir. A reproducing population and limited target fishery now exists in Lake Pend Oreille and the Pend Oreille River. These populations originated from walleye that were introduced illegally or that drifted in from elsewhere in the drainages. The Department will monitor these populations and if possible, eliminate them or control their expansion. In 2006, the Department removed bag limits on walleye in all waters statewide where they are not being specifically managed.

Walleye can significantly impact native fish populations and existing sport fisheries. The Department will not restrict harvest or permit catch-and-release fishing contests or tournaments on walleye in waters where unauthorized introductions have occurred. The Department will not introduce walleye into new waters during this planning period and we will attempt to suppress newly documented populations.

Northern Pike

Northern pike were illegally introduced into Cave Lake in north Idaho in 1972. Cave Lake is one of the nine “chain or lateral lakes” connected to the Coeur d’Alene River. Northern pike were also collected in the Clark Fork River below Cabinet Gorge Dam in 1974. Both of these introductions came from northern pike populations that were illegally established in Montana waters. Northern pike spread rapidly throughout the Coeur d’Alene system and additional illegal introductions established northern pike in Hayden, Twin, Spirit, Blue, and Freeman lakes. In 2003 and 2005, northern pike were discovered in Perkins and Bonner lakes, two Kootenai drainage lowland lakes, leading to costly removal efforts. Northern pike have only been documented in the Panhandle Region of Idaho.

Northern pike grow fast, are highly aggressive and are good eating, making them a desirable sport fish for some anglers. However, northern pike have negatively impacted native species and other sport fisheries through predation. Northern pike in Coeur d’Alene Lake prey on native westslope cutthroat trout adding another mortality factor to an already depressed population. In 2006, the Department removed bag limits on northern pike to discourage illegal introductions into other waters and to keep pike densities low to minimize predation on important sport and native fisheries. The Department will not restrict harvest or permit catch-and-release fishing contests or tournaments on northern pike in waters where unauthorized introductions have occurred. The Department will not expand the range of northern pike in Idaho.

Tiger Muskie

Tiger muskie are a sterile hybrid cross between a female muskellunge and male northern pike. The first introduction of tiger muskie into the state was made in Mud Lake in 1988. After careful consideration, and employing a thorough assessment protocol, additional introductions of tiger muskie occurred.

Tiger muskie are utilized to provide trophy fisheries in waters to take advantage of abundant populations of forage fish such as yellow perch, bullhead, Utah chub, and suckers. They are stocked in Idaho lowland lakes and reservoirs to provide a trophy fishery. All of the recent state record fish were caught in Hauser Lake with the largest being 38 pounds 7 ounces landed from 2001. Tiger muskie are also used on a limited basis for experimental control of brook trout in alpine lakes. The use of tiger muskie in alpine lakes will continue during this planning period, and the Department will closely monitor results of the program.

In lakes and reservoirs where tiger muskie have been stocked to provide fisheries, most areas are managed with a two-fish, 40-inch minimum length limit regulation. During this planning period, additional waters will be considered for tiger muskie management where the forage base is adequate and where there are no conflicts with other fish management goals.

Special Rules in Resident Fisheries Management

Quality and Trophy Trout Rules

The terms “quality” and “trophy” have been applied to trout fisheries by anglers and managers to mean various things, including whether fish were of native or wild origin and the aesthetics of the surroundings. Within the context of the Department’s fish management programs and this plan, however, they are used to refer to specific management programs that utilize special rules to increase the average size of trout in a fishery. They generally provide increased catch rates as well. Trout may be of wild, natural, or hatchery origin.

Quality and trophy trout management differ in the size of trout the regulations are designed to produce. They are defined as follows:

Quality Trout Management - A management program that uses special rules to reduce or delay mortality to provide increased size of trout, but where less than 20% of the fish exceed 16 inches. Quality trout management is appropriate for lakes and streams with poorer productivity and growth potential, or on waters with trophy growth potential where the majority of affected anglers desire to retain more harvest opportunity than that provided under trophy management.

Trophy Trout Management - A management program that uses special rules to reduce or delay mortality to provide increased catch rates and increased size of trout such that 20% or more of the trout exceed 16 inches. Trophy trout management is appropriate for lakes and streams with good productivity and growth potential where the majority of affected anglers desire to forego most or all harvest opportunity in order to catch large trout.

Special rules used under quality and trophy trout management programs may include a combination of a two-fish bag limit and various size limits, or catch-and-release where appropriate. Bait restrictions may be applied where necessary to achieve size structure goals. The Department has quality management programs that may utilize a minimum size limit of 14-inches or 16-inches, depending on productivity and biological characteristics of the fish population. Trophy management programs utilize a minimum size limit (most often 20-inches), again depending on productivity and biological characteristics of the fish population. For quality and trophy management objectives, slot length limits may be used where there is a clear public demand for harvest opportunity or where recruitment is not a limiting factor. The most restrictive rule, catch-and-release, may be used as part of quality or trophy trout management, depending on the same characteristics.

Quality and trophy management may also include seasonal restrictions to reduce mortality on spawning fish or on trout as they concentrate to migrate downstream in the fall in response to dropping water temperatures. Seasonal restrictions may apply to all trout within a body of water, or may be applied to certain species in order to provide a diversity of opportunity within the same body of water or geographical area.

Idaho is fortunate to have many bodies of water that provide large trout without special rules because of their productivity or minimal angling pressure. These waters will remain under current general management with a six-fish bag limit or wild trout management with a two-fish bag limit. As numbers of anglers using the water increases and harvest affects the size structure of the trout population, and as more anglers desire to optimize catch rates and size of fish and de-emphasize harvest, quality and trophy trout management may be applied to additional waters.

Quality and Trophy Bass Rules

Quality and trophy bass fishing opportunities were created on some waters by further reducing or delaying harvest with special regulations that allowed bass to live longer and reach larger average size. Most Idaho anglers define a “quality” size bass as a 14- to 16-inch fish. Bass over 20 inches are generally considered fish of “trophy” size. Quality and trophy bass management differs in the size of bass, the total catch rates, and the harvest opportunity the regulations are designed to provide. They are defined as follows:

Quality Bass Management - A management program using slot limit regulations which reduces or delays harvest to provide increased catch rates for 12- to 16-inch bass, but where less than 20% would exceed 16 inches. Under quality bass management, the percentage of fish that exceed 12 inches would be greater than under general regulations, but total harvest rates may be reduced.

Trophy Bass Management - A management program using special regulations, which reduces or delays harvest to provide increased numbers of larger bass such that 20% or more exceed 16 inches. Trophy bass management would maximize both catch rates and size of bass and provide only for harvest of trophy-sized bass.

Special regulations used under quality and trophy bass management provide a combination of a two-fish bag limit and various size limits and/or seasonal harvest restrictions. The primary regulation for quality bass management requires anglers to release all bass prior to July 1 to prevent harvest during the pre- and post-spawn period when large bass are most vulnerable to harvest. Harvest after July 1 is restricted to two fish, none between 12 and 16 inches. Quality management may also include a 16-inch minimum size limit where harvest of bass less than 12 inches is not appropriate. The primary regulation for trophy bass management would require anglers to release all bass less than 20 inches. There are no season restrictions under trophy management because the spawning period may be the only time bass of legal size are vulnerable to harvest.

During this planning period, the Department will continue to manage designated lakes and reservoirs for quality bass in addition to managing some for trophy fishing opportunity. Where biologically feasible and supported by anglers, we will manage additional waters for quality or trophy bass fishing.

Native Nongame Species

Statewide fisheries management goals include maintaining or restoring native populations of fish in suitable waters and historic habitats to ensure they have a high probability of long-term persistence, and are present in appropriate numbers to perform ecological functions. There are

a number of nongame fish species that are native to Idaho. These include eight sculpin, 10 minnows, six suckers, one lamprey, and one species of trout-perch.

The ecological importance of nongame species in their native habitats is often overlooked, and many of these species play an integral role in supporting fish and wildlife communities. All fish and wildlife in Idaho are to be preserved, protected, perpetuated, and managed by the Department. Native nongame fishes are important for ecological, scientific, aesthetic, and cultural reasons.

There are a number of native nongame fish that are abundant and widely distributed in Idaho including chiselmouth, peamouth, northern pikeminnow, longnose dace, speckled dace, redbreasted shiner, largescale sucker, and mottled sculpin. These species are regularly documented during the Department's routine field sampling efforts.

In many instances, little is known about the status or distribution of native nongame fish species. As with native game fishes, habitat degradation and other factors have adversely affected native nongame fishes and the ecological communities they occupy. Species with very limited ranges or special habitat needs include the Bear Lake sculpin, Shoshone sculpin, Wood River sculpin, northern leatherside chub, bluehead sucker, Pacific lamprey, and sand roller. Fish with restricted ranges and small population size can be more prone to extinction than species with more widespread distributions. Pacific lamprey are anadromous fish and face essentially the same threats to survival as salmon and steelhead. Their population numbers have plummeted in the past few decades and increased attention is being given to their conservation by federal and state agencies, and Indian tribes. Other species, including some of the minnow species, may actually increase to the point where the fish community is out of balance or no longer in a natural condition due to habitat changes such as reservoir construction. It is therefore important that the Department, in coordination with other agencies, understand the current distribution and population status of native nongame species, and to ensure persistence of these species.

During the 2007-2012 planning period, the Department became a signatory to conservation agreements dealing specifically with the conservation of northern leatherside chub, Pacific lamprey, and bluehead sucker. We routinely participate in conservation team meetings with other parties to discuss management and conservation actions taken by signatory agencies and tribes. The goal of these conservation agreements is for all parties to undertake active conservation to increase population abundance and distribution of these native species to avoid listing under the Endangered Species Act.

During this planning period, the Department will do the following regarding native nongame fish species:

- The Department will continue to advocate protecting habitat for all aquatic communities supporting native fish species. In particular, special attention will be given to fish communities supporting native species with limited distributions. We will work with state and federal land management agencies, private landowners, and others to promote good land and water stewardship. The Department will be an active participant in efforts devoted to the conservation of "at risk" native nongame fish.
- The Department will continue to enhance its understanding and knowledge about the distribution, population status, habitat preferences, and management needs of native nongame species through monitoring and research, as appropriate funds are available.

- The Department will take the lead in developing species management or conservation plans for native fishes including plans that address fish assemblages containing native sport and nongame fish.
- The Department will take a proactive role in informing and educating Idaho citizens, agencies, and decision-makers about population status and the ecological and intrinsic value of native nongame species.

Alpine (High Mountain) Lake Management

Anglers utilizing alpine lakes have consistently expressed the highest level of satisfaction with their fishing experience. Alpine lakes provide an enhanced fishing experience in scenic country with the opportunity for solitude and remoteness. Alpine lakes are also important components in Idaho's recreation economy. Over 40,000 anglers fish in alpine lakes each year.

It is estimated that over 3,000 alpine lakes exist in Idaho, ranging in size from small temporary ponds to large lakes over a mile long. Approximately 1,355 lakes are stocked or have natural fish populations. Many of the lakes have received fish since the early 1900s when fish stocking was conducted by backpack and horseback followed by aerial stocking in the last 50 years. Stocking of most lakes is done on two or three-year rotational schedules and is guided by a Memorandum of Understanding with the U.S. Forest Service. Although most of the species historically stocked were native to Idaho, they were not always native to certain watersheds. During the 1920s to 1950s, brook trout were stocked into many lakes and established naturally reproducing populations. Other apparently unsuccessful non-native fish stocked in the early 1900s included arctic char and Atlantic salmon. Yellowstone and Henrys Lake cutthroat trout were utilized for stocking through the 1980s in both native and non-native watersheds. All strains of rainbow trout used for stocking mountain lakes were of non-native stocks. In addition, bull trout, golden trout, brown trout, and grayling have been stocked to provide diverse fishing opportunities and meet specific management needs.

Historical alpine lake management was conducted to provide diverse angling opportunities. Wilderness areas were not designated at the time and little consideration was given to native fauna occurring in the lakes. Prior to fish introductions, amphibians were the top vertebrate carnivores in most alpine lakes (Pilliod et al. 1996). Introductions of fish into some of these lake systems have reduced amphibian populations through predation and competition (Hoffman and Pilliod 1999).

In recent years, the Department has developed an adaptive management approach to guide the alpine lake fish-stocking program. Information from a variety of sources is incorporated to continuously optimize the total array of benefits from the alpine lake program. Ecological and biological aspects of maintaining healthy amphibian populations are now considered in determining how alpine lakes are managed. Potential impacts to downstream native fish populations are also part of the decision process.

During this six-year planning period, the Department will develop an alpine lakes management plan. We will also continue to evaluate alpine lake management based on the following guidelines:

1. Where desirable and feasible, some lakes will be maintained as fishless. Fishless lakes will allow for maintenance of natural conditions for native fauna within alpine ecosystems.

2. Management of alpine lakes in wilderness and national recreation areas will be coordinated closely with the appropriate land management agencies.

The “Policies and Guidelines for Fish and Wildlife Management in Wilderness and Primitive Areas” manual, developed by the U.S. Forest Service, U.S. Bureau of Land Management, and the Association of Fish and Wildlife Agencies, will guide management of these alpine lakes. Stocking plans for wilderness lakes should address impacts on fisheries, lake ecosystems, recreational use, and aesthetics. The Department is the lead agency for fish population management in alpine lakes. Stocking rates and frequencies will be adjusted to respond to changes in angler preferences and access.

3. Self-sustaining native trout populations will be maintained.

Determination of lake capability of providing natural reproduction will be made when the lake is surveyed. Stocking will be modified or eliminated to reduce the detrimental effects of supplementing more fish on existing populations and reducing costs.

Species of greatest conservation need, native species, and threatened and endangered species within alpine lake drainages will be given management priority.

Priority will be placed on management of alpine lakes to reduce or eliminate impacts to native species in and downstream from alpine lakes. In these drainages, sterile fish may be stocked to eliminate potential interbreeding with native fish in the drainage.

Self-sustaining populations of non-native species may be reduced where feasible, to achieve native species goals or other fish management goals.

4. Amphibian and Natural Fauna Plans.

Most of the 1,645 alpine lakes in Idaho currently designated as fishless appear to provide amphibian habitat. Lakes that are fishless and that have never been stocked previously may remain fishless. A few lakes that currently hold fish may be removed from the stocking schedule as a research experiment to measure fish, amphibian, and other natural fauna population responses. These lakes will be selected to maintain biotic integrity of amphibian and invertebrate populations or to improve trout growth potential in adjoining lakes. Amphibians and natural fauna will be included as part of the Department’s alpine lakes management plan.

5. Non-native fish control.

Brook trout and other non-native fish can negatively impact native fish populations. Management will be directed towards reducing or eliminating negative effects of non-native fish populations on native fish by utilizing regulations or population management actions. Tiger muskie will be used in a few selected lakes as a management tool to either remove non-native fish (primarily brook trout) from alpine lakes or improve the brook trout fishery by reducing their numbers thereby increasing their size.

Anadromous Fisheries Management

The Snake River upstream from Lewiston historically produced an estimated 55% of the summer steelhead trout, 40% of the spring Chinook salmon, and 45% of the summer Chinook

salmon in the Columbia River. Historically, Idaho was also a key production area for fall Chinook salmon. Lesser numbers of sockeye salmon and Coho salmon inhabited the Snake River drainage although Snake River Coho salmon were declared extinct in the mid-1980s. Runs of naturally reproducing salmon and steelhead in Idaho have generally improved since historic low abundances experienced in the mid-1990s, but they are still lower than the 1960s and early 1970s. The declines in run sizes led to federal Endangered Species Act listings of Snake River salmon and steelhead starting in 1992. The three Snake River federally-listed Evolutionarily Significant Units (ESUs) and the listing status of each are: Snake River sockeye salmon (endangered), Snake River spring/summer Chinook salmon (threatened), and Snake River fall Chinook salmon (threatened). Also, the Snake River steelhead Distinct Population Segment (DPS) is listed as threatened. Forty-three of the 62 independent populations within the listed ESUs and DPS are entirely contained in waters managed by the Department, and two populations occur in waters jointly managed with Oregon and Washington. The federal Endangered Species Act listings add complexity to state management. More specific information about which populations are included in these ESUs and DPS is in the Threatened and Endangered Species section of this plan.

The Department's long-range goal of the anadromous fish program is to recover and preserve Idaho's salmon and steelhead runs to provide benefits for all users. This management goal complements the Compass objectives to: 1) maintain or improve game populations to meet the demand for hunting, fishing, and trapping; and 2) ensure the long-term survival of native fish, wildlife, and plants. The anadromous management program will employ many of the key Compass strategies consistent with these objectives, generally described below.

Key management objectives to achieve the management goal are: 1) maintain genetic and life history diversity and integrity of both naturally- and hatchery-produced fish; 2) rebuild naturally-producing populations of anadromous fish to utilize existing and potential habitat at an optimal level; 3) achieve equitable mitigation benefits for losses of anadromous fish caused by development of the hydroelectric system on the Snake and Columbia rivers; 4) improve overall life cycle survival sufficient for delisting and recovery by addressing key limiting factors identified in all "H's" of hydropower, habitat, harvest, and hatchery effects; 5) allow consumptive harvest by sport and treaty fishers; and 6) coordinate Pacific Northwest regional management with Idaho anadromous management to ensure achievement of Idaho management objectives and the long-range program goal.

To help meet the anadromous program long-range goal and federal recovery goals, Idaho's anadromous fish management utilizes both natural and hatchery production. In natural production waters, populations are sustained by spawning and rearing in the natural habitat without human intervention, regardless of the parentage of the spawners (i.e., naturally-produced progeny of hatchery or wild/natural origin fish). Hatchery production occurs in a controlled artificial spawning and rearing environment with hatchery fish released to provide fishing opportunity or to sustain populations. For management purposes, the Department classifies three groups of salmon and steelhead based on definition of production and broodstock history: wild, natural, and hatchery fish.

Wild/Natural

Wild fish are native fish, which have no history or evidence of reproductive introgression with hatchery or non-native fish. These fish are naturally produced without artificial intervention. Natural fish also result from natural production, but their parentage may include hatchery fish. For example, naturally spawning spring Chinook salmon in the Clearwater River Basin is

considered natural because current populations were established through reintroduction efforts using hatchery fish. Coho in the Snake River Basin is another example of natural fish management where hatchery fish are the foundation of a reintroduction effort. In Idaho, “conservation” describes the fishery management strategy applied to most wild/natural salmon and steelhead populations (see Part 2, Drainage Management) during this planning period. Because populations of these fish are so low, this management strategy prohibits directed harvest and/or angling in order to minimize harvest mortality. Conservation-oriented strategies seek to maintain a diversity of wild (without hatchery influence) and natural populations (may have hatchery influence) that are broadly distributed across the range of current anadromous fish habitat.

The Department will emphasize protecting and maintaining populations of wild, native stocks of salmon and steelhead. Examples include wild steelhead in the Selway River and the South Fork Salmon River drainages, or wild salmon and steelhead in the Middle Fork Salmon River drainage and the Salmon River Canyon tributaries (Table 3).

