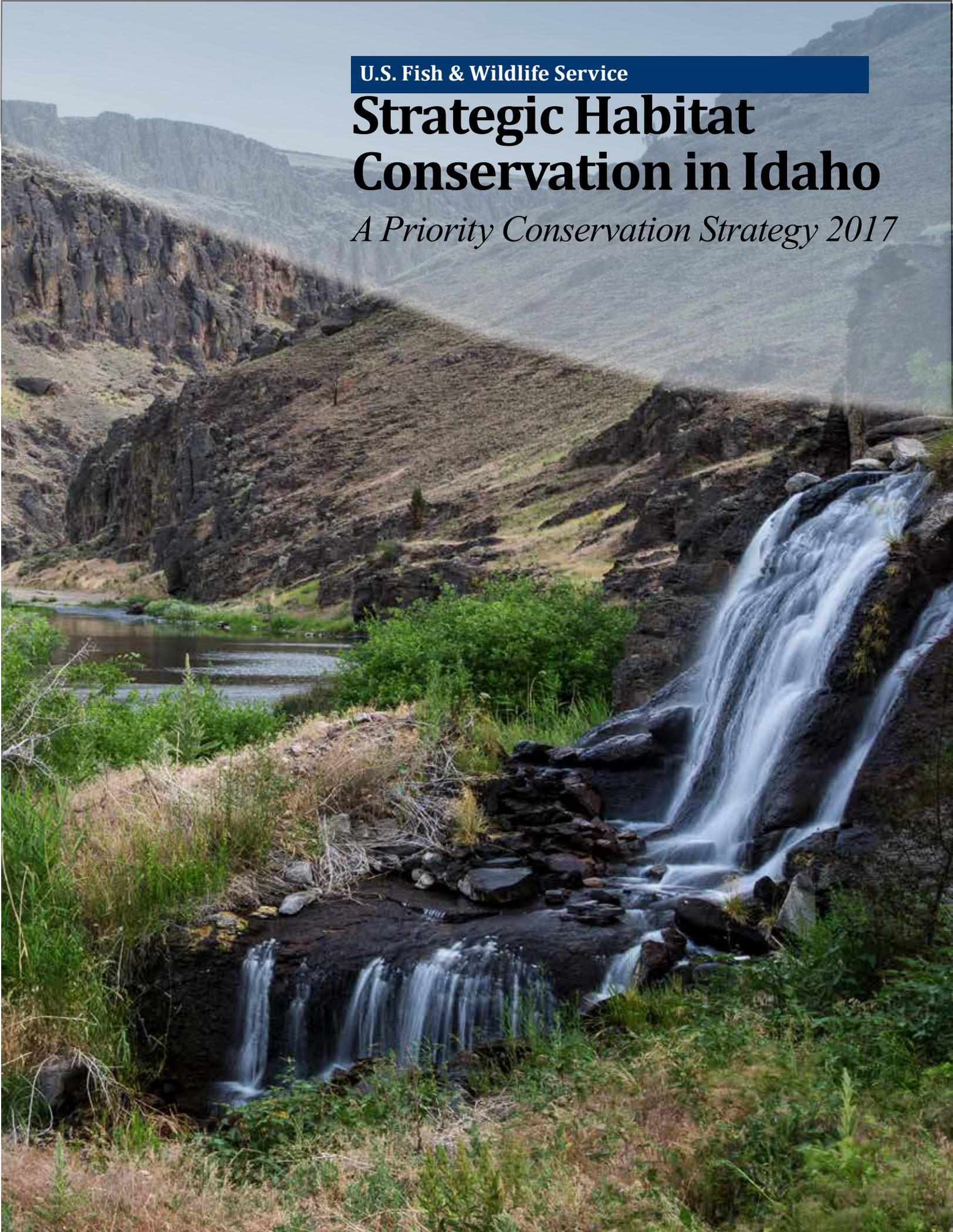


U.S. Fish & Wildlife Service

# Strategic Habitat Conservation in Idaho

*A Priority Conservation Strategy 2017*





MacFarlane's four-o'clock © Mark Lowry / BLM

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Greater sage-grouse © Steve Fairbairn / FWS

## **EXECUTIVE SUMMARY**

In recent years, the Fish and Wildlife Service has emphasized a need to focus our efforts at larger geographic scales if we are to more successfully address conservation challenges such as changing land use and climate. Placing greater effort in areas of strategic conservation importance will better ensure that our investments are meaningful and long lasting. The agency has also emphasized a need to better employ a science-based adaptive approach to ensure that we are effective in meeting our conservation objectives. The Idaho Fish and Wildlife Office (IFWO) used this guidance to identify four Priority Conservation Areas in the State of Idaho where there are compelling conservation interests for Federal Trust resources, the habitats in which they dwell, and associated natural resources that are valued by the public. The IFWO identified 39 Priority Species that utilize habitats within these areas and serve as habitat indicators, icons, keystone, or umbrella species. Lastly, we drafted Conservation Strategies that provide stated goals, objectives, and Conservation Actions that focus on high profile targets (habitats or Priority Species) within each Priority Conservation Area. These Conservation Strategies address important conservation activities, and are designed to improve habitat health and ecological integrity for all native species that rely on its associated Priority Conservation Area. This version of the IFWO Statewide Conservation Strategy incorporates input solicited from our partners, in recognition of the fact that large-scale efforts will require willing collaborations between multiple partners, including Idaho State, Federal, and Tribal agencies, as well as private conservation and user groups, as we shift to strategy implementation.

# 1. INTRODUCTION

## 1.1 Background and Need

The State of Idaho is comprised of some of the largest undeveloped and wild lands in the lower 48 states, containing a diverse range of habitats including sagebrush ecosystems, montane forests, free-flowing wilderness rivers, desert canyons, mountain lakes, and alpine summits. It is home to iconic species like wolves, grizzly bears, and wolverines, as well as lesser known wildlife, plant, and fish species that are found only in Idaho. Runs of salmon and steelhead trout still return from the Pacific Ocean to Idaho, where they spawn in the remote Salmon and Clearwater River basins. Idahoans are proud of their natural resources, and many people journey to this state to experience its scenery and wildlife.

Idaho is a large state at nearly 84,000 square miles and supports about 1.6 million residents. However, the human population is rapidly growing, putting increased demands on limited natural resources. The majority of Idaho is publicly owned and relatively undeveloped, offering a multitude of recreational opportunities. Much of Idaho has been converted to agriculture, which is a major component of the state's economy, and supports other land uses such as livestock grazing, timber harvest, and mining. Historically, conservation of natural resources has been challenged by multiple land use impacts and legacy effects remain. Today, Idaho's resources are confronted by a suite of new challenges such as energy development, aquifer depletion, invasive species, changing frequency and intensity of wildfires, and urban development. Additionally, climate change threatens to exacerbate many of these issues. Conservation efforts conducted by the U.S. Fish and Wildlife Service (Service) in Idaho, with our many partners, have resulted in important successes, but the growing human population, along with changes in land use and other threats, requires a more strategic approach in how we plan and implement conservation. In order to more effectively guide our conservation efforts into the future, the Idaho Fish and Wildlife Office (IFWO) of the Service has produced the following Priority Conservation Strategy (Strategy).

The Service is a Federal agency with specific [trust resource](#)<sup>1</sup> responsibilities, which are integrally tied to the habitats upon which trust species depend. In 2014, the IFWO completed a Comprehensive Conservation Framework<sup>2</sup>, which laid the foundation for developing a statewide conservation strategy that would guide our efforts in the coming years. The purpose of this Strategy is to ensure the resource conservation work the



Sawtooth Mountains © FWS

IFWO engages in is strategically coordinated with our partners to provide the greatest long-term conservation value. We recognize that the Service's limited resources are one small component of the conservation work occurring in Idaho, yet we also acknowledge that as a leading conservation agency we influence the conservation activities occurring in this state. To ensure the IFWO will be engaging in future conservation work consistent with our mission and trust responsibilities, we felt that a necessary first step in this process was for us to identify our priorities in which our future resource work would focus.

*NOTE: Superscripts denote Endnotes on p.47. Glossary words in the main text are [bold blue underlined](#) type. Definitions can be found on p.48 of this document. Hover your cursor over glossary words or superscript numbers for a link to the Glossary and Endnote pages.*

## 1.2 Geographic Approach

Recently the Service has stressed the need to focus on large-scale efforts to better conserve sustainable biological communities in the face of existing and expanding threats. This approach will require the Service to identify priority areas that carry the greatest potential for conservation gains and support collaborative efforts to those ends. While this more focused effort may reduce, but not eliminate, our conservation efforts in areas outside of the selected [Priority Conservation Areas](#), it will result in more effective and longer lasting conservation gains relative to the resources committed.