Table 3. Geographic locations of wild populations of salmon and steelhead.

| | |
|-------------------------------------|---|
| <u>Spring/Summer Chinook Salmon</u> | |
| <u>Salmon River</u> | |
| | <ul style="list-style-type: none"> • Salmon River tributaries from mouth to Middle Fork Salmon River, excluding Little Salmon and South Fork Salmon Rivers • Secesh Drainage (South Fork Salmon River tributary) • Middle Fork Salmon River Drainage • Valley Creek |
| <u>Steelhead</u> | |
| <u>Clearwater River</u> | |
| | <ul style="list-style-type: none"> • Lower Clearwater tributaries excluding Lolo Creek drainage • Lochsa River Drainage • Selway River Drainage |
| <u>Salmon River</u> | |
| | <ul style="list-style-type: none"> • Salmon River tributaries from mouth to Middle Fork Salmon River, excluding Little Salmon River • Rapid River (Little Salmon River tributary) • South Fork Salmon River Drainage • Middle Fork Salmon River Drainage |

Maintaining genetic integrity and diversity of the wild stocks is considered essential to continued production (hatchery and natural) of fish evolutionarily suited for Idaho habitat, as well as being the only practical means of fully utilizing the production capability of wilderness streams. Preserving the current diversity of populations is critical so that survival improvement effected by management changes in the four “H’s” (habitat, hatcheries, hydropower, and harvest) or by natural environmental variables, such as ocean regime, can be capitalized on for rebuilding and recovery. Artificial production will be limited or absent in areas managed for wild production.

Clear benefit as a result of benefit/risk assessment must be demonstrated before considering new interventions using artificial propagation as a safety net for wild/natural populations that may be at risk of loss of population viability during the next management period. Bringing wild fish into captivity will be considered only if essential for long-term conservation. Careful

monitoring of wild/natural salmon and steelhead populations will be necessary for future conservation and recovery management decisions.

Releases of hatchery-produced fish will be managed to minimize straying as juveniles or adults into non-targeted or wild fish streams. Use of natural fish in hatchery programs will be controlled to avoid reducing genetic integrity or fitness of the population.

Management activities to increase wild and natural salmon and steelhead abundance will focus on improving life cycle survival. Key priorities for scientific assessment and recommendations will be the Snake and Columbia rivers' migration corridor and regional fisheries. Improvements in spawning and rearing habitat that provide significant survival benefit for wild/natural populations of salmon and steelhead will be pursued in collaboration with land managers and private landowners. Hatchery production will be used consistent with policy and scientific information to provide selective fisheries and supplement natural populations.

Fish Hatchery Program

Resident Fish Hatcheries

On an annual basis, the Department may stock over 22,000,000 fish from its resident hatcheries. This includes fry, fingerlings, and catchable sized fish from 18 species and 16 strains (examples are Hayspur, Kamloops, and Shasta). Most of these fish are utilized in lowland lakes and reservoirs with about 300,000 trout stocked annually in mountain lakes. About 88% of the total numbers of resident fish released are salmonids, with the other 12% being comprised of walleye, channel catfish, and tiger muskie. Rainbow trout comprise upwards of 27% of the resident salmonids stocked while kokanee salmon comprise over 51%.

The Department currently has eight fish hatcheries that produce resident salmonids. Three other facilities stock resident fish in addition to their primary function as anadromous fish hatcheries. The Mullan Hatchery, owned by the Shoshone County Sportsman's Association, redistributes catchable-size rainbow trout throughout the Silver Valley of north Idaho. The Clark Fork Hatchery is owned by the Department but has been closed since 2000 due to the presence of Infectious Pancreatic Necrosis in the water supply. The Cabinet Gorge Hatchery was built to mitigate for the loss of habitat due to the operation of Albeni Falls Dam. This facility produces primarily kokanee. This hatchery holds a captive broodstock of westslope cutthroat trout that supplies eggs for statewide management programs. Other fish for statewide use will be reared at Cabinet Gorge as rearing space allows. In addition to the 11 facilities mentioned above, the Henrys Lake Management Station takes Yellowstone cutthroat trout eggs in the spring for use statewide, but primarily for the Henrys Lake fishery.

In addition, the genetic purity of wild/natural trout stocks is a concern. The Department will stock rainbow trout strains that have been subjected to sterilization techniques. If there is no genetic risk to native trout species, the Department may consider supplementing native/natural stocks with reproducing fish for conservation or sport fishery purposes.

Fish health in hatchery stocks, as well as native stocks, is a concern to the Department. As a result, the Department has participated in the development of, and is adhering to, fish health guidelines set forth by the Pacific Northwest Fish Health Protection Committee and the Integrated Hatcheries Operation Team. The Eagle Fish Health Laboratory provides fish health and diagnostic services to both resident and anadromous hatcheries, as well as assisting regional personnel in monitoring disease, diagnosing fish kills, or pathogen presence in wild

populations. The primary goals of the fish health program are to reduce the threat of introduction of new or exotic pathogens to the State of Idaho; to avoid amplifying any pathogens of concern that already occur in hatchery fish or wild fish; to limit the possibility of spreading any specific endemic disease agents through Departmental activities; and to enhance hatchery fish health and smolt quality to assist in the restoration of salmon and steelhead including an ongoing anadromous program that includes extensive disease sampling, modified rearing strategies to reduce stress, and structural modifications to increase or maintain a high level of fish health.

At Hayspur Hatchery, the Department's sole rainbow trout broodstock facility, we conduct our triploid rainbow trout program. In our most robust assessment of techniques, we developed two techniques to induce triploidy. Both the heat and pressure shock methods were tested. Both methods were determined to be highly effective; however, the pressure shock method provided slightly higher average triploidy induction rates than heat. As a result, we now only use pressure treatment on all rainbow trout produced at Hayspur Hatchery.

A monitoring program was developed to ensure that overall triploidy induction rates are precisely estimated each year and monitored over time. From this monitoring program, annual triploidy induction rates have ranged from a low of 94.8 % in 2002 to a high of 100% in 2009-2011, with an average over 99%. A small number (<1-4%) of fertile fish may occur among treated fish that are used for stocking. The Department will continue to work on perfecting triploidy induction techniques to maintain a goal of 99% sterilization. Other species the Department has conducted research on to induce triploidy include cutthroat trout, rainbow x cutthroat hybrids, brook trout, lake trout, and kokanee. As we develop these sterile hatchery fish, they will be used wherever necessary to reduce genetic, competition, and predation risks to native trout.

In addition to producing rainbow trout from our own broodstocks, the Department also purchases triploid rainbow trout eggs from commercial suppliers. Purchase orders for commercial eggs stipulate the triploidy rate must be at least 95%.

During this planning period, the resident fish hatchery section will focus on meeting fish management needs statewide. Fishing opportunity can be increased and improved by increasing efficiency of put-and-take trout programs through: 1) concentrating releases of catchables in easily accessible, heavily-fished waters; 2) timing releases to coincide with peaks in fishing pressure; 3) publicizing the location of stocked trout streams; and 4) producing a consistently high-quality product at the hatcheries. Additional hatchery production may be needed if new angling waters are developed.

The Department also coordinates the acquisition and stocking of cool and warmwater fish for use in management and research activities. These include channel catfish, tiger muskie, and walleye. Details of planned hatchery production, development, and maintenance are described in separate reports available from the Department.

Anadromous Fish Hatcheries

Idaho's anadromous fish hatcheries were built to mitigate for lost natural fish production and reduced survival that resulted from hydroelectric development of Columbia Basin rivers. Management of IDFG's salmon and steelhead hatcheries is focused on producing and releasing juvenile fish to provide harvest opportunity on adult fish returning from the juvenile releases.

Over the past two decades, hatchery-produced fish have provided the only sport fishing and harvest opportunity for salmon and steelhead in Idaho. Although the primary objective of the hatcheries is to provide harvest opportunity, fisheries can be considered only when: 1) enough hatchery adults return to ensure that hatchery broodstock needs can be met, and 2) incidental impacts to non-target stocks are minimal. Of the fishery management classifications (see Part 2, Drainage Management), “anadromous” refers to management which targets harvest opportunity on hatchery-origin fish while protecting wild and natural fish.

A secondary objective of the anadromous mitigation hatcheries is to preserve and rebuild natural stocks. The Department will continue to carefully assess the risks of using hatchery fish over the long term to bolster numbers of fish in the natural environment. Evaluation and implementation of supplementation programs targeting natural fish populations will be regionally coordinated. The Idaho Supplementation Studies (ISS) for Chinook salmon will be completed during this planning period and its results, along with information from other studies, will guide future hatchery actions for natural stock rebuilding. New efforts to integrate natural and hatchery production are being initiated. The purposes of these integrated brood programs are to reduce the impact of hatchery programs on wild and natural populations and to promote recovery of ESA-listed populations. However, rebuilding runs only through supplementation or other artificial production mechanisms is unlikely to succeed if life cycle survival is less than needed for spawner-to-spawner replacement.

The Department’s anadromous hatchery program will: 1) strive to produce maximize survival of juvenile fish to adulthood through effective disease control, fish culture practices, and release strategies; 2) produce sufficient numbers of fish to maintain and enhance sport and tribal salmon and steelhead fisheries; and 3) implement supplementation programs as appropriate and guided by current research and science. Anadromous hatcheries, where necessary, will be used to help preserve salmon and steelhead populations on the verge of extinction until life cycle survival permits rebuilding. The Department will continue to mark hatchery smolts prior to release in order to maximize hatchery selective fishery opportunities and to easily identify hatchery fish to maximize broodstock management options.

Fisheries Research

The fisheries research section has five organizational components: anadromous fish mitigation, resident fish species mitigation (both 100% Federal funding), discretionary research, program management/technical support (both funded 75% with federal sport fish restoration or Dingell-Johnson funds), and lastly a genetics program (funded via a variety of Federal, state and private (e.g., Idaho Power Company) funds).

The Department operates a fish genetics laboratory to provide an efficient, cost-effective means of generating detailed genetic information necessary for the improved management of Idaho’s native fish species. Importantly, information gained from genetic research studies completed in the laboratory are being used by managers to assess current and future genetic risks, preserve existing genetic variability, delineate and prioritize populations for management purposes, identify suitable populations for translocations and reintroductions, identify suitable populations for broodstock development, and address genetic concerns in Endangered Species Act petitions.

The Endangered Species Act status of anadromous sockeye salmon and Chinook salmon mandates research/mitigation efforts on those two species are intricately tied to Federal recovery processes. Currently, two research projects (Captive Chinook and Sockeye Research)

are focusing on long- and short-term implementation of Captive technologies for maintenance of genetic diversity and restoration of wild stocks to harvestable levels.

Resident fish species mitigation research is designed to mitigate for fish populations impacted by development of the federal Columbia River hydropower system. Population monitoring, evaluation, and other findings are used to recover populations of Kootenai River white sturgeon, kokanee, rainbow trout, bull trout, burbot, and other species that have been adversely impacted by hydropower systems. The general direction of these research activities is coordinated with other resource agencies, provincial governments, Indian tribes, and federal or utility funding entities and set through funding contracts (Table 4).

To provide direction for the remainder of the Department’s fisheries research program, a combination of management, hatchery and research personnel identified needed information and tools that would enhance fisheries management in Idaho (Table 5). These research questions are being addressed by three separate Dingell-Johnson funded projects entitled Hatchery Trout, Wild Trout, and Lake and Reservoir Research.

Table 4. Resident species mitigation research, 2012-2017.

| Resident Mitigation Research Projects | Schedule |
|---|------------|
| Monitor and evaluate adult white sturgeon spawning and juvenile rearing responses to changes in Kootenai River temperature, flow/discharge and habitat enhancement efforts prescribed in the Kootenai Sturgeon Recovery Plan. | 2012 -2017 |
| Evaluate phosphorus and nitrogen addition to the canyon reach of the Kootenai River in terms of changes in periphyton, zooplankton, benthos, and associated shifts in fish populations. | 2012-2017 |
| Evaluate limiting factors for redband trout recruitment in the Kootenai River upstream of Bonners Ferry and develop solutions. | 2012-2017 |
| Evaluate limiting factors for kokanee recruitment and examine effects of management actions designed to improve kokanee spawning habitat and recruitment in Lake Pend Oreille. | 2012-2017 |
| Monitor and evaluate hatchery burbot releases and other recovery measures implemented under the Kootenai River Conservation Strategy. | 2012-2017 |
| Evaluate the kokanee stocking program in Lake Pend Oreille to assist in restoration of kokanee and protect bull trout. | 2012-2017 |
| Reduce lake trout abundance and evaluate effects of associated predation reduction on kokanee in Lake Pend Oreille. | 2012-2017 |
| Monitor rainbow trout population to inform management of sport fishery and evaluate predation potential on kokanee. | 2012-2017 |
| Evaluate benefits to the kokanee fishery from pilot fertilization efforts in | 2012-2017 |

| | |
|--|-----------|
| Dworshak Reservoir. | |
| Evaluate trophic dynamics in Lake Pend Oreille to identify limiting factors for kokanee recovery and potential management actions. | 2012-2017 |

Table 5. Management needs scheduled to be addressed by discretionary (DJ) research.

| Management Need | Schedule |
|--|-----------------|
| Lake and reservoir studies | 2011-2015 |
| <ul style="list-style-type: none"> • What is the most effective study design and sample size for creel surveys in Idaho? • Would the use of circle hooks reduce deep hooking of sturgeon when bait fishing? • What proportion of sturgeon have ingested fishing tackle in various sections of the Snake River in Idaho? • Can sturgeon effectively pass circle hooks or other fishing material through their digestive systems? • Determine the most effective sampling methods and gear ratios for standard sampling of lowland lentic waters in Idaho. | |
| Sterile fish studies | 2011-2015 |
| <ul style="list-style-type: none"> • Evaluate the performance of sterile cutthroat trout in high mountain lakes. • Continue to refine sterilization recipes for westslope cutthroat, kokanee, and other species. • Evaluate the potential for sterilization to improve kokanee fisheries. • Evaluate the potential of using predators to eliminate or improve brook trout fisheries in high lakes. | |
| Improve hatchery trout return to creel | 2011-2015 |
| <ul style="list-style-type: none"> • Identify optimum hatchery densities that lead to better catch rates and return to creel. • Identify optimum grading strategy to remove “stragglers” that could potentially save feed costs and increase return to creel. • Can hatchery conditioning of fish improve return to creel? | |
| Wild / native species studies | 2011-2015 |
| <ul style="list-style-type: none"> • Monitor trends in native salmonid populations across Idaho. • Can the level of introgression be reduced in hybridized populations of cutthroat trout? • Can daughterless fish technology be used to control undesirable fish species? • Determine the best PIT tagging body location for salmonids to minimize tag loss. • Estimate pelican predation vs. angler harvest on select waters in Idaho. • Determine the best electrical settings at electric weirs to minimize fish injury while maximizing capture efficiency. | |
| Conduct angler use, fish harvest, and angler economic surveys as needed | 2011-2015 |
| <ul style="list-style-type: none"> • Can we estimate use and harvest more efficiently? | |
| Develop database and GIS coverage for fish species distribution as needed to support fish management and ESA listing needs | 2011-2015 |

Fish Habitat Program

In 2007, the Department created a fish habitat restoration program and hired a Habitat Coordinator to supervise the program. In 2008, the Department hired two fish habitat biologists, one for the Clearwater Region and one for the Salmon Region. This was accomplished with Bonneville Power Administration funding. These positions are responsible for identifying, prioritizing, designing, and implementing habitat restoration projects. Because the majority of the funding for these projects comes from federal or private sources, the habitat biologists are also responsible for securing funding for these projects. One hundred percent of their time is dedicated towards restoration efforts.

To complement this restoration work, the Department implemented intensive monitoring efforts on a sub-basin scale in two drainages where habitat restoration efforts are being focused: the Lemhi River drainage (Salmon Region) and the Potlatch River drainage (Clearwater Region). This monitoring is designed to determine the effectiveness of habitat restoration work in increasing fish production and to provide guidance on future habitat work.

It was apparent early in the program that engineering services are critical for the design and implementation of successful projects. Lack of these services limited the Department's ability to implement projects. As a result, a habitat engineer was added to the program in 2010. The Department also uses the services of private engineering firms when needed.

The program has since grown to include most Department administrative regions. There is now a biologist in the Panhandle Region, the Upper Snake Region, and the Southeast Region that have a percentage of their time dedicated to fish habitat restoration. The biologists in the Panhandle and Southeast regions are funded through hydropower relicensing agreements while the Upper Snake biologist is funded through several different sources.

Only the Southwest and Magic Valley regions do not yet have fish habitat biologists. The goal of the program is to continue to expand until all the Department's regions have at least one fish habitat biologist.

Special Management Issues

Other Aquatic Species

All wildlife is the property of the state and are protected and managed by the Department. Aquatic animals that are important to, may be impacted by, or may have an impact on fish management include amphibians, mollusks, crustaceans, and insects. Aquatic mammals and birds that may affect fish management are not considered in this plan.

The blueback trout (*Salvelinus alpinus oquassa*), formerly the sunapee trout, was synonymized with the blueback trout by taxonomists. It was introduced into alpine lakes of the Sawtooth Range many years ago. The Idaho population of this exotic char is the only population outside of its native range of northeastern New England and southeastern Canada, where only a few populations remain. Because it is not native, it will not be considered an "at risk" species, but the Department will protect this fish and its habitat. The Department will protect this species by suppressing publicity, carefully monitoring the populations to determine their status, and by not stocking other species, which would adversely affect blueback trout in waters where they occur.

One amphibian, the bullfrog (*Rana catesbiana*), is classified as a Game Fish for management purposes and is subject to sport harvest. Management consists of restricting harvest to the same season as other game fish in waters where bullfrogs occur. Scientists specializing in amphibians are concerned about apparent declines in amphibian abundance and the effect non-native amphibians such as the bullfrog may have on native species. The Department only administers the sport harvest of bull frogs. Bull frogs are classified as an Invasive Species as per Idaho Administrative Code 02.06.09. The Idaho Department of Agriculture administers rules governing the possession, cultivation, importation, shipping, or transportation of designated Invasive Species.

Crayfish are crustaceans and for management purposes are also classified as game fish and are subject to sport and commercial harvest regulations. There are three native crayfish species in Idaho and all are members of the genus *Pacifastacus*. Management consists of restricting harvest to the same season as other game fish in waters where they occur for sport and commercial harvest and regulating types of gear used. Non-native crayfish species (e.g., rusty crayfish) can cause potential negative impacts on native species and potential problems associated with burrowing species on irrigation dikes. Several non-native crayfish species are classified as Invasive Species as per Idaho Administrative Code 02.06.09. The Idaho Department of Agriculture administers rules governing the possession, cultivation, importation, shipping, or transportation of designated Invasive Species.

Other amphibians, crustaceans, aquatic insects, and mollusks provide forage for game fish, are used by anglers for bait, or are of scientific or aesthetic value. The Department has developed conservation plans for the Columbia spotted frog and the Coeur d'Alene salamander and present populations will be monitored while conducting routine fish surveys.