This approach requires strong partnerships with land and wildlife managers from state, Federal, and Tribal agencies, as well as local governments, private landowners, non-governmental organizations (NGOs), and other stakeholders, to ensure shared conservation goals and objectives are achieved.

## 1.3 Strategic Habitat Conservation Approach

The Service strives to use the best available science in its planning and decision-making processes and as a tool to measure conservation success. To this end, the IFWO will apply the Service's Strategic Habitat Conservation (SHC)<sup>3</sup> approach to implement a science-based, adaptive process to our conservation efforts. The SHC process will employ all of the IFWO's tools to conserve and protect healthy and sustainable ecological processes within selected areas. As implemented by the Service, SHC will also support a monitoring component that allows biologists and managers to measure success, detect shortcomings, and allow for modifications as the SHC process continues or new projects are planned and initiated to ensure the management efforts are resulting in the identified conservation goals.

A potentially effective approach currently being studied for its use in SHC is that of adoption of “surrogate species.” Surrogate species are species whose qualities make them good proxies for habitat health ([ecological integrity](#)), serving as indicators ([indicator species](#)) of the habitat and other species that rely on those habitats. Surrogate species may also be selected based on their effectiveness as habitat icons ([iconic species](#)) or “flagships,” their supporting role in the biological community ([keystone species](#)), or their value in providing conservation benefits for other species ([umbrella species](#)). Identifying and managing surrogate species may be effective because it is not feasible or efficient to carry out conservation actions on a species-by-species basis. Selecting and monitoring appropriate surrogates can assist managers to assess the effectiveness of their management actions and greatly reduce the number of variables to be monitored, thereby reducing monitoring efforts and costs. Good surrogates may not only serve as indicators of their habitat and biological community, but may also be used to educate and engage the public. Surrogate species are not specifically identified in this Strategy, but many of the [Priority Species](#) identified in this plan possess strong surrogate characteristics. The IFWO acknowledges that no single species can serve as a proxy for all others with which it shares habitat or resources, but many can be used as responsive and visible indicators of habitat health and be used as one metric in achieving shared conservation objectives.

In May of 2014, the IFWO completed a Comprehensive Conservation Framework<sup>2</sup> outlining a path to identify Priority Conservation Areas that would serve as focal areas for our conservation efforts. This Strategy describes the outcome of that process and positions the IFWO for the next steps of collaborating with partners and implementing strategic conservation actions in these selected Priority Conservation Areas. This Strategy is not final, but rather a living document that will be updated over time with the participation of partnering agencies, organizations, Tribes, and individuals.

Focusing on selected Priority Conservation Areas will require shifting more of IFWO's resources from a diffuse statewide approach to a more geographically-focused approach, bringing our efforts to bear on areas with potential for large, long-lasting conservation gains. This will require IFWO staff to spend more time on partnering, project implementation, and monitoring within those areas, and less time on work with lower conservation value. This does not mean we will abandon efforts outside of Priority Conservation Areas since Service mandates such as listed species, Federal projects, and critical partnering opportunities occur throughout the state. However, IFWO staff and managers will need to assess the conservation value of all projects and make

decisions that direct office resources to those work items of strategic value, while reducing our efforts in areas of little conservation gain, both within and outside of the selected Priority Conservation Areas.

The successful implementation of any large-scale strategy will rely heavily on the willing participation of our partners, along with an active and concerted community outreach effort. Most importantly, a long-term adaptive approach will require dedicated commitment and support from the Service at all levels of our organization: state, regional, and national.

## 2. METHODS

### 2.1 IFWO All-Staff Engagement

Developing a statewide conservation strategy required engagement with all IFWO staff. To support this, the IFWO conducted three all-staff workshops held in 2014 and 2015. Topics addressed in these workshops included identifying: 1) statewide conservation goals and objectives, 2) Priority Species, and 3) Priority Conservation Areas. Development of these three planning components was based on the collective expertise of IFWO biologists, managers, and support staff from the three offices located in Boise, Chubbuck, and Spokane. This staff-collaborative approach helped ensure that expertise from all programs of the IFWO Ecological Services would be represented, would include local biological expertise from throughout the state, and that staff would develop a level of ownership in the process and outcomes of a final Strategy that would guide future work. Each workshop was supported by working groups made up of IFWO staff and geographic information system (GIS) experts that refined and standardized the Strategy components.