Endangered Species Act

The Endangered Species Act as amended was passed by Congress in 1973. Its purpose is to provide a means of ensuring the preservation of animal and plant species that are in danger of extinction. An endangered species is any species that is in danger of extinction throughout all or a significant portion of its range, whereas a threatened species is any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Species may be broadly defined to include isolated breeding populations that are significant for ecological importance such as the Kootenai River white sturgeon, which is comprised of a single spawning population. Recovery of a species to a level safe from extinction is the key goal of the act. Typically, restoration actions are guided by a recovery plan, and the tools of recovery may range from captive breeding to land acquisition. Critical habitat is identified for listed species in order to provide special protection for key spawning and rearing areas.

There are six fish species in Idaho that are listed as threatened or endangered under the federal Endangered Species Act. The Snake River sockeye salmon was listed as endangered in 1991. Naturally-produced Snake River spring, summer, and fall Chinook salmon, excluding spring Chinook salmon in the Clearwater River, were listed as threatened in 1992 and several related hatchery stocks were added to the listing in 2005. The Kootenai River white sturgeon was listed as endangered in 1994. Naturally-produced Snake River steelhead trout were listed as threatened in 1997. Bull trout were listed as a threatened species throughout its entire range in 1998. NOAA Fisheries (part of the National Marine Fisheries Service) oversees management of listed anadromous species such as salmon and steelhead. The U.S. Fish and Wildlife Service is

legally responsible for the management of listed resident species such as bull trout and Kootenai River white sturgeon.

In 2000, the Office of Species Conservation was created by the Idaho Legislature within the Office of the Governor to provide coordination, cooperation, and consultation among various state and federal agencies with Endangered Species Act responsibilities in Idaho. The core functions of the Office of Species Conservation are to coordinate federal Endangered Species Act programs with state agencies; solicit, provide and delegate funding for Endangered Species Act programs; negotiate agreements with federal agencies concerning endangered species; serve as the state's "one-voice" on Endangered Species Act policy; provide a mechanism for Idaho citizens to voice Endangered Species Act concerns; and facilitate collaboration between state, federal, and private stakeholders.

Section 9 of the Endangered Species Act prohibits the taking of listed species unless authorized by the federal regulatory agency in charge. "Take" is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or to attempt to engage in any such conduct. Essentially all of the Department's management and research activities for listed fish and other fish species that coexist with listed fishes, fall under the definition of take. The Department must be federally authorized to conduct tasks that preserve, protect, and perpetuate fish and wildlife resources when its actions may "take" listed fish. The Endangered Species Act requires federal managers to determine if proposed actions are or are not likely to jeopardize the continued existence of listed fishes. Actions that do not jeopardize a species can be authorized or permitted under the Endangered Species Act and may be implemented.

The administrative requirements for both the Department and the federal managers to propose and authorize activities are very lengthy because of their legal nature. Considerable reporting to the federal managers is also required. These reporting responsibilities are in addition to existing state management functions. The substantial research, management, and administrative activities associated with federally-listed fishes are supported primarily with federal contracts because federal hydropower development has been a major factor in the decline of all of Idaho's current federally-listed anadromous fishes as well as Kootenai River sturgeon.

Research, propagation, and management of listed fishes are directed at preservation and recovery in order to eventually reclassify or delist them. The sockeye salmon captive broodstock program implemented in 1991 is a significant example of a preservation action taken by the Department. Information and education about the status and presence of listed species has also been emphasized.

Changes in the Department's management of non-listed species are sometimes required to reduce potential adverse effects to listed fishes. An example is the hatchery steelhead program where there are concerns about interactions such as competition and predation with listed Chinook salmon. The Department has taken actions to minimize these interactions. Steelhead releases have been shifted out of listed Chinook spawning and rearing areas and release numbers have been reduced. Impacts on bull trout in Lake Pend Oreille are being reduced through an aggressive angler harvest and commercial netting program on non-native lake trout. Another example is that the Department has eliminated use of brook trout in its hatchery program to reduce potential genetic introgression with bull trout. Brook trout are still managed via our hatchery at Henrys Lake and are used solely at that location, outside of the range of bull trout.

The Department will work with the Governor's Office of Species Conservation and federal managers to develop sound, biological approaches to delisting and recovery that address key factors of decline. We will ensure that programs do not jeopardize listed fishes but the Department will not support needless constraints imposed on recreational fisheries and fishing opportunity without defensible biological information.

Fish Species at Risk

In Idaho, a number of subspecies and species of fish are considered to be at risk for local extirpations, range constrictions, or extinctions due to their limited or declining range or undetermined and/or declining population status. The Commission is authorized under Idaho Code Sections 36-104(b) and 36-201 to adopt rules concerning the taking of wildlife species (including fishes) and the classification of all wildlife in the state of Idaho. These rules are cited in full as IDAPA 13.01.06.000 et seq., Rules of the Idaho Fish and Game Commission, IDAPA 13.01.06, Rules Governing Classification and Protection of Wildlife. These rules were updated in 2012. The Department will continue to review and recommend changes to these species classifications as biological information warrants.

The Department defines and classifies threatened and endangered species in this plan similar to federal definitions:

Threatened Species - Any native species likely to be classified as Endangered within the foreseeable future throughout all or a significant portion of its Idaho range.

Endangered Species - Any native species in danger of extinction throughout all or a significant portion of its Idaho range.

Species listed as threatened and endangered wildlife under Idaho Code have no statutory protection in contrast to the federal Endangered Species Act. Their classification as threatened or endangered is a policy statement for management and not for legal purposes. In Idaho, the burbot and Pacific lamprey are listed as endangered under Idaho Code but not under the federal Endangered Species Act, while sockeye salmon and the Kootenai River population of white sturgeon are federally listed as endangered and also have the same classification under Idaho Code. Fishes recognized as threatened under Idaho Code include bull trout, Chinook salmon (spring/summer and fall runs), and Snake River steelhead. These threatened fish are also federally listed and given protection under the Endangered Species Act.

The Department classifies species as Game Species, Protected Nongame Wildlife, Threatened or Endangered Species, or Unprotected and Predatory Wildlife.

Game Species: Those species of wildlife classified as Big Game Animals, Upland Game Animals, Game Birds, Migratory Birds, Game Fish, Crustacea, or Furbearing Animals may be taken only in accordance with Idaho law and rules established by the Idaho Fish and Game Commission.

Protected Nongame and Threatened or Endangered Species: No person shall take or possess those species of wildlife classified as Protected Nongame, or Threatened or Endangered at any time or in any manner, except as provided in Sections 36-106(e) and 36-1107, Idaho Code, by Commission rule, or IDAPA 13.01.10, "Rules Governing the Importation, Possession, Release, Sale, or Salvage of Wildlife," Subsection 100.06.b. Protected Nongame status is not intended to prevent unintentional take of these species, protection of personal

health and/or safety, limit property and building management, or prevent management of animals to address public health concerns or agricultural damage.

Unprotected and Predatory Wildlife: Those species of wildlife classified as Unprotected Wildlife and Predatory Wildlife may be taken in any amount, at any time, and in any manner not prohibited by state or federal law, by holders of the appropriate valid Idaho hunting, trapping, or combination hunting and fishing licenses, provided such taking is not in violation of state, county, or city laws, ordinances, or regulations.

Under Idaho Code, when a species is classified as Endangered, Threatened, or Protected Nongame, this does not automatically create a management action response as would happen if the federal Endangered Species Act were applied. The Department will consider these species when making any fishery management decisions that affect their numbers, genetic integrity, or habitat. Likewise, we will use our knowledge of these fish to affect decisions by other agencies, entities, or individuals relative to the health of these species.

State Wildlife Action Plan

As of June 2012, 600 animal species in the United States were listed as threatened or endangered under the Endangered Species Act of 1973 (16 U.S.C. 1531–1544, 87 Stat. 884), as amended (ESA). In addition, more than 500 U.S. plant and animal species, subspecies, and varieties had already gone extinct or missing, and several thousand more were at risk (Stein 2002). Many species have declined without action being taken until the species became listed, which results in higher recovery costs than if action had been taken first to prevent declines. With the exception of the ESA, no prevention program had existed for other at-risk species, and rather than a strategic approach to conservation, many conservation actions were opportunistic, crisis-oriented, and driven by available funding.

Traditionally, federal funding to state fish and wildlife agencies came through the Wildlife and Sport Fish Restoration Programs Improvement Act of 2000 (Pub. L. No. 106–408, title I, § 131, 114 Stat. 1775 [Nov. 1, 2000]), which combined the programs formerly established under the Pittman–Robertson Wildlife Restoration Act (16 U.S.C. 669 et seq.) and the Dingell–Johnson Sport Fish Restoration Act (16 U.S.C. 777 et seq.), and now known as the Federal Assistance Program for State Wildlife and Sport Fish Restoration. However, this program targets the conservation and sustainable use of game species, and does not provide funding for most species, especially those that are not hunted, fished, or trapped. Although states have various mechanisms in place for funding species not covered under the Federal Assistance Program for State Wildlife and Sport Fish Restoration, funding has been limited, and prior to 2001, no equivalent federal program had existed for nongame species.

To address this disparity, Congress authorized two separate appropriations to provide grant funds to states and U.S. Territories to enhance fish and wildlife conservation and restoration: title IX of Pub. L. No. 106–553, appendix B, (Wildlife, Ocean and Coastal Conservation), §§ 901–902, 114 Stat. 2762A–118–124 (Dec. 21, 2000), and title VIII of the Department of the Interior and Related Agencies Appropriations Act, 2001 (Land Conservation, Preservation and Infrastructure Improvement). These appropriations were for expenses necessary to support activities that supplement, but not replace, existing funds available to the states and territories from the wildlife restoration account and sport fish restoration account.

In November 2001, President George W. Bush signed into law H.R. 2217, the Department of the Interior and Related Agencies Appropriations Act, 2002, enacting the State Wildlife Grants

program, which provides wildlife conservation grants to states and to the District of Columbia, Puerto Rico, Guam, the U.S. Virgin Islands, the Northern Mariana Islands, American Samoa, and federally recognized Indian tribes under the provisions of the Fish and Wildlife Act of 1956 and the Fish and Wildlife Coordination Act. This program is for the development and implementation of programs for the benefit of wildlife and their habitat, including species that are not hunted or fished. Funding is derived from the Land and Water Conservation Fund with revenues from Outer Continental Shelf Oil and Gas. The bill provides annual formula-based appropriations. To qualify for funding under this program, each U.S. state and territory was required to develop a comprehensive wildlife conservation plan by October 1, 2005, consistent with criteria established by the Secretary of the Interior, and that considered the broad range of the state, territory, or other jurisdiction's wildlife and associated habitats, with appropriate priority placed on those species with the greatest conservation need (as defined by the State wildlife conservation and restoration program). Each state's respective fish and wildlife agency was authorized to take the lead on this, in coordination with other state, federal, tribal, and non-governmental partners who managed significant amounts of land in the state. As the state agency vested with authority for wildlife management in Idaho, the Department assumed the lead role for developing the plan, and completed the first version in September 2005. The plan was subsequently approved by the U.S. Fish and Wildlife Service in February 2006 (Idaho Department of Fish and Game 2006), and has been implemented over the past several years. To remain current, Congress also required that each state review and/or revise its plan at least every 10 years. The Department has notified its Regional USFWS Federal Assistance office by letter of intent to review/revise the Action Plan by October 1, 2015, and has started the review and revision process.

In the existing plan (formerly known as the Idaho Comprehensive Wildlife Conservation Strategy), 27 fish taxa are considered species of greatest conservation need (SGCN) (Table 6) [Excerpted from Appendix B: Common and Scientific Names of Idaho Species of Greatest Conservation Need]. Of these, 21 taxa have substantial information pertaining to their status in Idaho, and six taxa lack essential information pertaining to their status in the state. Included in the existing SGCN list, which appears in Appendix B of the plan, the status of each SGCN is given, as well as its global conservation status (G-Rank), subnational (i.e., state, province, municipal) conservation status (S-Rank), status under the Endangered Species Act of 1973, as amended, administrative designations of the U.S. Forest Service (Northern and Intermountain regions) and U.S. Bureau of Land Management, and the species' formal classification in the state of Idaho under IDAPA 13.01.06.000, et seq., Rules of the Idaho Fish and Game Commission, IDAPA 13.01.06, "Rules Governing Classification and Protection of Wildlife" (IAC 2011). Also included in an appendix for each SGCN is additional information on its conservation status / classification, basis for inclusion, taxonomy, distribution and abundance, population trend, habitat and ecology, issues, and recommended actions (Idaho Department of Fish and Game 2005b).

Conservation status ranks assess the relative risk facing a species and do not imply that any specific action or legal status is needed to assure its survival. Global conservation status assessments (G-Ranks) are generally carried out by NatureServe scientists (including biologists in state and provincial member programs), with input from other experts. Subnational conservation status assessments (S-Ranks) (i.e., state, province, municipal) in Idaho are assigned by Idaho Natural Heritage Program staff, a division within the Department. Definitions for interpreting conservation status ranks (G-Ranks and S-Ranks) can be found in Appendix A of Idaho's State Wildlife Action Plan.

The Department will seek funding from nontraditional sources to conduct status assessments, monitoring, or research of nongame [fish] species on this list. The Regional Fishery Managers, in concert with the Bureau of Fisheries, will pursue information on population status and distribution by integrating inventory and monitoring activities into their annual work plans. The logical progression is to develop species management or conservation plans to guide recovery or maintenance of populations. When appropriate, the Department will collaborate with other state, federal, Indian tribes, or private entities to develop conservation plans. The first priority for conservation plans will be candidate species for listing under the Endangered Species Act. Notably from a fisheries management standpoint, the list of SGCN includes Idaho's three subspecies of cutthroat trout and Snake River white sturgeon, all of which are classified as game fish. Cutthroat trout and white sturgeon provide important recreational fisheries in Idaho.

The Department will closely control the stocking of fish species and other aquatic organisms that might compete or interbreed with, prey upon, or indirectly cause detrimental effects to SGCN fish species. In some cases, artificial supplementation may be the only viable alternative. This is where species management or conservation plans will provide direction.

Table 6. Fishes recognized as Species of Greatest Conservation Need in Idaho along with conservation status ranks and state and federal status. See Appendix 1 for definitions of conservation status.

| Taxa | Updated Rank | GRank | SRank | ESA | FSR1 | FSR4 | BLM | IDFG Classification |
|--|--------------|--------|-------|-----|------|------|--------|-------------------------------|
| Species with Substantial Information Pertaining to Status in Idaho | | | | | | | | |
| LAMPREYS | | | | | | | | |
| Pacific Lamprey <i>Lampetra tridentata</i> | G4 | G5 | S1 | | | S | TYPE 2 | Endangered Species |
| RAY-FINNED FISHES | | | | | | | | |
| White Sturgeon (Snake River system) <i>Acipenser transmontanus</i> | | G4 | S1 | | | | TYPE 2 | Game Fish |
| White Sturgeon (Kootenai River system) <i>Acipenser transmontanus</i> | G4T1Q | G4T1 | S1 | LE | | | TYPE 1 | Game Fish; Endangered Species |
| Northern Leatherside Chub <i>Lepidomeda copei</i> | G3 | G1G2 | S2 | | | | TYPE 3 | Protected Nongame Species |
| Bonneville Cutthroat Trout <i>Oncorhynchus clarkii utah</i> | | G4T4 | S3 | | | S | TYPE 2 | Game Fish |
| Yellowstone Cutthroat Trout <i>Oncorhynchus clarkii bouvieri</i> | | G4T2 | S2 | | S | | TYPE 2 | Game Fish |
| Westslope Cutthroat Trout <i>Oncorhynchus clarkii lewisi</i> | | G4T3 | S3 | | S | S | TYPE 2 | Game Fish |
| Inland Redband Trout <i>Oncorhynchus mykiss gairdneri</i> | | G5T4 | S4 | | S | | TYPE 2 | Game Fish |
| Steelhead (Snake River basin) <i>Oncorhynchus mykiss gairdneri</i> | G5T2T3Q | G5T2T3 | S3 | LT | | S | TYPE 1 | Game Fish; Threatened Species |
| Sockeye Salmon (Snake River) <i>Oncorhynchus nerka</i> | G5T1Q | G5T1 | S1 | LE | | E | TYPE 1 | Game Fish; Endangered Species |
| Kokanee <i>Oncorhynchus nerka</i> | | G5 | S2 | | | | | Game Fish |
| Chinook Salmon (Snake River fall-run) <i>Oncorhynchus tshawytscha</i> | G5T1Q | G5T1 | S1 | LT | | T | TYPE 1 | Game Fish; Threatened Species |
| Chinook Salmon (Snake River spring/summer-run) <i>Oncorhynchus tshawytscha</i> | G5T1Q | G5T1 | S1 | LT | S | T | TYPE 1 | Game Fish; Threatened Species |
| Bear Lake Whitefish <i>Prosopium abyscicola</i> | | G1 | S1 | | | | TYPE 2 | Game Fish |
| Bonneville Cisco <i>Prosopium gemmifer</i> | G3 | G1 | S1 | | | | TYPE 2 | Game Fish |
| Bonneville Whitefish <i>Prosopium spilonotus</i> | G3 | G1 | S1 | | | | TYPE 2 | Game Fish |
| Bull Trout <i>Salvelinus confluentus</i> | G4 | G3 | S3 | LT | | S | TYPE 1 | Game Fish; Threatened Species |
| Burbot <i>Lota lota</i> | | G5 | S1 | | S | | TYPE 3 | Game Fish; Endangered Species |

| Taxa | Updated Rank | GRank | SRank | ESA | FSR1 | FSR4 | BLM | IDFG Classification |
|---|--------------|-------|-------|-----|------|------|-----------|---------------------------|
| Bear Lake Sculpin <i>Cottus extensus</i> | G3 | G1 | S1 | | | | TYPE 2 | Protected Nongame Species |
| Shoshone Sculpin <i>Cottus greenei</i> | | G2 | S2 | | | | TYPE 2 | Protected Nongame Species |
| Wood River Sculpin <i>Cottus leiopomus</i> | | G2 | S2 | | | S | TYPE 2 | Protected Nongame Species |
| Species Lacking Essential Information Pertaining to Status in Idaho | | | | | | | | |
| RAY-FINNED FISHES | | | | | | | | |
| Lake Chub <i>Couesius plumbeus</i> | | G5 | SNR | | | | | Unprotected Wildlife |
| Umatilla Dace <i>Rhinichthys umatilla</i> | | G4 | SNR | | | | | Unprotected Wildlife |
| Leopard Dace <i>Rhinichthys falcatus</i> | | G4 | SNR | | | | | Unprotected Wildlife |
| Bluehead Sucker <i>Catostomus discobolus</i> | | G4 | SNR | | | | | Unprotected Wildlife |
| Pygmy Whitefish <i>Prosopium coulterii</i> | | G5 | SNR | | | | | Game Fish |
| Sand Roller <i>Percopsis transmontana</i> | | G4 | SH | | | | TYPE 3 | Protected Nongame Species |

Private Fish Ponds

The Department issues private fish pond permits to members of the public as a way to acquire approved fish species for their own use, enjoyment, and management. The permit designates that those fish are private property and not a public resource. Fishing and harvest from a permitted private fish pond are at the discretion of the owner and do not fall under Department rules. The private fish pond permit does not exempt the pond owner from all other required permits required by other County, State and Federal agencies for water rights, dam construction, screening of inflow and discharge sources, etc.

Idaho has regulated the import, transport, and stocking of fish into private fish ponds since 1976 to prevent the introduction and spread of undesirable fish species and fish diseases into the public waters. Private fish pond owners who wish to stock their pond with fish are required to obtain a private fish pond permit and, if necessary, a fish transport permit specifying number, species, hatchery origin and destination from the Department. This permitting process requires that the fish to be stocked will be compatible with Regional Fishery Management Drainage Plans and free of serious diseases (see below). The Department's Regional Office serving the pond owner will issue private fish pond permits drawing from a list of approved trout sources provided by the Bureau of Fisheries. When necessary, sterile trout will be required for management consistency. If other species are desired and not commercially available, but are found in nearby Idaho waters, the permit holder may apply for a live fish transport permit from the Department to acquire fish from approved public waters. All standard fishing rules for those waters will apply.

With the proliferation of private fish pond construction across the state, it is becoming increasingly difficult for fishery managers to keep track of new ponds and new pond owners are frequently unaware of the private fish pond permit and fish transport permit requirements. This situation is potentially a serious threat to established fisheries. The Department will work with the private fish culture industry, the Idaho Department of Agriculture (which licenses private hatcheries within Idaho), local real-estate offices, and local construction companies (specializing in pond construction) to increase awareness of private fish pond and live fish transport permit requirements, procedures, and the risks of non-native species to public resources.

Establishing that a private aquaculture facility is free of serious diseases will require an annual inspection of trout lots intended for sale to private pond owners. The list of exotic pathogens (Class A viruses and *Myxobolus cerebralis*) in the current and approved version of the Model Program of the Pacific Northwest Fish Health Protection Committee (PNFHPC) defines "serious diseases" as one in which the potential of a particular pathogen to cause a disease state is one that exceeds a certain tolerance threshold. When use of sterile trout is required, a level of induction consistent with aquaculture standards will likewise be applied.

Aquatic Invasive Species Prevention and Control

Preventing introduction or removing non-desirable aquatic species from Idaho waters is a major focus of fishery management over the life of this plan and the foreseeable future. Aquatic invasive species (AIS) are a significant threat to native fish and wildlife populations, habitat, and the economy of Idaho. Idaho State Department of Agriculture is the lead agency for directing AIS prevention and control activities while the Department provides technical assistance and logistical support.

Preventing the introduction of non-desirable aquatic species is the most efficient and economical method of controlling these plants and animals due to the cost of removal and very low chance of success. Species other than fish of immediate concern include the plant, Eurasian water milfoil *Myriophyllum spicatum* and the bivalve, Zebra mussel *Dreissena polymorpha*. These species are highly invasive in suitable aquatic habitats and can quickly become a nuisance. Eurasian water milfoil can completely choke off a waterway; prevent boating, swimming, and fishing, along with altering the habitat for native species. This plant has been found in Cocolalla, Spirit, and Hayden lakes and the Pend Oreille system in north Idaho; Payette Lake near McCall; and several isolated ponds in southwest Idaho. Zebra and quagga mussels form dense colonies that can clog intake screens on water supply lines and compete with native bivalve populations. To date, these species have not been found in Idaho.

The most likely vector for these organisms is boats, live wells, and other equipment used in contaminated waters which are then transported unknowingly to Idaho. Public education and border check stations are the primary means to prevent the introduction to the State. During this planning period, the Department will continue to work with the Idaho Department of Agriculture and other state and federal agencies to increase public awareness of the potential problems and how to maintain clean boats, trailers, waders and other aquatic equipment when traveling from water to water.

Concern over the introductions of new fish species has increased. The Department conducts a review following the American Fisheries Society guidelines for "Introductions of Aquatic Species" prior to any new species introduction, either by the public or the Department. One of the confounding issues is the increasing ease of internet purchasing and shipping live fish through overnight mail systems for bait and aquariums. Legally, all fish and wildlife, except for a few commercial species, require an import permit from the Department before being brought into Idaho. Commercial exceptions such as rainbow trout are under the jurisdiction of the Idaho Department of Agriculture. During this planning period, the Department will increase efforts to inform the public of the importation requirements and will work with other state and federal agencies in controlling undesirable importations.

The ability to control or remove populations of fish in order to improve fishing or to protect native species is a major fisheries management tool. Currently, rotenone is an approved piscicide and has proven useful in removing undesirable species. Applying piscicides requires permits from the Environmental Protection Agency and the Department of Agriculture. The Department utilizes the "Lake Renovation Procedures Manual" to guide renovation projects (Horton 1997). Although non chemical methods of controlling undesirable species may not be as effective, they can be considered if conditions warrant. They include manual removal by electrofishing or netting, dewatering, installing barriers to prevent fish movement, aiding in the development of commercial markets, and adding predatory species such as tiger muskie to control stunted fish populations.

Non-native trout species such as brook trout, brown trout, and rainbow trout are desired by many anglers. In Idaho, these species often times provide the only local fishing opportunities available, and as such, the Department will attempt to balance the need for increasing the persistence and expanding the range of native species with the desire by anglers to maintain these locally important fisheries.

During this planning period, the Department will continue to assess and implement methods to control or eliminate unwanted non-native fish where they pose serious risks to native species persistence and survival. Target species for control could include brook trout, lake trout, brown

trout, introduced rainbow trout stocks, northern pike, and walleye. We will also propose and seek Commission approval to liberalize fishing rules and regulations when needed to allow the public and/or commercial interests where appropriate to assist in removal of non-native sport fish.

Biological

The Department will continue using sterile predators such as tiger muskie in lowland lakes and alpine lakes to control non-native fish populations. Before considering the introduction of a fish species into a water body, the Department will review and assess potential impacts using the American Fisheries Society (AFS) policy regarding introductions of aquatic species (AFS Policy Statement #15: Introductions of Aquatic Species). We will involve the public in our decision-making process and consult with the appropriate state and federal agencies, including neighboring states. We will also continue evaluating the introductions of sterile hatchery fish (3n) as a way to prevent genetic integration with wild or native fish populations.

Chemical

In certain situations, the Department will consider the use of fish toxicants to remove non-native fish and other aquatic organisms from Idaho waterways under the guidance of our Lake Renovation Procedures Manual (Horton 1997) and the 2011 Environmental Protection Agency's nonpoint source discharge elimination permit (NPDES). Applications in flowing waters must be handled differently than lakes as the toxicant can quickly move downstream and affect areas not intended for treatment. The Department will involve the public in our decision-making process and consult with local officials as well as state and federal agencies, including neighboring states.

Physical

The Department will consider and employ the use of nets, electrofishing, and dewatering as is feasible, as physical control methods for non-native fish species. For instance, during this planning period, the Department will continue the use of gill nets in Lake Pend Oreille to capture and remove non-native lake trout and rainbow trout to benefit native bull trout and westslope cutthroat trout and prevent an important kokanee population from collapsing. Electrofishing will be used in small streams to suppress and possibly eliminate brook trout and introduced rainbow trout stocks that compete and hybridize with native bull trout and cutthroat trout. Where appropriate, physical barriers may be constructed and maintained on streams to prevent upstream colonization by non-native fish species. The Department will also attempt to develop a commercial market for species such as common carp in southern Idaho to reduce their competition with native or sport fish species.

Special Fishing Opportunities

Community Fishing Waters

One of the Department's missions is to provide continued supplies of fish for all Idaho anglers and to respond to the changing needs of society. Increasingly, people cite time and financial constraints as primary reasons for disengaging from the sport of fishing. In response, IDFG has sought to develop waters throughout the state where people, especially beginning anglers, can gain instruction or participate easily in the sport of fishing. Approximately 30 small lakes and reservoirs ranging from less than one to nearly 50 acres are being managed as community

fishing waters. These waters have been designed, developed, or managed to provide easily-accessible, safe, and enjoyable angling experiences.

Fisheries within community fishing waters are supported by stocking or through the establishment of self-sustaining populations. The Department stocks catchable-sized rainbow trout on a bi-weekly or monthly basis in many community fishing waters. Rainbow trout stocking numbers are based on pond size, angling effort, and habitat quality with the intention of providing adequate catch rates for as many anglers as possible. Fingerling channel catfish have been stocked in a few community fishing waters to diversify fishing opportunity. Fingerling channel catfish may be susceptible to largemouth bass predation requiring large stocking sizes and additional cost. Therefore, fingerling channel catfish will only be utilized at locations where survival and growth rates are sufficient to provide a fishery. Introductions of non-native sportfish such as bluegill, largemouth bass, yellow perch, and bullhead catfish have created self-sustaining populations in many community fishing waters. These species have created popular fisheries without substantial annual investment.

The Department seeks to effectively manage community fishing waters which may include stocking adjustments, rule changes, habitat improvements, or development of new waters. The Department will continually evaluate stocking practices to maximize efficiency and benefits provided to anglers. Adjustments may include reallocation of hatchery fish, changing stocking size, modifying stocking frequency as well as re-establishment of certain species. Recent tagging studies have indicated that in extremely high use waters, catchable trout may be removed quickly. In this situation, the Department will seek to implement reduced bag limits to spread out the harvest more equitably. Community fishing waters often have very simple fish habitat and may be susceptible to nuisance aquatic plant problems. Where possible, the Department will seek to improve in-water and shoreline habitat complexity to increase pond carrying capacity. Furthermore, aquatic plants will be managed using chemical (herbicides), biological (grass carp), and physical (drawdowns) methods in an attempt to balance the needs for controlling nuisance levels and providing adequate fish cover. During this period, the Department will look for opportunities to develop new community fishing waters in underserved areas. Due to limited resources, the Department will look for opportunities to collaboratively manage existing and any new community fishing waters with city parks departments and others.

Youth Fishing Opportunities

Competing recreational activities may limit the time that new anglers have to develop fishing skills necessary to make fishing an enjoyable experience. The Department has been asked to manage certain waters for anglers who may not have the skills or the ability to compete with more experienced anglers. During the previous planning period, the Department implemented the Family Fishing Waters program to encourage and enhance family fishing, including the introduction of youths to fishing. During this planning period, the Department will continue to work with local communities, counties, and sportsmen's groups to encourage development of community fishing waters, including some managed specifically for children younger than the age of fourteen. This is in keeping with the Department's mission to provide continued supplies of fish for all of the anglers in Idaho and in response to the changing needs of society.

Commercial Fisheries

The Idaho Legislature enacted commercial fishing legislation in 1988 to document the use of crayfish and nongame fish for commercial purposes. Later that year, the Commission adopted commercial fishing rules. The rules established an equitable fee structure for the take of these

public resources. Some nongame fish have commercial value as animal feed, fish bait, fertilizer, and for human consumption. These species may reduce game fish populations through competition and predation and may be a nuisance to sport anglers. In many Idaho waters, the majority of the fish biomass is nongame fish such as suckers, carp, northern pikeminnow, and chubs. More recently, the Commission approved rules for the commercial take of lake trout from Lake Pend Oreille to address specific fish management objectives. Commercial harvest of some fish species not classified as nongame may have value as a management tool in other fisheries in the future, and will be considered where appropriate.

Crayfish are a species used for human consumption and are an important bait species for fishing. They are also an important forage resource in some of our sport fishes. The effect of commercial exploitation of crayfish on the food availability for game fishes is unknown. However, reporting requirements for the commercial license will provide the Department with continued information during this planning period.

Currently, commercial fishing for crayfish occurs at a low level. Since 2001, only two to three licenses have been issued each year outside of the Lake Pend Oreille lake trout fishery. Prices paid for live crayfish at large markets outside of Idaho were less than the cost of harvesting them and generally do not justify the cost of shipping. The decline in other commercial fishing activity has continued with only occasional interest in harvesting common carp in recent years.

The Commission approved a commercial rod-and-reel fishery for lake trout on Lake Pend Oreille in 2002 as part of an ongoing effort to reduce lake trout numbers. Commercial anglers were restricted to normal sport fishing tackle, but were allowed to use as many rods as they desired. Entry to the fishery was restricted to 10 licenses. In 2003, all 10 licenses were purchased, but by July 2012, only two anglers were still pursuing some type of commercial fishing activity. More recent rule changes allowing sport anglers unlimited rods on Lake Pend Oreille have largely made the commercial permit unnecessary, and the Department does not anticipate issuing commercial rod-and-reel permits in the future.

Lake whitefish were introduced in Lake Pend Oreille in the 1890s and have been commercially fished in the Great Lakes for over 100 years. An evaluation of the lake whitefish population in Lake Pend Oreille in 2005 indicated the population could conservatively support a sustainable harvest of around 86,000 pounds annually. In 2008, the Fish and Game Commission added lake whitefish in Lake Pend Oreille to the list of species available for commercial fishing, in the event that incidental harvest could be used to help offset the cost of the commercial lake trout removal effort. Subsequent evaluation of the cost of the netting program and the potential value of whitefish by-catch indicated minimal benefit, and the need for the whitefish fishery has diminished. During this planning period the Department does not anticipate issuing commercial permits for lake whitefish on Lake Pend Oreille, and will consider removing lake whitefish from the list of approved commercial fishes.

Fishing Contests

Effective July 1, 1989, the Department was given the statutory authority to regulate fishing contests, tournaments, and derbies. Pursuant to that authority, a permit is required from the Department when: 1) an event is planned that has a live-fish weigh-in; 2) awards, cash, or prizes of one thousand dollars (\$1,000) or more based on number, size, or species of fish captured; or 3) is expected to draw or have more than twenty (20) participants. Events organized wholly for youth under the age of fourteen (14) are excluded from the requirement for

a Fishing Contest Permit. Legislation passed in 2000 now requires the Department to charge a fee for any fishing contest, tournament, or derby.

Applications are reviewed for 1) impacts of the contest on local fish populations; 2) compatibility of the contest with fish population management programs and goals; 3) conflicts with other recreational users (anglers and hunters) for access facilities or hunting/fishing opportunities; and 4) conflicts with other contests previously applied for. Permit provisions may be required to mitigate impacts of fishing contests on other users.

Applications and permits will be given priority based on the date a completed application is received at the Bureau of Fisheries in Boise, Idaho. No permits will be accepted prior to December 1. Public opportunities to fish and hunt will be given priority over organized contests. Additional harvest restrictions may be included as provisions of a harvest contest permit.

The Department recognizes and permits two types of fishing contests: 1) a catch-and-release contest where contest rules require specific procedures to keep target species of fish alive and healthy, and require that all fish caught by participants be released back into the contest water on the same day they were captured; and 2) a harvest contest where contest rules allow participants to keep the fish. In the next six years, the Department will work towards providing more information to the public and streamlining the permit process through the use of the Internet.

Aquatic Education

The goals of the Department's aquatic education program are to: 1) Create an environmentally literate citizenry that takes an active role in natural resource stewardship, and 2) increase and maintain participation in fishing. The Department has identified three overlapping components of Aquatic Education that serve to meet these two goals: angler recruitment and retention, fishing education, and stewardship education. These components are consistent with the Department's statutory mission to preserve, protect and perpetuate and manage fish and wildlife. These components also support goals, objectives, and strategies outlined in the Department's strategic plan, *The Compass*.

Angler recruitment and retention efforts involve a variety of components aimed at increasing participation in fishing. These include print, radio, and television advertisements promoting fishing. Additionally, the Department's website now contains a section entitled "Learn to Fish." It includes information on basic fishing set-ups as well as "how to" videos on a variety of angling topics such as cleaning fish and fishing for kokanee. The site will continue to expand to meet the needs of new anglers and encourage participation in fishing. Fishing education efforts include fishing clinics, Free Fishing Day, fishing camps, the Take Me Fishing trailers, Fishing---A Lifetime Sport curriculum, rod loaner programs, Family Fishing Waters brochures, stocking reports, fulfilling angler information requests, and fishing forecasts on the website. These efforts give anglers the skills, equipment, and/or information they need to have a successful fishing experience. Future efforts will consist of adding stewardship messages to all classes and publications to encourage all anglers to enjoy and protect aquatic resources.

Stewardship education efforts focus on increasing public awareness of Idaho's aquatic resources and issues affecting these resources. Department employees have identified four critical topics on which stewardship education efforts should focus: riparian habitat, water quality, water quantity, and angler ethics. Specific stewardship programs occurring in many regions include Trout in the Classroom, teacher education trunks, Department participation in

various local fairs and water-related events, and Project WILD teacher workshops. Hatcheries provide an additional opportunity for the public to view and learn about fish and aquatic systems. Many hatcheries have informational kiosks and offer tours to interested groups. The MK Nature Center in Boise provides education programs on riparian habitat and fish for thousands of students annually, and sponsors the annual Salmon and Steelhead Days. The new Water Life Discovery Center in Sandpoint will provide local schools and visitors a place to learn about aquatic habitats. Future stewardship efforts will include the expansion of the Trout in the Classroom program to each region of the state. Stewardship messages will also be developed for the Take Me Fishing trailers so beginning anglers can learn about their important role in taking care of the aquatic habitats and fish they enjoy.

Fishing and Boating Access

Providing access for anglers to fish is an important part of the Department's fisheries program. Most water in Idaho is owned by the State, but anglers are not allowed to trespass across private property to fish. Public access must be maintained or provided in many areas. When surveyed, anglers regularly indicate that providing access for fishing is an important function of the Department. The Department spends about 5% of the fisheries budget on access exclusive of the steelhead and salmon permit account. The steelhead and salmon permit account uses a portion (\$4.00) of the cost of each steelhead and salmon permit primarily to acquire, maintain, and improve access for steelhead and salmon fishing. This program will continue as funds and opportunity allows. The Department is required to spend 15% of the funds it receives from the Sport Fish Restoration Federal Aid Program (Federal Assistance) administered by the U.S. Fish and Wildlife Service, on motorboat access projects.

Increasing commercial and private development of waterfront and streamside property tends to reduce access for all recreationists, especially anglers. The Department will continue to participate in land management actions to be a voice for anglers. Involvement in local planning and zoning decisions or state and federal planning efforts can help preserve traditional access to fishing waters. The Department will continue its programs of landowner relations, acquiring easements, leasing, or purchase and development of key areas to provide access for anglers to public waters.

Additional fishing docks, boat launch ramps, and access facilities for persons with disabilities will be provided at public streams, fishing lakes, and reservoirs. Boat ramps and docks will be built or existing ones repaired or replaced where appropriate. Approximately \$2.1 million per year will be expended in the next six years for the maintenance of existing, or acquisition and development of new boating and fishing access facilities. Major funding for these projects is provided through the U.S. Fish and Wildlife Service Federal Assistance program through excise taxes on fishing and boating equipment and motorboat fuel.