### 2.2 Identifying Goals and Objectives

Staff from the IFWO gathered for two days to develop general goal and objective statements that would later help guide the development of more specific [Conservation Strategies](#). These goals and objectives were written to address conservation needs at different scales, both at the ecosystem- and species-level. In broad terms, the objectives sought to: 1) protect or restore habitats or populations of sufficient sizes to ensure their viability and resilience, 2) build connectivity (habitat and genetic) into the geographic design; 3) address habitat- and species-specific threats within selected priority areas, and 4) ensure development of monitoring efforts sufficient to measure results and adjust management as needed. Specific goals and objectives are further discussed under Conservation Strategies (section 2.5) below.

### 2.3 Selecting Priority Conservation Areas

Identification of potential Priority Conservation Areas was done by teams made up of IFWO staff ([Ecoregion Teams](#)) with expertise in each of seven Idaho ecoregions<sup>4</sup>. No specific constraints were placed on the geographic design, but they typically were based on: 1) major drainage systems or mountain ranges, 2) ranges of high profile species, 3) proximity to wilderness or other protected areas, and 4) major conservation initiatives or active partnering efforts. After the initial identification of potential Priority Conservation Areas, Ecoregion Team members used the previously developed goals and objectives as guidelines to rank these areas within each ecoregion. Many of the characteristics used in the design and ranking of these areas (e.g., functional habitat scale for ecosystem integrity, connectivity, habitat complexity, number of listed or Priority Species, perceived resiliency, proximity to other functional habitats) often lack quantitative values that lend themselves to objective decision-making. Hence, the delineation of geographic boundaries was subjective and left up to each Team's best professional judgment. Each of the Ecoregion Teams identified and ranked two to 10 identified areas within their ecoregion. These ranked areas were then provided to IFWO leadership, along with notations on other unique characteristics to ensure these areas with the highest and/or unique conservation value were considered.

The final Priority Conservation Areas were designated by IFWO leadership. Their final design was based on multiple factors including the rankings and rationales provided by the Ecoregion Teams, consideration of ecological integrity across ecoregion boundaries as well as state or country borders, and high profile partnerships

or initiatives. Upon selection of the Priority Conservation Areas, Ecoregion Teams were replaced with [Conservation Teams](#) made up of IFWO staff members with habitat and/or species expertise applicable to the selected Priority Conservation Areas.

## 2.4 Selecting Priority Species

The initial list of potential priority species drafted by IFWO staff drew heavily from lists of protected, sensitive, or indicator species previously developed by other state and Federal agencies as well as associated working groups and NGOs<sup>5</sup>. While the IFWO considered priority, sensitive, or focal species identified by other agencies or organizations, the Service's authorities lie with Federal Trust species. Federal Trust species include migratory birds, threatened and endangered species (Endangered Species Act (Act)), inter-jurisdictional fish, bald and golden eagles, and marine mammals. Numerous native species are not regarded as Federal Trust resources. However, the Service's SHC approach emphasized using species that serve as good habitat indicators and preferably with a substantial level of public appeal, serving as icons or "flagships" for the respective habitat. Many of the identified Priority Species in this Strategy are not Federal Trust resources and their inclusion is based on their value as habitat indicators, icons, keystone components, or umbrella species of/for their community (see 1.3 above). Species not identified as Federal Trust resources are the responsibility of the states, and using state-managed species identified as Priority Species as metrics to measure management effectiveness or as public outreach tools will be coordinated with our state partners.

## 2.5 Conservation Strategies

Conservation Teams developed a number of strategies designed to provide guidance for the conservation of species or habitats (targets) with high profile conservation needs within their Priority Conservation Areas. These strategies are comprised of the goals and objectives developed by IFWO staff, tailored to each specific area target, as well as a list of [Conservation Actions](#) that address specific conservation needs of these targets. Many of the Conservation Actions are drawn directly from documents such as recovery plans, Wildlife Management Plans (Idaho Department of Fish and Game (IDFG)) and Federal land management plans. Most strategies include elements that consider projected climate change in an effort to ensure long-term success of the actions being carried out. Lastly, since multi-agency partnership are a critical component to the success of these strategies, many of the actions include collaborative review and design of pending land use plans being developed by partnering agencies.