The Department has participated in the construction of fishing ponds in several Idaho communities. This worthwhile program encourages cost share cooperation with private, local, and governmental entities to mutually benefit sportsmen and to increase fishing opportunities for young or beginning anglers. The Department benefits by recruiting new anglers to the sport, by providing urban fishing areas close to population centers and by attaining a very high return to creel from the number of fish stocked.

Each management region of the state has Department access specialists who work in conjunction with fishery managers and headquarters staff to acquire, develop, and maintain fishing and boating access areas. About 325 sites are currently in the access program and provide fishing

access, boat ramps and docks, parking, and toilet facilities. In addition, the program has constructed and developed some major fishing waters such as Deyo Reservoir, Deer Creek, Spring Valley, and Horsethief reservoirs. The program cooperates with local irrigation districts and others to help repair dams, spillways, and outlet works to maintain or enhance fisheries. Costs of this program are currently about \$500,000 annually. As future access sites are developed, the Department will need to consider ways to minimize maintenance requirements. Anglers and volunteers will be asked to help reduce costly maintenance so that more access opportunities can be provided. During the previous six-year planning period a long-range plan was developed for the fishing and boating access program. This plan was updated in 2009 (Parker 2010). Priorities for improving existing sites were developed in the plan and during this planning period, we will complete the renovation of as many sites as possible.

Outfitting and Guiding

In Idaho, professional licensed outfitters and guides provide an important function by making fishing opportunities accessible to resident and non-resident anglers. During the previous planning period (2008), the Department and the Idaho Outfitters and Guides Licensing Board (IOGLB) completed a Memorandum of Understanding that clearly defined each entity's role and responsibility to the public as it relates to fish and wildlife management and opportunities to utilize our resources. It is the responsibility of the Department to provide science-based information to the IOGLB for decision-making purposes on marketing natural resource related activities. IOGLB will actively seek input from the Department on changes in outfitter operations or proposals to develop new fish and wildlife-based commercial opportunities. Review of previous year's decisions and briefing on anticipated activities will be discussed during annual coordination meetings.

Other Statewide Fisheries Activities

During this planning period, the Fisheries Bureau will undertake or provide support for a number of other key activities that fall outside managing fish, habitat, or anglers. Database management and development continues to be an important function provided by Headquarters staff with assistance from the regions. The Idaho Fish and Wildlife Information System or IFWIS, is the infrastructure developed by the Department to support the various databases. Existing databases managed as part of IFWIS include 1) Standard Stream Survey, 2) Juvenile Trapping, 3) Spawning Ground Survey, 4) StreamNet Reference, 5) Genetics, 6) Pathology, and 7) Aging. Databases currently in production by Department staff include 1) Hatchery, 2) Standard Lakes Survey, 3) Scientific Collecting Permit, and 4) Mountain Lakes.

Additional activities that will be undertaken by Department staff during this planning period that have statewide relevance include fishing rule changes and periodic angler opinion surveys.

Law Enforcement and Public Outreach

A stated goal of the Compass is to "sustain Idaho's fish and wildlife and the habitats upon which they depend." Enforcing fishing rules is an identified strategy to maintain or improve fish populations to meet the demand for fishing.

Idaho's conservation officers spend approximately 50% of their time enforcing fish and game laws and rules through routine patrols, directed patrols, enforcement Action Plans and investigations. Conservation Officers annually contact over 80,000 licensed hunters and anglers, issuing an average of 5,000 citations and warnings. Additionally, contacts with anglers

and hunters provide the conservation officer opportunities to interact, communicate, and educate the public.

Enforcement activities that address regional fishery priorities have been developed by enforcement and fishery personnel (Table 7). “Directed Patrols” allow individual officers to focus or emphasize patrol activities on federally listed species, species or populations at risk, or popular fisheries when fish are vulnerable. Enforcement Action Plans are designed to coordinate efforts of multiple officers and other personnel, addressing critical fisheries and Species of Greatest Conservation Need. Action Plans may include a multi-pronged approach to address the fishery that may include a public outreach component. Action plans measure efforts and effectiveness of patrols that will be used to develop future plans. Waters and fisheries not listed will continue to receive attention through routine patrols as needed.

Table 7. Fishery enforcement priorities by Department administrative region for 2013-2018.

| Panhandle Region | | |
|---|--|---|
| Water | Species | Enforcement Direction |
| Kootenai River | Native Trout White sturgeon Burbot | Directed compliance patrols to restore self-sustaining populations |
| Pend Oreille tributaries | Bull Trout | Focused patrols to monitor and protect spawning bull trout. Increase outreach programs to educate the public on Bull Trout identification and the effects of unlawful harvest. |
| Regional Waters | Non-native species | Increase public awareness campaign and enforcement efforts to detect and deter illegal introductions of exotic fish species. |
| Coeur d'Alene Lake | Kokanee | Increased uniform boat patrols to educate and gain compliance of the kokanee closure |
| Coeur d'Alene River | Westslope cutthroat | Directed patrols to enforce special regulations, including catch and release sections, to improve size and numbers of cutthroat. |
| Clearwater Region | | |
| Water | Species | Enforcement Direction |
| All regional waters | Bull trout | Enhance compliance through regular patrols and public outreach. Increase patrols in areas where bull trout congregate prior to and during spawning. |
| NF-Clearwater, Lochsa, Selway, and South Fork rivers and Tributaries | Westslope cutthroat | Directed patrols to gain compliance of the 2 fish limit or catch and release special regulations protecting cutthroat trout. Work with anglers through public outreach to gain understanding on rules in the South Fork Clearwater. |
| Main Salmon and Little Salmon rivers, and Clearwater drainage | Chinook Salmon | Implementation of annual Action Plan to monitor the fishery. Increase presence during periods of heavy angling pressure. |
| Snake, Clearwater, SF-Clearwater, NF-Clearwater, Salmon, and Little Salmon Rivers | Steelhead | Directed patrols to monitor the fishery and protect wild steel head. Increase night patrols on the South Fork Clearwater to address complaints that more violations are occurring by night anglers. |
| Snake River-Hells Canyon | White Sturgeon | Directed patrols and public outreach campaigns in this catch and release only fishery. Profile for anglers who might have interests in the caviar trade. |
| Southwest Region | | |
| Water | Species | Enforcement Direction |
| SF-Boise River | Bull Trout Redband trout | Implement Action Plan protecting bull trout and increasing public awareness and accurate fish identification Directed patrols to protect older age class wild trout |
| NF & MF Boise River | Bull Trout | Implement Action Plan protecting bull trout and increasing public awareness and accurate fish identification |

| | | |
|----------------------------|---|--|
| Snake River | White Sturgeon | Directed patrols and public outreach campaigns in this catch and release only fishery |
| SF Salmon River | Chinook Salmon | Implementation of annual Action Plan to monitor the fishery and protect wild salmon |
| Bear Valley Creek | Chinook Salmon | Directed patrols and public outreach campaign to protect spawning wild salmon |
| Magic Valley Region | | |
| Water | Species | Enforcement Direction |
| SF-Boise River | Bull Trout | Directed patrols and public outreach will focus on protecting bull trout from harvest. |
| Jarbridge/Bruneau rivers | Bull Trout | Directed patrols will monitor bull trout vulnerability and provide public outreach. |
| Snake River | White sturgeon | Directed patrols will monitor sturgeon vulnerability and provide public outreach. |
| Regional Lakes/Reservoirs | All | Directed compliance patrols to maintain officer presence. |
| Southeast Region | | |
| Water | Species | Enforcement Direction |
| Daniels Reservoir | Trout | Directed compliance patrols of the special regulations |
| Edson Fichter Pond | Rainbow Trout | Directed patrols and Action Plan to enhance compliance with fishing hours, licenses, littering and no alcohol rule. |
| Snake River | Trout, bass, sturgeon | Directed patrols both uniform and undercover to enhance compliance of new catch-and-release winter fishing rule below American Falls Dam |
| Bear River and Tributaries | Cutthroat trout | Compliance of cutthroat trout harvest regulations |
| Chesterfield Reservoir | Trout | Directed compliance of 2-trout limit during ice fishery |
| Upper Snake Region | | |
| Water | Species | Enforcement Direction |
| SF-Snake River | Yellowstone cutthroat | Directed compliance patrols and implementation of an Action Plan to address the special regulations limiting cutthroat to catch and release. Outreach campaign to educate public of the no limit on rainbow and protection of the cutthroat stock. |
| Henrys Lake | Yellowstone cutthroat | Directed patrols of the special regulations and implementation of an Action Plan to address extended fishing hours. |
| Little Lost River | Bull Trout | Implement Action Plan protecting Bull Trout and increasing public awareness of bull trout presence. |
| Salmon Region | | |
| Water | Species | Enforcement Direction |
| Upper Salmon River | Chinook Salmon | Implementation of Action Plan to protect spawning salmon in closed waters |
| Salmon River | Steelhead | Directed patrols to monitor fishery and protect wild steelhead |
| Lemhi River | Redband, Cutthroat, Bull Trout, Chinook and Steelhead | Directed compliance patrols of special regulations |
| Salmon River Drainage | Westslope cutthroat | Directed compliance patrols on rivers and streams for the catch and release fishery |

2011 Angler Opinion Survey

To obtain angler input for development of the 2013-2018 Fisheries Management Plan, the Department conducted a random mail survey with a total of 16 questions (Appendix 2). Anglers were asked to respond to the survey questions based on their last five years of fishing in Idaho. Similar surveys were conducted in 1967, 1977, 1987, 1994, 1999, and 2006 (see Willard et al. 2007). In 2011, we significantly pared down the size of the survey from years past and focused instead on more contemporaneous issues. A total of 16,000 fishing license buyers were randomly selected from the 2010 license buyer database, including 14,000 residents (2,000/Department administrative region) and 2,000 non-residents, to ensure statistically valid estimates. Responses were received from over 5,600 anglers for a return rate of 35%.

It should be noted that while equal numbers of surveys were mailed out in each Department region, statewide results were weighted based on the proportion of license buyers per region.

In 2011, there were 314,402 resident license buyers and 152,394 non-resident license buyers in Idaho. The greatest numbers of resident anglers live in the Southwest (40%) and Panhandle (15%) regions and the least live in the Salmon Region (1%).

Fishing Habits

Trout remain the most sought after fish in Idaho (Table 8). Anglers were asked how often (never, occasionally, often) they fished for a host of fish species over the last five years. Combined, over 90% of anglers listed trout as a species they “occasionally” or “often” fished for. Other species that were occasionally or often sought by anglers included bass (59%), steelhead (42%), kokanee (36%), bluegill/perch/crappie combined (50%), and “anything that bites” (68%). Other fish species that were either occasionally or often fished for combined included whitefish (18%), Chinook salmon (26%), sturgeon (12%), and walleye (16%). The majority of respondents were bank anglers (92%) and the most used fishing gear was bait and artificial lures (52% and 43%, respectively). None of these statistics are significant departures from the 2006 angler opinion survey.

Table 8. Most preferred species of fish sought in Idaho by total anglers from 2007-2011.

| Type of fish | Never | Occasionally | Often |
|--------------------------------|-------|--------------|-------|
| Bluegill/perch/crappie | 50 | 39 | 11 |
| Bass | 41 | 43 | 16 |
| Walleye | 84 | 13 | 3 |
| Catfish/bullhead | 67 | 26 | 7 |
| Steelhead | 58 | 32 | 10 |
| Chinook salmon | 74 | 20 | 6 |
| Trout | 7 | 42 | 51 |
| Kokanee | 64 | 26 | 10 |
| Whitefish | 82 | 15 | 3 |
| Sturgeon | 88 | 10 | 2 |
| Carp/sucker/other nongame fish | 84 | 13 | 3 |
| Tiger muskie/pike | 94 | 5 | 1 |
| Anything that bites | 32 | 40 | 28 |

The top five reasons that anglers use when deciding where to fish in declining order of importance are natural beauty of area, presence of favorite fish, chance to catch big fish, solitude, and a place that families like.

Fisheries Management

Idaho has roughly 26,000 miles of fishable streams and 202 major lowland lakes and reservoirs. Habitat conditions have a great influence on fish populations and strongly dictate the species and numbers that can be supported. Lowland lakes and reservoirs and large rivers generally support many kinds of fish including bass, trout, and nongame species. Small, colder streams and high elevation lakes typically only support a few species of fish. Different management strategies involving stocking and special fishing rules are used to best provide the diversity of fishing that anglers want.

Fishing rules are a primary tool used by the Department to manage fish populations and provide different types of angling experiences. Establishing more restrictive fishing rules generally is well accepted by the angling public, especially if they understand why it is being done, but it is not without controversy.

To assist in providing guidance to the Department in managing Idaho fisheries, the 2011 angler opinion survey included questions regarding their satisfaction with various fishery types, the importance of Department management activities, special rules, social issues, and fishing tournaments.

As part of its overall responsibilities for fisheries management in Idaho, the Department carries out a number of activities desired by the public. The public was asked how important a number of these activities are to them. The following 10 fisheries management activities were judged to be very important to somewhat important in declining order of importance by anglers:

1. Protecting and improving fish habitat
2. Maintaining and improving existing fishing access sites
3. Managing for native trout fisheries
4. Providing places for family fishing
5. Managing for quality/trophy trout in rivers and streams
6. Managing for steelhead fishing
7. Managing for quality/trophy trout in lakes and reservoirs
8. Managing mountain lake trout fisheries
9. Managing for Chinook salmon fishing in rivers
10. Managing catch-and-release fisheries

Throughout the years, anglers have cited protecting and improving fish habitat as their most important Department management activity. In 2011, about 92% of anglers informed us that this management activity was very to somewhat important to them. Maintaining and improving fishing access sites and managing for native trout fisheries were similar in importance to anglers. Rounding out the top five Department management activities were providing places for family fishing and managing for quality/trophy trout in rivers and streams. In 2011, we did not include enforcing fishing regulations as a management activity because we believe this activity is a tacitly expected function of the Department by our angling constituents.

Overall, anglers believe the Department is doing a good job in a number of fisheries management activities but particularly well in providing places for family fishing, protecting and improving

habitat, managing for steelhead fisheries, managing for native trout fisheries, and managing catch-and-release fisheries.

Special Rules

Anglers were asked several questions about ways to reduce harvest as a method to manage a recreational fishery. When asked to what degree they would support or oppose a number of methods to reduce harvest, 82% of respondents supported restricting the number of fish kept, 75% supported restricting the size of fish kept, and 58% supported applying catch-and release rules. Less attractive management options for respondents were shortening the fishing season which was opposed by 68% of anglers. Less attractive to respondents were limiting angler use, and limiting angler use was opposed by 44%. The Department asked anglers about their level of support for reducing bag limits in urban ponds as a method to improve fishing success and extend stocking effectiveness. Over 70% of respondents supported reducing bag limits on these urban pond fisheries.

Conflict Management

The Department asked two questions regarding potential management actions designed to reduce conflicts among anglers. The first question dealt with increasing conflict among anglers fishing for salmon and steelhead. We asked anglers to consider several options designed to reduce conflict and better allocate salmon and steelhead opportunities among anglers. Forty-nine percent of respondents believed the Department should attempt to reduce conflict through education programs, 43% support the use of special rules to manage crowding, and 28% supported using limited entry permits but only 9% strongly supported this option. Overall, there was a relatively high percentage (~30%) of respondents who replied with a neutral/no opinion answer to these options, and there appeared to be no strong consensus among anglers as to how the Department should handle this important issue.

The second conflict-management question dealt with the issue of fishing tournament compatibility with the general angling public. The Department manages fishing tournaments to address public concerns that these permitted activities may increase boat traffic, result in busy boat launch sites, and/or negatively impact the overall fishing experience. We asked anglers to weigh in on whether they agree or disagree that fishing tournaments are appropriate for various fishery types in Idaho. Anglers agreed in the majority that fishing tournaments are appropriate for trophy fishing in large lakes (55%), bass tournaments on lakes and reservoirs (52%), while disagreeing that they are appropriate for backcountry trout waters (46%) and steelhead fisheries on small rivers (43%). Again, there was a relatively high neutral/no opinion response (range 27-40%) for these questions suggesting the public is either apathetic or conflicted about fishing tournaments. These results are similar to those documented in the 2006 angler opinion survey (Willard et al. 2007).

Gear Type

The Department asked anglers several questions related to the use of specific hook types as a means of better managing fishery resources and recreational fishing. When we asked anglers if they have ever used circle hooks when fishing in Idaho, 56% of respondents were unfamiliar with them, 36% said no, and only 8% replied they had used circle hooks. We then followed up with a question stating that if circle hooks were demonstrated to reduce fishing mortality, would anglers support rules requiring their use in specific fisheries. Anglers were supportive of using circle hooks as follows:

- White sturgeon fisheries 68%
- Wild trout fisheries 59%
- Trophy/quality fisheries 57%
- Stocked trout fisheries 44%
- General rules waters 39%

It appears that anglers support the use of circle hooks if it will benefit native fish management and conservation but they are not supportive of restrictions in general waters or in hatchery trout supported fisheries. Idaho anglers especially covet white sturgeon fishing and have been very supportive of the 40-year history of catch-and-release angling for this highly valued species.

The state of Idaho first promoted the use of barbless hooks in the 1970s as a means to reduce fishing-related mortality on native trout, particularly cutthroat trout. There has been significant social support by anglers for the implementation of rules requiring the use of barbless hooks when fishing for native fish species. The Department has since institutionalized the use of barbless hooks in recreational fisheries for native trout, trophy trout fisheries that are supported with stocking, and for white sturgeon. Since that time, scientific studies have shown that most hooking-related fishing mortality is more closely associated with where the fish is hooked and not to the use of barbed versus barbless hooks. While the Department anticipated a great deal of controversy, we view the requirement of using barbless hooks as an unnecessary restriction on anglers since it doesn't strongly assist us in achieving management and conservation goals. As such, we are considering removing the mandatory barbless hook restrictions on trout fisheries *only*. Anglers could continue to use barbless hooks if they desire. We asked anglers to weigh in on whether they would support or oppose the elimination of the mandatory barbless hook rule on Idaho trout fisheries. Surprisingly, nearly 55% supported removing the barbless hook rule while 24% opposed. About 22% of anglers had no opinion.

White Sturgeon

Since 1971, the Department has regulated sport fishing for white sturgeon as catch-and-release. Fishing for white sturgeon has become increasingly popular. Individual white sturgeon can be caught multiple times each year and the Department has documented the presence of fishing tackle in the digestive tracts of a significant percentage of sturgeon. The Department is conducting an ongoing study regarding the effects of high fishing pressure and ingested tackle on sturgeon populations. We currently have no information documenting that angling pressure or ingested tackle are impacting population health or viability. Providing this information, we asked anglers that if negative impacts on sturgeon populations are found and it becomes necessary to restrict sturgeon angling to conserve populations, which of the following restrictions would they support or oppose:

- Area closures
- Seasonal closures
- Gear and tackle restrictions

Anglers strongly supported gear and tackle restrictions (60%) and seasonal closures (58%), and 48% supported area closures. There was also a fairly high segment of anglers that provided a neutral/no response answer.

Since the early 1990s, the Department has been stocking hatchery-produced white sturgeon in locations upstream of their historical native range near Idaho Falls and American Falls

(historical upriver terminus is Shoshone Falls near Twin Falls, Idaho). We currently manage the recreational fisheries at both locations as catch-and-release. We asked anglers to tell us how they feel about the potential for a future harvest opportunity for these hatchery-reared fish. Sixty percent of respondents supported the Department providing a limited harvest fishery for white sturgeon at some future time. Again, a sizable proportion of anglers provided a neutral/no opinion answer.

Statewide Programs and Strategies

Based on the 2011 angler opinion survey, angler input provided on this plan, and internal Department priorities, the following are the major areas of concern and program direction we intend to pursue during this planning period.

1. Protecting and restoring fish habitat.
2. Providing a diversity of angling opportunities.
3. Providing family fishing opportunities managed as consumptive fisheries with simple fishing rules.
4. Providing quality and trophy fishing opportunities for trout and bass.
5. Protecting and enhancing native trout populations.
6. Maintaining hatchery trout programs in streams, lakes, and reservoirs.
7. Protecting and enhancing salmon and steelhead populations.
8. Providing fishing information to the public.
9. Improving the condition of boating and fishing access sites.
10. Recruiting and retaining new anglers.
11. Continuing efforts to make fishing rules easier to read and understand.
12. Improving understanding and knowledge about the distribution, population status, habitat preferences, and management needs of native nongame species.
13. Developing management plans for native game fish species.

1. Protecting and Restoring Fish Habitat

As in past surveys, the angling public responded that the Department should continue its emphasis on habitat protection. Because of continued strong public support for protecting and restoring fish habitat, during the last planning period the Department significantly enhanced its involvement in fish habitat restoration, particularly for anadromous fish.

In 2007, the Department created a fish habitat restoration program and hired a coordinator to supervise the program. One of the first tasks of the habitat coordinator was to hire two fish habitat biologists, one for the Clearwater Region and one for the Salmon Region. This was

accomplished in the spring of 2008 with Bonneville Power Administration funding. These positions are responsible for identifying, prioritizing, designing, and implementing habitat restoration projects. Because the majority of the funding for these projects comes from federal or private sources, they are also responsible for securing funding for these projects. One hundred percent of their time is dedicated towards restoration efforts.

To complement this restoration work, the Department implemented intensive monitoring efforts on a sub-basin scale in two drainages where habitat restoration efforts are being focused: the Lemhi River drainage (Salmon Region) and the Potlatch River drainage (Clearwater Region). This monitoring is designed to determine the effectiveness of habitat restoration work in increasing fish production and productivity and to provide guidance on future habitat work.

It was apparent early in the program that engineering services are critical for the design and implementation of successful projects. Lack of these services limited the Department's ability to implement projects. As a result, a habitat engineer was added to the program in 2010. The Department also uses the services of private engineering firms when needed.

The program has since grown to include most of the Department's regions in the state. There is now a biologist in the Panhandle Region, the Upper Snake Region, and the Southeast Region that have a percentage of their time dedicated to fish habitat restoration. The biologists in the Panhandle and Southeast regions are funded through hydropower relicensing agreements while the Upper Snake biologist is funded through several different sources.

Only the Southwest and Magic Valley regions do not yet have fish habitat biologists. The goal of the program is to continue to expand until all the Department's regions have at least one fish habitat biologist.

We will continue to work with state and federal agencies, private landowners, industry, non-governmental organizations, Indian tribes, and local and county governments to reduce impacts of land-disturbing activities, improve land and water management practices, and to provide water quality and habitat capable of supporting native and introduced sportfish populations. The Department will emphasize water management issues in water bodies that provide important recreational fisheries or support native fish populations.

The Department has environmental staff biologists in six of its seven regions. During the past planning period, the Natural Resources Policy Bureau was eliminated and administration of the habitat protection function of the Department shifted to the Director's Office. Environmental staff biologists annually review hundreds of land and water management proposals and make recommendations to avoid or mitigate impacts to fish habitat. They collaborate and coordinate with other agencies and private landowners to promote and consider fish habitat issues during the planning process for land and water management development. During this planning period, the Department will continue to support these important efforts.

The Department will continue to solicit the assistance of volunteer help in habitat protection or rehabilitation programs during this planning period. This has increased public awareness of the importance of fish habitat and expanded the public's feeling of ownership.

There are a number of federal programs where available funding can be used on fish habitat enhancement projects in Idaho. These include the Wildlife Habitat Incentives Program, Environmental Quality Incentive Program, Conservation Security Program, Pacific Salmon Coastal Restoration Fund, Landowner Incentive Program, State Wildlife Grants, Fish

Restoration Irrigation Mitigation Act, U.S. Fish and Wildlife Service Partners for Wildlife and Special Grants, Section 6 funding to states, and National Fish Habitat Action Plan partnerships such as the Western Native Trout Initiative.

The Department emphasis for habitat restoration will be on actions that will have measurable benefits on native fish species as well as valuable fisheries supported by introduced species. Our approach will be pragmatic, and we will pursue and implement habitat restoration projects as much as possible with other cooperators to share funds and responsibilities. The Department will work with other agencies, Indian Tribes, private landowners, irrigators, non-governmental organizations, and others to seek collaborative and creative ways to secure funding and leverage available monies. The Department intends to pursue restoration projects on a prioritized basis as much as possible; however, significant “opportunistic” projects will be considered as well.

2. Providing a Diversity of Angling Opportunities

Anglers once again informed us that while they support special regulations as a tool to protect and enhance fish populations, they also want us to maintain harvest opportunities. Idaho anglers support a diversified mix of fishing opportunities. A mixture of hatchery and wild trout management and general, quality, and trophy management regulations for cold and warmwater species will be used to provide diverse angling opportunities within geographic areas. A diversity of angling opportunity, especially near population centers, will encourage greater use and increased angler satisfaction.

Providing a diversity of fishing experiences, ranging from urban to wilderness, from areas with highly social fisheries (such as ice fishing or family fishing waters) to fisheries that provide opportunities for solitude (e.g., alpine lakes or remote streams), and fisheries that lend themselves to guiding and outfitting to fisheries that provide relative freedom from competition with outfitted parties, is also a means by which the Department can meet the demands of a broad spectrum of anglers.

The Department currently stocks 19 different fish species and 16 additional “strains” to provide a diversity of angling opportunities. Some of these species may be proposed for introduction in lakes and reservoirs to continue providing a diversity of species available within various geographical areas. Other game fish and forage fish species may be considered for introduction into Idaho waters on a case-by-case basis. However, intensive studies of new species introductions and their potential effects on wild trout and other existing species, particularly native species, will be made prior to any proposed introductions.

3. Providing Family Fishing Opportunities Managed as Consumptive Fisheries with Simple Fishing Rules.

Based on the 2011 angler opinion survey, providing opportunities for family fishing continues to be a preferred Department management program. Previously, in response to anglers’ requests for more family-oriented fishing opportunities and simplified rules, the Department developed Family Fishing Water regulations. In these areas, there are year-round seasons, a general six-fish limit for trout, bass, walleye, and pike and no bag limit on other species. There are designated Family Fishing Waters located in every region of the state. Each Department region has developed Family Fishing Water Guides for distribution to the public and all of this information is available on the Department’s internet website.

Providing information on available fishing areas and increasing angler access will serve to increase family fishing opportunities. During the past planning period, the Department developed or renovated several fishing ponds. During this six-year period the Department will continue to identify and develop new fishing waters near populated areas to provide increased fishing opportunities without detracting from existing hatchery-supported fisheries. This will benefit family groups and novice anglers who traditionally do not travel far to participate in fishing activities.

4. Providing Quality and Trophy Fishing Opportunities for Trout and Bass

Anglers continue to support quality and trophy management on Idaho waters. A quality or trophy fishery is one specifically managed to limit harvest in some way to provide enhanced catch rates and/or larger fish. Anglers continue to favor fishing rules that produce quality and trophy size fish understanding that it means reducing the number of fish that can be harvested. Anglers generally do not support limiting access to areas as a means of reducing harvest so the Department will not consider this idea.

During this six-year period, the Department proposes to manage existing quality and trophy waters for those specific purposes and establish additional quality and trophy waters in areas where demand exists.

5. Protecting and Enhancing Native Trout Populations

During this six-year period, the Department will continue to emphasize protection and enhancement of native trout. Anglers largely support protecting and improving fish habitat and managing for native trout fisheries. The Department's native trout program historically was largely based on protecting existing habitat quality and to a lesser degree, enhancing habitat to improve wild trout populations. As mentioned previously, the Department expanded its involvement in habitat enhancement efforts statewide. The Department will continue to seek collaborative ways to do this.

The Department will manage for native trout in streams and lakes with the potential to support acceptable fisheries on native trout. This may involve varying levels of harvest regulation necessary to maintain catch rates and protect native trout. Additional measures may be necessary in special circumstances to protect spawning native trout where they might be especially vulnerable to harvest. The Department will also strive to control overharvest and mortality of native trout through non-regulatory means. Public information materials and programs will be used to promote non-consumptive values of native trout and educate anglers on release methods to minimize hooking mortality.

The Department continues to undertake measures to restore native trout access to streams where culverts, diversions, dams, and other manmade structures have blocked passage and access to historical spawning and rearing areas. The Department will continue to advocate that entities responsible for development that impacts the connectivity of rivers and streams should be responsible for maintaining or restoring fish passage for native trout and other native aquatic fauna. The Department will encourage passage facilities and screens on new structures and will work with owners of existing structures to improve native trout access to important habitats.

6. Maintaining Hatchery Trout Programs in Streams, Lakes, and Reservoirs

The Department proposes to maintain stocking in streams only where there is convenient angler access, return to anglers is good, and stocking does not negatively impact native species. Where hatchery fish are stocked in waters accessible to wild/native fish, all fish stocked will be treated to induce triploidy, thus rendering them sterile. The sterile hatchery fish will not breed with the native fish, thus maintaining the genetic integrity of the native fish. If there is a need to supplement wild/native fish with hatchery stocks for conservation purposes, appropriate fertile stocks will be introduced. Streams may be designated as “put-and-take” trout streams, which will be identified in brochures and maps made available to anglers. Put-and-take waters are expected to return 40% of stocked trout to the angler catch.

To enhance hatchery trout programs in lakes and reservoirs, the Department will continue planting fingerling put-and-grow sized trout where natural food and survival conditions are good. Put-and-grow fisheries are expected to return 100% of the weight stocked to the angler catch.

Where harvest restrictions are necessary to maintain or restore wild/native trout populations in streams, lakes, and reservoirs, harvest opportunity may be provided by allowing anglers to harvest marked hatchery fish.

7. Protecting and Restoring Salmon and Steelhead Populations

The current range (Figure 2) and abundance (Figure 3, Figure 4) of anadromous salmon, steelhead, and Pacific lamprey in Idaho are reduced from historical conditions. About 62% of Idaho’s historic spawning and rearing habitat for spring and summer Chinook salmon remains accessible and a similar amount of steelhead habitat remains. Current accessible habitat is capable of producing up to an estimated 6.7 million spring/summer Chinook smolts and 3.1 million steelhead smolts at 70% of rearing capacity (Idaho Department of Fish and Game 1992). Approximately 25% of the historical surface area of sockeye salmon nursery lakes in Idaho remains accessible. The greatest loss of production habitat has occurred for Snake River fall Chinook salmon, for which only 17% of the historical habitat is currently accessible. Approximately 30% of Idaho’s streams inhabited by anadromous salmon and steelhead are located within areas designated as wilderness or waterways classified as wild and scenic rivers. This increases to over 50% with roadless and undeveloped drainages included.

Within the current range of salmon and steelhead, the reduction in abundance of naturally produced salmon and steelhead has been severe. Recently, there has been considerable variability in annual abundance, influenced by changes in ocean productivity and hydro-system migration conditions. As an example, the five-year average redd count for spring Chinook salmon in the Middle Fork Salmon River, a wilderness sanctuary for native spring Chinook salmon with preservation management, decreased from 1,575 (1957-1961) to 142 (1995-1999), a 91% decline. Despite an improvement in the recent five-year average (2007 to 2011) to 506 redds, this still represents a 68% decline from the 1957-1961 period.

The Department’s regulatory authority is limited to hatchery, harvest, and fish management activities to rebuild salmon and steelhead to meet the long-term goal and objectives. The natural population of sockeye salmon in the upper Salmon River drainage was listed as endangered under the Endangered Species Act in 1991. Natural populations of Chinook salmon in the Salmon River drainage and steelhead populations in the Salmon and Clearwater drainages were listed as threatened in 1992 and 1994, respectively. NOAA Fisheries is the federal authority in charge of Endangered Species Act-listed Snake River salmon and steelhead

recovery. The result of federal listings is that actions to protect or enhance Idaho's salmon and steelhead in Idaho and the Columbia River basin must be consistent with the federal recovery plan and standards.

Regional efforts to achieve improved survival of Snake River salmon and steelhead intensified during the 1990s and continue as an important management activity. Improvement in juvenile and adult survival associated with migration through the lower Snake and Columbia Rivers provide the best opportunity for enhancement of all salmon and steelhead populations, wild or hatchery, in Idaho (Idaho Fish and Game Commission Policy, May 8, 1998). The Department will continue to use its technical expertise directed at in-season and longer-term assessments to explore opportunities to improve survival of juvenile and adult salmon, steelhead, and as more information is available, Pacific lamprey. The role of the Department is to help strengthen the scientific foundation from which various management alternatives are considered and to make biologically based recommendations to the Fish and Game Commission, State of Idaho, NOAA Fisheries, and other policy forums.

The four "H's" of hydropower development, habitat alterations, hatchery effects, and harvest have resulted in human-caused adverse effects to salmon and steelhead populations. However, the mainstem dam and reservoir system in the lower Snake and Columbia rivers continues to be the primary human-caused factor limiting recovery of Idaho's wild salmon and steelhead. To date, barging juvenile salmon and steelhead as a mitigation strategy for the dams and reservoirs has not provided sufficient survival improvement to rebuild salmon and steelhead populations.

As noted in the previous Fisheries Management Plan, in May 1998 the Fish and Game Commission supported consideration of a natural river strategy in the lower Snake River as the best biological option at that time for regional consideration for recovery planning (Fish and Game Commission Policy). But, recognizing that the option would not likely be socially or politically acceptable, the Commission also directed staff to assess alternative recovery strategies adopted for implementation. Via life cycle survival studies, continuing transportation evaluation, and studies of new dam configurations and operations, Department staff continues the Commission-directed assessments.

The Department anticipates incremental improvement from changes in the configuration and management of federal dams and reservoirs during this planning period, through installation of removable spillway weirs and refined spill management at lower Snake and Columbia River dams. Regional decisions about important aspects of operations that affect dam and reservoir passage, such as flow and spill are expected during this planning period via actions related to the Biological Opinion for the Federal Columbia and Snake River Power System and NOAA Fisheries recovery plans. Additional expected "out of Idaho" actions affecting the migration corridor include predator controls for fish, bird, and mammal populations, and estuary improvements. We anticipate a continued need for use of cold water from Dworshak Reservoir to reduce temperature experienced by summer migrants in the lower Snake River. In addition, we expect continued implementation of Upper Snake River flow augmentation that is consistent with Idaho statutes, key state and tribal agreements, an Upper Snake River Biological Opinion for Bureau of Reclamation projects, and Idaho Power Company relicensing terms and conditions. The focus of this flow augmentation is expected to be the late spring to early summer migration periods.

The Department will focus expertise on both in-season fish passage recommendations and on continuing assessment of transportation and river migration conditions. This work will be

directed at determining the best balance between in-river migration and transportation and defining the migration conditions (with new configuration and management aspects) that provide optimum life-cycle survival. The transportation evaluation that was initiated in the 1990s and focused on spring migrants (spring/summer Chinook salmon and steelhead) has been expanded to include sockeye salmon and summer migrants (fall Chinook salmon) to refine information about the survival effects of transportation versus the survival effects of an improved in-river migration strategy. The position of the Department remains to create optimal in-river migration conditions and to continue to spread the risk by transporting collected fish when the scientific information indicates that their survival will be high relative to in-river migrants. Annual in-season conditions will continue to play a crucial role in migration recommendations. Key to near- and long-term actions will be risk assessment to judge effectiveness of actions within the context of environmental variability (State of Idaho 2000), which the Department will continue to provide.

Habitat degradation for some specific populations of salmon and steelhead has also contributed to the overall decline. Mixed stock harvest for fall Chinook in the Columbia River is currently not sensitive to run size and remains much higher than harvest rates on spring/summer Chinook or steelhead. Drought and poor ocean rearing conditions during the early to mid-1990s, and burgeoning avian and mammalian predator populations, have exacerbated the mortality problems for anadromous salmon and steelhead.

The Department administers and implements hatchery programs to fulfill fishery mitigation responsibilities from private and federal hydroelectric dams. Hatchery facilities that produce a total of about 20 million salmon and steelhead smolts are in operation as partial mitigation for losses to Idaho runs. The steelhead hatchery program generally meets production goals and provides a consistent fishery. In contrast, the spring and summer Chinook hatchery program has only met federally identified mitigation goals for annual adult returns in two years during the last three decades. Very low smolt to adult survivals throughout the 1990s resulted in adult returns too low to even meet hatchery broodstock and smolt production goals. Marine survivals improved in the late 1990s and since that time hatcheries have met smolt production goals. While full smolt production over the last decade and a half has resulted in adult returns sufficient to support annual fisheries in several locations in the Snake, Salmon, and Clearwater rivers, those returns have still been considerably below the mitigation goals in all years except 2001 and 2010 (Figure 5, Figure 6). Another key role of the hatcheries continuing during the last four planning periods has been design, implementation, and evaluation of supplementation programs for natural salmon and steelhead populations.

The Endangered Species Act status of anadromous sockeye salmon, Chinook salmon and steelhead, along with recovery planning, mitigation hatchery programs and other legal issues, necessitate long-term research, monitoring and evaluation efforts on these species. Current and longer term research, monitoring and evaluation tasks are listed in Table 9. These research, monitoring and evaluation efforts are applied in an adaptive management approach. Research, monitoring, and evaluation efforts are coordinated in the Snake and Columbia river basins with state and federal agencies, Indian tribes, and federal or private utility funding entities.

Some of the Department's long-term research programs addressing hatchery intervention strategies for recovering natural populations will be completed in this planning period, and other hatchery evaluations will be initiated. The Department will complete a large-scale, two-decade long Chinook salmon supplementation evaluation in 2012. Recommendations from the analyses of this and other supplementation programs are expected at the end of this planning period. Those recommendations will help determine the efficacy of using our current hatcheries to aid

longer-term recovery, guide production facility investments, and still provide consumptive fisheries. Results of supplementation studies will also aid in planning integrated broodstock programs. These programs are incorporating natural origin fish broodstocks at some hatcheries to minimize the risks associated with adult hatchery returns that stray and mate with natural origin fish in natural spawning areas.

The Snake River Sockeye Captive Broodstock Program was founded in 1991 by the Department and NOAA Fisheries to prevent extinction of the species. The program incorporates the use of hatchery facilities, captive broodstock technology, genetic support, and a comprehensive monitoring and evaluation plan to maintain the genetic resource and to continue rebuilding the number of sockeye salmon in the natural environment. Eggs from adults spawned in the hatchery are incubated and reared in the hatchery for three to five years to adulthood, and then they are spawned in the hatchery. This rearing strategy bypasses mortality associated with migration to the ocean and back and adult-ocean rearing. During this planning period, the captive broodstock program will continue but there will also be an expansion in the program to rear more smolts that will be released into the natural environment, rather than reared to adulthood in the hatchery. The intent is to improve the overall fitness of the sockeye salmon hatchery broodstock by including adults that have survived seaward migration and ocean maturation. During this planning period we also expect management to focus on strategies to improve the success of sockeye salmon adults, which enter the Snake River, in completing their migration to the Stanley Basin.

Due to historic low spring and summer Chinook salmon adult returns in 1994-1995, the Department initiated additional preservation experiments to test the efficacy of captive techniques. Experiments have been conducted with Chinook salmon in the East Fork of the Salmon River, the West Fork of the Yankee Fork River, and the Lemhi River in conjunction with tribal and federal fish managers. Similar to the captive breeding program for sockeye salmon, juvenile fish are reared to maturity in a hatchery, but are released as adults to spawn naturally. This technique is called "captive rearing." The Department expects to complete these experiments during the planning period and analytical results will also provide guidance about future intervention strategies.

The Department will continue to test hatchery intervention strategies and implement them where necessary and ecologically prudent to provide a safety net for selected populations at risk. For example, an ongoing steelhead supplementation program for the East Fork of the Salmon River using natural steelhead collected there as broodstock will be evaluated to inform future actions. Implementation of these measures must carefully balance the genetic and demographic risks of these unproven hatchery intervention strategies with the imminent risk of extinction. Because of uncertainties in approach and effectiveness of hatchery intervention strategies, as well as the need for evaluation, the Department will implement a suite of approaches coupled with continued support of anadromous refuge areas without hatchery intervention. This approach will guide Department assessment of supplementation proposals initiated by tribal or federal managers.

The wild salmon and steelhead management program, which includes a diversity of genetic refugia, will be maintained. Idaho's large areas of natural, native fish production, much of which is in areas classified as wilderness or Wild and Scenic Rivers are critical to genetic preservation and evaluation of wild fish production and trends. These areas also act as controls for evaluating supplementation actions and provide needed insight about the effects of environmental variability versus management actions.

Hatchery salmon and steelhead programs that provide fishery mitigation have been modified to reduce potential ecological effects to listed fish and to provide greater program benefit. Modifications include altering release sites and numbers. This has been referred to as “hatchery reform” and is an ongoing process as new information is gained about hatchery and natural fish interactions. Work will continue on hatchery priorities such as improvement of fish health and smolt quality factors most likely associated with early migration mortality. The Department will continue to emphasize the important fishery mitigation role of most of Idaho’s hatcheries and will not support exclusive use for recovery purposes.

Selective sport fisheries that safeguard naturally-produced salmon and steelhead while providing fishing opportunity for hatchery fish will be designed and implemented when the numbers of adult hatchery fish are great enough to allow some fishing opportunity after hatchery broodstock needs are met. The primary implementation tool for selective fisheries will remain adipose fin-clipping hatchery Chinook salmon and steelhead targeted for sport harvest. Chinook salmon fisheries with a magnitude and variability similar to 2002-2006 are projected during this plan cycle (Figure 5). Steelhead harvest should remain within the range of the last five years, averaging 49% of the hatchery steelhead run crossing Lower Granite Dam (Figure 6). The Department will continue to use offsite fishery areas if necessary to reduce impacts to listed species while providing fishing opportunity. This can be accomplished by transporting surplus hatchery fish to non-anadromous water such as the Boise River for fishing.

Although the Department has little direct authority regarding anadromous fish habitat in Idaho, the goal will be to work with federal, state, and private landowners to first maintain current good quality habitat and fish populations to use it and secondly to improve habitat that is limiting productivity. An area of emphasis will be improvement of tributary streamflow and associated connectivity, and improved thermal regimes in the upper Salmon River drainage, including the Lemhi and Pahsimeroi rivers. The Department will use the screen mitigation program resources and expertise to work with landowners to develop legal, practical solutions to increase fish survival such as additional screens and diversion consolidation.

The Department will seek to ensure sufficient returns of anadromous fish to Idaho waters through negotiation or legal means to perpetuate both naturally- and hatchery-produced runs and to allow sport harvest in Idaho. Efforts will be continued in regional and Idaho forums to limit harvest impacts on weak fish stocks and to ensure a fair allocation for Idaho of the harvestable portion of anadromous fish returns among the various Columbia River basin user groups. Tribal ceremonial fisheries will continue to take precedence over sport fisheries. The Department will work with Idaho Indian tribes to develop ceremonial harvest opportunities in years when surplus fish for treaty subsistence harvest are not available. When surplus is sufficient for tribal subsistence or commercial harvest, both tribal and sport fisheries are expected to access harvestable surplus.

Table 9. Anadromous salmon and steelhead research, monitoring and evaluation efforts that will be addressed during the 2013-2018 planning period.

| |
|---|
| Monitor abundance, productivity and distribution of naturally produced Chinook and sockeye salmon and steelhead adults and juveniles. |
| Research and monitor population-specific life history patterns and characteristics of naturally produced Chinook salmon and steelhead. |
| Document the contribution hatchery-produced salmon and steelhead make towards meeting management and mitigation objectives. |
| Monitor natural origin salmon and steelhead populations using genetic stock identification techniques. |
| Monitor Chinook salmon and steelhead mitigation hatchery programs using genetic parental based tagging techniques. |
| Evaluate Chinook salmon supplementation strategies to increase natural production. |
| Determine the efficacy of captive rearing and integrated brood stocks as conservation tools to prevent localized extinctions of Chinook salmon and promote recovery of natural populations. |
| Monitor anadromous hatchery programs through the development and implementation of an integrated, web-based hatchery database system. |
| Conduct monitoring and evaluation to increase our understanding of life history and productivity patterns of steelhead populations in the Snake River basin. |

Salmon and Steelhead Distributions in Idaho

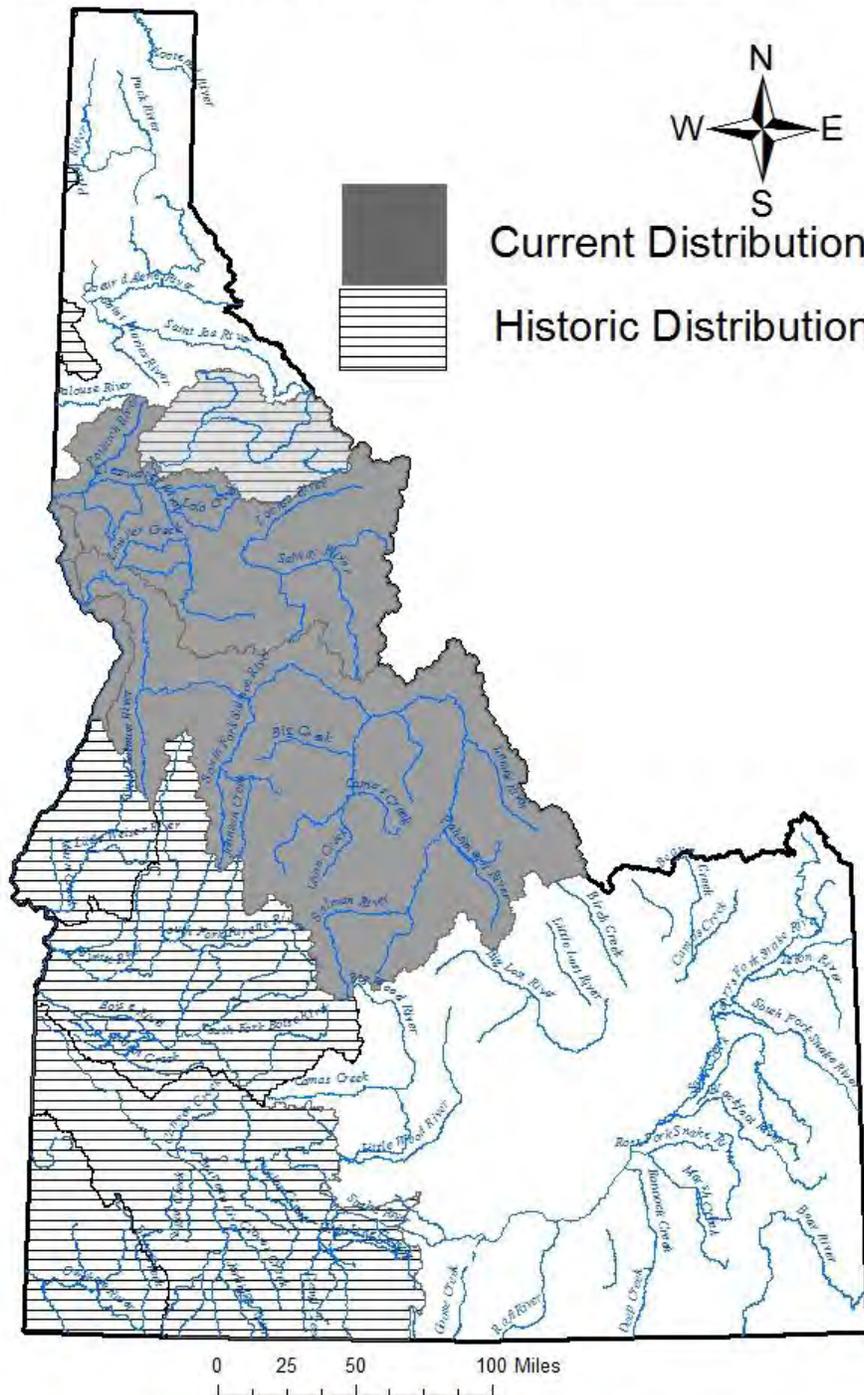


Figure 2. Current and historical range (distribution) of anadromous fish in Idaho.

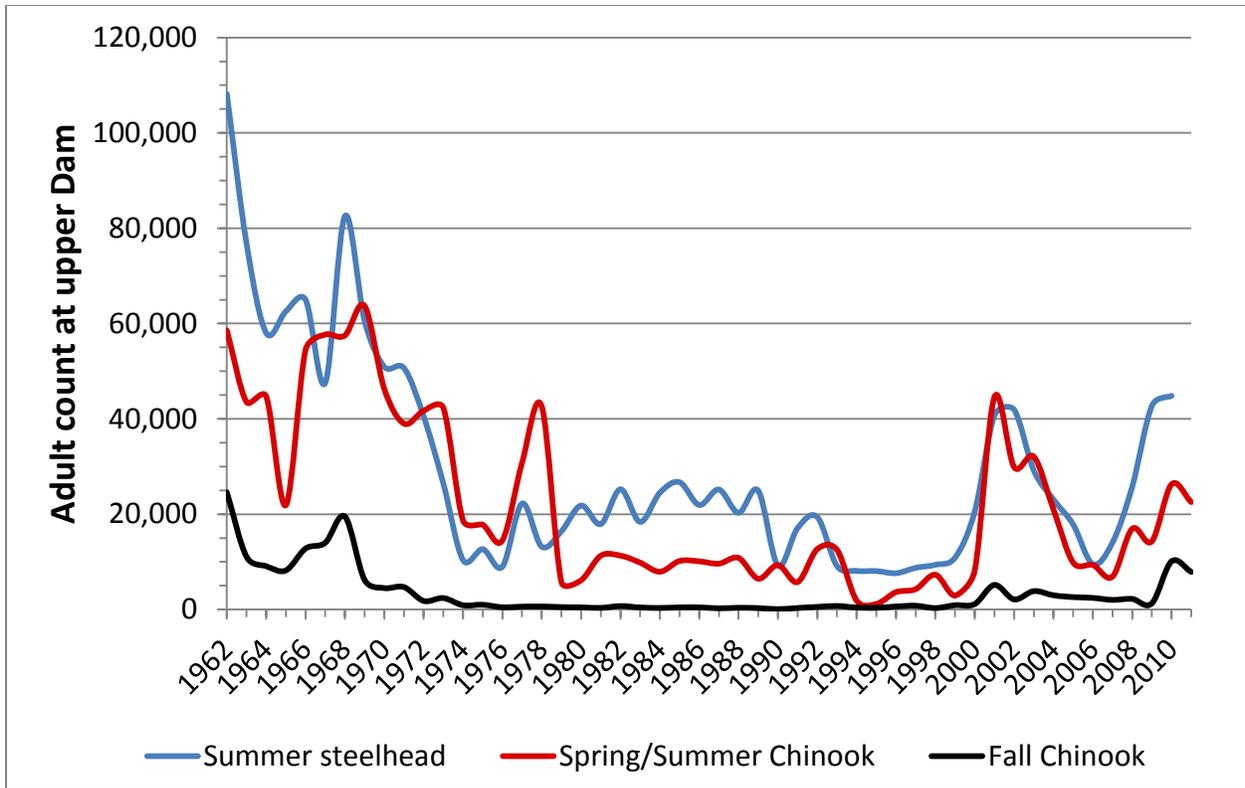


Figure 3. Historic adult passage of summer steelhead, spring/summer Chinook salmon, and fall Chinook salmon at the upper most dam and counting facility chronologically in time in the Snake River, 1960-2012. The upper most dams at the times of the fish counts were Ice Harbor 1960-1968, Lower Monumental 1969, Little Goose 1970-1974, and Lower Granite 1975 to present.

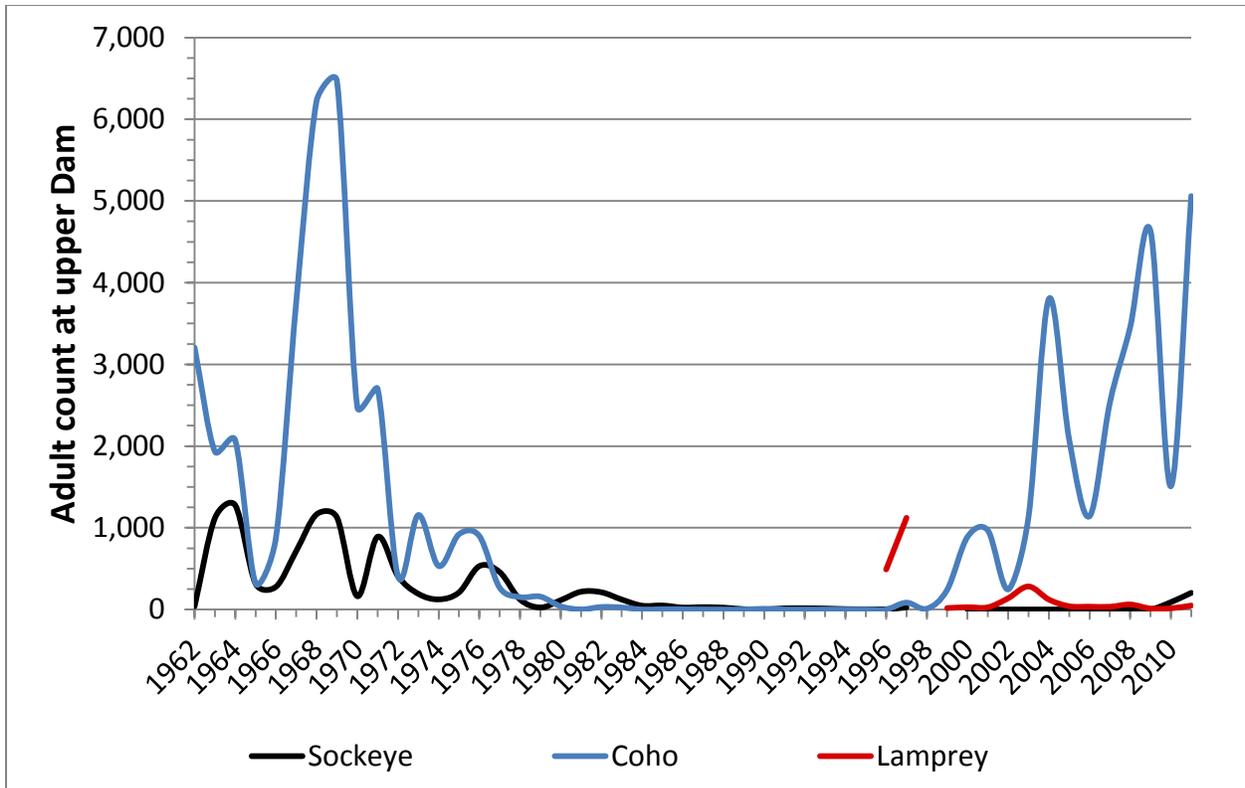


Figure 4. Historic adult passage of Snake River sockeye salmon, Coho salmon, and Pacific lamprey at the upper most dam and counting facility chronologically in time in the Snake River, 1960-2012. The upper most dams at the times of the fish counts were Ice Harbor 1960-1968, Lower Monumental 1969, Little Goose 1970-1974, and Lower Granite 1975 to present.

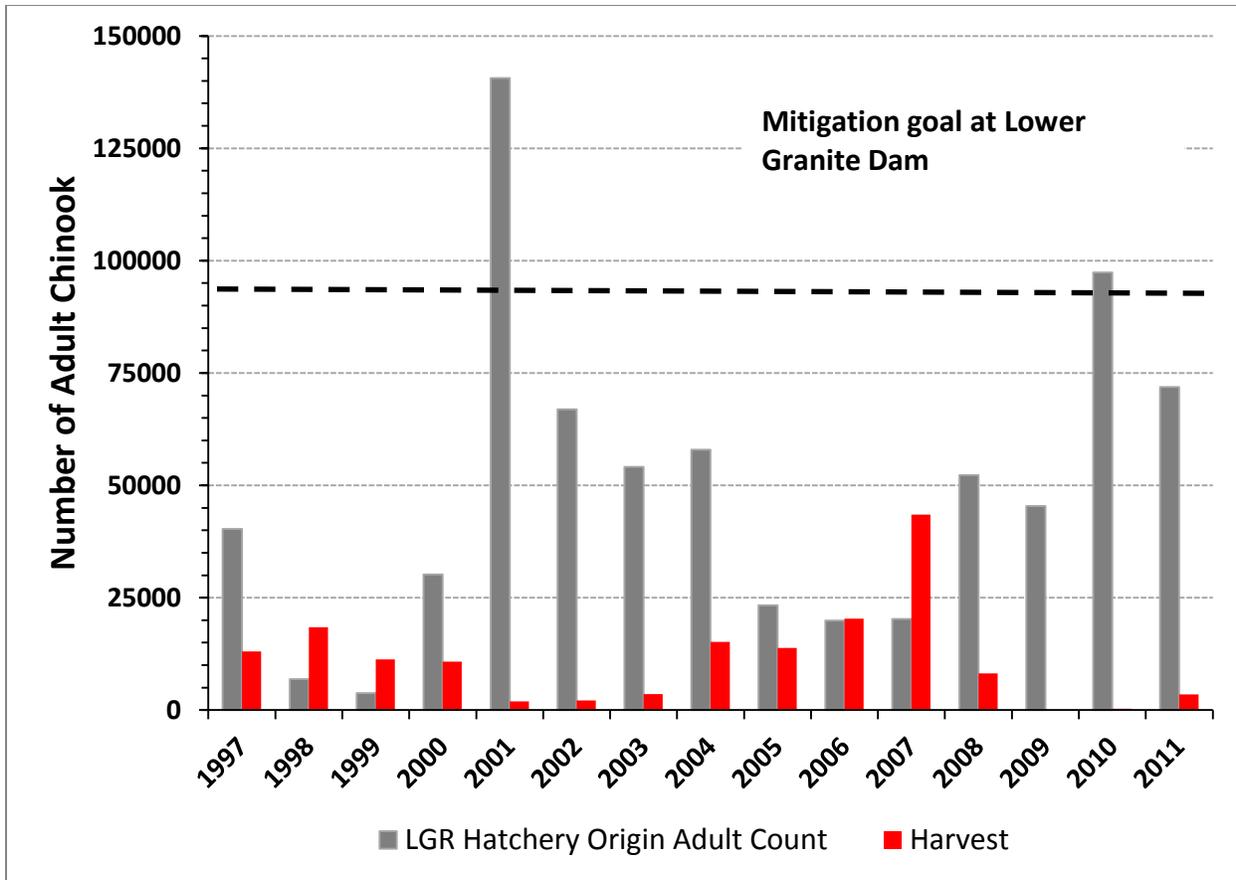


Figure 5. Annual numbers of Idaho adult hatchery spring/summer Chinook salmon in the sport harvest (red bars) and the spring/summer Chinook salmon hatchery run sizes (gray bars) at Lower Granite Dam 1996-2011 compared to the mitigation hatchery run size expectation.

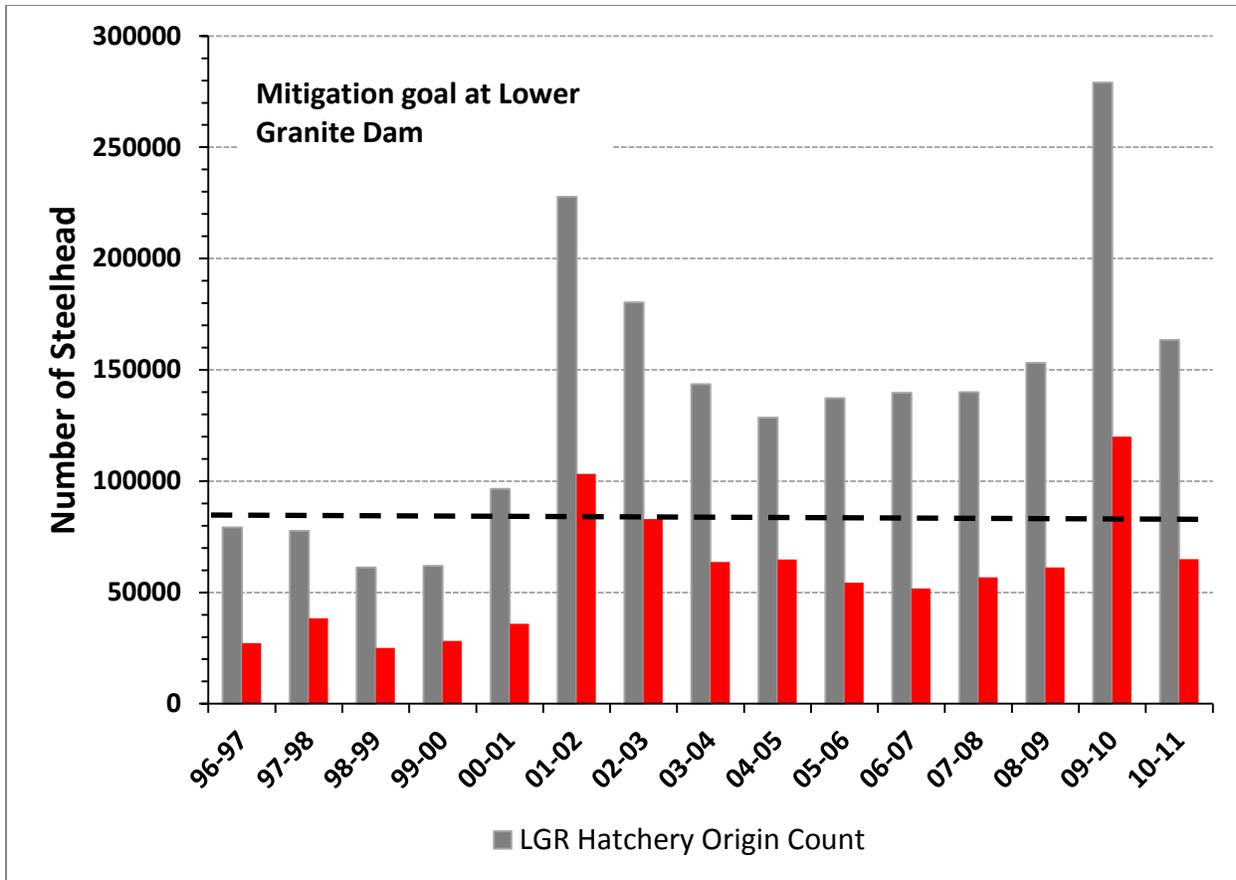


Figure 6. Annual numbers of Idaho adult hatchery steelhead in the sport harvest (red bars) and the hatchery steelhead run sizes (gray bars) at Lower Granite Dam 1996-2011 compared to the mitigation hatchery run size expectation.

8. Providing Fishing Information to the Public

During this six-year planning period, the Department will continue its production of maps, brochures, and other information to make it easier for the public to understand and utilize their fishery resource. "Angler's Guide" brochures have been developed for major lowland lakes, urban fisheries, and reservoirs, which will include lake maps, location of angler facilities, information on species present, and angler tips. Family Fishing Waters maps and brochures have been developed. The Department publishes the Idaho Sportsman's Access Guide which provides a listing of motor boat and fishing access sites managed by the Department. Other brochures and guides will be developed as needed. We will also develop or expand informational type signs in high use areas (boat ramps, parks, trailheads, etc.), which may include brochures and maps. Location of hatchery-stocked trout will be advertised and maps made available through vendors and Department employees to direct anglers to these areas. The current methods for disseminating information will be expanded where possible. This includes radio, television, newspapers, and Department website and publications. Some of the areas where the Department will focus its attention include:

- Fishing Rules – strive for simplicity and readability
- Places to go Fishing – fishing water brochures; family fishing waters
- Results of Fishing Surveys – regional newsletter reports, research reports, media articles and coverage
- Fishing Tips – fishing leaflets and workshops
- Environmental Issues – habitat and fish relationships, articles, regional newsletters, and research reports
- Expand Information on Department website – fish stocking information, Fish Planner, regulations, fishing surveys, and access areas

9. Improving the Condition of Boating and Fishing Access Sites

The Department owns or has a management interest in 325 fishing and boating access sites in Idaho. The Department will spend approximately \$2.1 million annually in the next six years for the maintenance, development, and acquisition of sites for fishing and boating access. Funding comes primarily from the Dingell-Johnson and Wallop-Breaux programs through the U.S. Fish and Wildlife Service Federal Assistance program, license sales funds used to match the federal funds, and the Salmon-Steelhead Permit set-aside program. In 2010, the Department published an addendum to its 2005-2009 Five-Year Statewide Fishing/Boating Access Facilities Plan (Parker 2010). The purpose of the addendum was to outline the plan for renovating and or developing fishing and boating access sites during the period 2010-2014. The addendum identified sites in each region for improvements and presented a plan for the funding and implementation of recommended improvements to these sites and to seek ways to make the access program more efficient. In 2005, a total of 228 of 325 access sites were identified as needing some kind of improvements; 70% of the sites managed by the Department. In 2014, a new inventory of the states' fishing and boating access sites will be conducted and an updated list of priorities will be set for access improvements during the period 2015-2019.

The Department will continue its programs to improve its relations with landowners, acquire easements through leasing or purchase, and develop key areas to provide access for anglers. Additional fishing docks and facilities for persons with disabilities will be provided at public fishing lakes with limited fishing access. Additional boat ramps and docks will be built or existing ones repaired or replaced where appropriate.

10. Recruiting and Retaining New Anglers

The 2006 Angler Opinion Survey indicated that over 50 percent of the anglers responding had fished for more than 20 years and averaged nearly 50 years in age. This indicates recruitment of new anglers is less than desirable. During this six-year planning period, the Department will continue efforts to recruit and retain anglers. Efforts will include emphasis on development of additional fishing waters, particularly in urban areas, development of family-oriented facilities, and additional educational programs to fulfill the Department's desire to encourage children to start fishing. The Department annually conducts fishing clinics, in-classroom education, and rod-loaner programs to support new anglers. During the previous planning period, the Department acquired five "Fishing Trailers" to haul rods and other supplies to various fishing events, hired additional seasonal staff to conduct fishing clinics, and expanded rod-loaner programs administered through the regional offices. During this six-year planning period, the Department will continue to sponsor or facilitate youth fishing clinics around the state to teach angler skills, fishing ethics, and an appreciation of habitat requirements needed to support fish populations. The growing interest in cooperative educational programs such as the *Trout in the Classroom*, and *Idaho Salmon and Steelhead Days* will be fostered.

11. Continuing Efforts to make Fishing Rules Easier to Read and Understand

The Department has been working progressively over the years to simplify fishing rules in order to improve comprehension by anglers. One significant step taken in 2011 was to open up most waters in Idaho to year-around fishing. However, in addition to societal demands, we must respond to biological issues as well. In part, Family Fishing Waters were devised to address the concern of many anglers that fishing rules were too complex. These waters have the least restrictive seasons and bag limits biologically permissible in order to alleviate confusion over rules for inexperienced anglers.

Rule changes will be recommended to the Commission on the basis of biological needs during development of the state's biennial fishing rules during this planning period, but Department recommendations will strive to fit with the suite of rule options currently in use. This six-year management plan will be used to guide future accommodation of non-biological factors in rulemaking. However, the Commission holds authority to accommodate additional factors in rulemaking, such as societal needs, at any time. The Department will, however, continue to strive towards making fishing rules easier to read and understand for the angling public.

The Department will upgrade its web-based Fishing Trip Planner, which will allow anglers to identify a body of water on a map, click on the map and retrieve information about species present, fish stocking records, fishing rules, access sites, land ownership, and fishing tips.

12. Improving Understanding and Knowledge about the Distribution, Population Status, Habitat Preferences, and Management Needs of Native Nongame Species

The ecological importance of nongame species in their native habitats has only recently been considered, and many of these species play an integral role in supporting fish and wildlife communities that include important game species. These native nongame fishes are important for ecological, scientific, aesthetic, and cultural reasons.

In most instances, little is known about the current status or distribution of these native nongame fish species. As with native game fishes, habitat degradation and other factors have adversely affected native nongame fishes and the ecological communities they occupy. Species

with very limited ranges or special habitat needs include the Bear Lake sculpin, Shoshone sculpin, Wood River sculpin, leatherside chub, Pacific lamprey, and sand roller. The Department, in coordination with other agencies, significantly enhanced its understanding and knowledge about current distribution and population status of native nongame species. Below are some of our significant accomplishments for the 2007-2012 planning period:

- As part of the Department's joint management plan for Bear Lake that we share with the Utah Division of Wildlife Resources (Utah Division of Wildlife Resources and Idaho Department of Fish and Game 2008), we committed to surveying Bear Lake sculpin every other year. These surveys will inform our management of this endemic species.
- The Department secured funding to hire a graduate student through Idaho State University to assess the population and genetic status of northern leatherside chub within its range in the upper Snake River basin of Idaho.
- The Department secured Section 6 funding and cooperated with Idaho Power Company to assess the population genetics of Shoshone sculpin, a species endemic to the Thousand Springs Formation of south-central Idaho (Campbell 2011).
- The Department completed a population status assessment for Wood River sculpin, a species endemic to the Big and Little Wood river basins of south-central Idaho (Meyer et al. 2007).
- The Department published a report on the population status of nongame fish species in the upper Snake River basin (Meyer et al. 2012).
- The Department became a signatory to a multi-agency conservation agreement and strategy for northern leatherside chub and we participate in annual meetings with other agencies to discuss ongoing work on this species.
- The Department provided detailed comments to the U.S. Fish and Wildlife Service regarding the status of northern leatherside chub in Idaho in response to a petition to list the species as threatened or endangered under the Endangered Species Act.
- The Department completed a status document on Pacific lamprey in Idaho (Idaho Department of Fish and Game 2011) and we became a signatory to a multi-agency and stakeholder conservation agreement and strategy for the species.
- The Department became a signatory to a multi-agency and stakeholder range-wide conservation agreement and strategy for three nongame fish species including bluehead sucker. We annually participate in the "three species" conservation team meetings.
- The Department proposed and our Fish and Game Commission adopted an Idaho Administrative Rules classification change for bluehead sucker to a Protected Nongame Wildlife species.
- We continue to collect limited information on sand rollers in Idaho; however, this information is archived and included in our databases.

13. Developing Management Plans for Native Fish Species

During the 2007-2012 planning period, the Department completed Commission-approved management plans for Snake River white sturgeon, Yellowstone cutthroat trout, Bonneville cutthroat trout, and Big Lost River mountain whitefish. These plans are policy documents that establish goals, objectives, and strategies for managing populations across their range and the sport fisheries supported by these species. They serve as guidance documents for Department staff and establish for the public how we intend to manage their fishery resources. These policy documents also serve notice to other agencies and entities about how the Department intends to conserve, protect, and enhance populations; work with others to protect and enhance habitat; and maintain state management authority over these important native game species.

In this planning period, the Department will complete management plans for westslope cutthroat trout and redband trout. We will not pursue development of a separate management plan for nongame fish species because we have significantly improved our knowledge about “at risk” species in Idaho and due to our enhanced and active involvement in multi-agency conservation teams dedicated to sensitive nongame species such as northern leatherside chub and bluehead sucker.

LITERATURE CITED

- Campbell, M.R. 2011. Genetic diversity and differentiation of Shoshone sculpin *Cottus greenei*. Report No. 11-20. Idaho Department of Fish and Game. Boise, Idaho.
- Grunder, S.A., T.J. McArthur, S. Clark, and V.K. Moore. 2008. 2003 economic survey report. IDFG 08-129. Idaho Department of Fish and Game. Boise, Idaho.
- Hoffman, R.L., and D.S. Pilliod. 1999. The ecological effects of fish stocking on amphibian populations in high-mountain wilderness lakes. Final Report. USGS/BRD Forest and Rangeland Ecosystem Science Center. Corvallis, Oregon.
- Horton, W.D. 1997. Lake renovation procedures manual. Idaho Department of Fish and Game. Boise, Idaho.
- Idaho Department of Fish and Game. 1992. Anadromous fish management plan. 1992-1996. Boise, Idaho.
- Idaho Department of Fish and Game. 2005. The Compass. Idaho Department of Fish and Game Strategic Plan. Boise, Idaho.
- Idaho Department of Fish and Game. 2005b. Idaho Comprehensive Wildlife Conservation Strategy [Internet]. Boise (ID): Idaho Department of Fish and Game. <<http://fishandgame.idaho.gov/>>.
- Idaho Department of Fish and Game. 2006. Idaho Comprehensive Wildlife Conservation Strategy. As Approved by the USDI Fish and Wildlife Service, National Advisory Acceptance Team. February 2006. Boise, Idaho.
- Idaho Department of Fish and Game. 2007. Management plan for conservation of Yellowstone cutthroat trout in Idaho. Boise, Idaho.
- Idaho Department of Fish and Game and U.S. Forest Service. 2007. Management plan for conservation of Bonneville cutthroat trout in Idaho. Boise, Idaho.
- Idaho Department of Fish and Game. 2008. Management plan for conservation of Snake River white sturgeon in Idaho. Boise, Idaho.
- Idaho Department of Fish and Game. 2011. The status of Pacific lamprey (*Entosphenus tridentatus*) in Idaho. Boise, Idaho.
- Idaho Power Company. 2005. Snake River white sturgeon conservation plan. Boise, Idaho.
- Kozfkay, C.C., M.R. Campbell, K.A. Meyer, and D.J. Schill. 2011. Influences of habitat and hybridization on the genetic structure of redband trout in the Upper Snake River Basin, Idaho. Transactions of the American Fisheries Society 140 (2): 282-295.
- May, B.E., W. Urie, and B.B. Shepard. 2003. Range-wide status of Yellowstone cutthroat trout (*Oncorhynchus clarkii bouvieri*) 2001. Multi-state Assessment Document. March 2003.

- Meyer, K.A., D.J. Schill, M.R. Campbell, C.C. Kozfkay, J.D. Cassinelli, and F.S. Elle. 2007. Status and population characteristics of Wood River sculpin in Idaho. Report No. 07-51. Idaho Department of Fish and Game. Boise, Idaho.
- Meyer, K.A., J.A. Lamansky Jr., D.J. Schill, and D.W. Zaroban. 2012. Non-game fish species distribution and habitat associations in the upper Snake River basin of Idaho. Report No. 12-01. Idaho Department of Fish and Game. Boise, Idaho.
- Parker, T. 2010. Five year statewide fishing/motorboat access facilities plan 2010 – 2014. An addendum to the 2005 – 2009 fishing/motorboat access plan. Idaho Department of Fish and Game. Boise, Idaho.
- Pilliod, D.S., D. Duncan, C.R. Peterson, and J.J. Yeo. 1996. Spatial distribution and habitat associations of amphibians in the Bighorn Crags, Frank Church River of No Return Wilderness. 1994 Final Report to USDA Forest Service, Intermountain Research Station, Boise, Idaho.
- State of Idaho. 2000. State of Idaho's comments, draft biological opinion on operation of the federal Columbia River power system, including the juvenile fish transportation program and the Bureau of Reclamation 31 projects, including the entire Columbia Basin Project. Boise, Idaho.
- Stein, B.A. 2002. States of the Union: Ranking America's biodiversity. Arlington, Virginia: NatureServe.
- Utah Division of Wildlife Resources and Idaho Department of Fish and Game. 2008. Bear Lake management plan 2009-2013.
- Willard, C., T. McArthur, and S. Grunder. 2007. Opinions and preferences of Idaho anglers. A report on the 1994, 1999, and 2006 angler opinion surveys. Report 07-39. Idaho Department of Fish and Game. Boise, Idaho.