## 2.6 Partner Review Process

After completing the draft Strategy, the IFWO submitted the draft to selected potential partners for their review and comment. Each of the Conservation Teams identified partners they regarded as critical to the planning and implementation process within their Priority Conservation Area, such as state and Federal natural resource management agencies, Tribes, and NGOs. This process allowed us to assess and incorporate the resource interests of those parties in order to help unify our conservation objectives. The IFWO requested and considered partner input on geographic design, selection of Priority Species, and adoption or modification of Conservation Actions. Partner recommendations were reviewed by the Conservation Teams and IFWO leadership, and adopted recommendations have been included in this version of the Strategy.



Whitebark pine © USFWS



an estimated 1.9%, 18.6%, 8.2%, and 3.3% respectively. Partner recommendations led to changes in the geographic boundary of the Middle Rockies Priority Conservation Area as well as a Priority Species associated with that area (yellow-billed cuckoo). The designation of a Palouse Prairie habitat strategy was also considered for the Blue Mountains Priority Conservation Area, but was ultimately not adopted in this iteration of the Strategy.

All four Priority Conservation Areas occur along state and/or international borders, requiring that inter-state and international coordination will be necessary to achieve the highest levels of habitat integrity and conservation.

## 3.2 Priority Species

Thirty-nine Priority Species were ultimately identified based on the priorities of the IFWO Conservation Teams along with recommendations of partners (Table 1). No species is shared by all four Priority Conservation Areas, however widespread aquatic species, such as bull trout, cutthroat trout<sup>6</sup>, and the American beaver were identified in three of the four. Shared species also included some sagebrush obligates (greater sage-grouse, pygmy rabbit, sage thrasher, and sagebrush sparrow) in Middle Rockies and Owyhee Uplands Priority Conservation Areas. Grizzly bear were identified as a priority in both the Middle Rockies and Selkirk Cabinet-Yaak Priority Conservation Areas. Rocky Mountain bighorn sheep were adopted for inclusion in both the Blue Mountains and Middle Rockies Priority Conservation Areas, based partially on recommendations of IDFG and Tribal resource managers, with connectivity for this subspecies across central Idaho being an important consideration.

Thirteen of the Priority Species identified are federally protected under the Act or are candidates for listing. Two other species were recently removed from candidate or other listed status, while the single Idaho candidate for listing (whitebark pine) was identified as a Priority Species by two of the Conservation Teams. Other Federal Trust species include migratory birds (11 species, including bald and golden eagles), and inter-jurisdictional fish (eight species/subspecies). Each of the Conservation Strategies (Appendices I-IV) list those Priority Species that will be specifically addressed or benefited by respective [Conservation Actions](#).

In addition to the federally listed species identified as Priority Species, the IFWO made an effort to include species with value as habitat indicators, habitat icons or flagships, or that provide keystone roles in the ecosystem. At least two of the species identified, American beaver and aspen, were identified as keystones because both provide habitat for numerous other species and can affect factors such as local climate and hydrologic processes. As emphasized throughout this document, use of any non-Trust species as a metric of habitat health or to promote public engagement will require buy-in and support by our state and other partners.

While the IFWO did consider, and in some cases adopted, less-common and/or endemic species (e.g., IDFG Species of Greatest Conservation Need (SGCNs)), the criteria used for identifying SGCNs differ from criteria used by the IFWO in selecting Priority Species (see section 1.3). In addition, many SGCNs lacked sufficient information (e.g., conservation needs) upon which to base appropriate Conservation Actions, and/or their distribution and abundance were insufficiently known for them to be used as a suitable indicator species at larger geographic scales. As previously discussed, the IFWO Priority Species were predominantly selected as habitat indicators or for possessing qualities as a keystone, umbrella, or iconic species for the habitats they inhabit, and whose management would benefit rarer species such as certain SGCNs. As the IFWO and its partners learn more about these lesser-known species, they may be incorporated into future, revised Strategies, but for the purposes of this version, only species with known distributions and conservation needs were adopted as Priority Species.

## 3.3 Conservation Strategies

Each Conservation Team identified three to four individual Conservation Strategies designed to address the priority conservation targets within their Priority Conservation Area (provided in Appendices I-IV). Each Conservation Strategy includes goals and objectives, specific to each Priority Conservation Area, along with corresponding Conservation Actions that address the most pertinent objectives or specific threats. Actions specific to each set of [Conservation Objectives](#) are referenced numerically at the end of each goal and Conservation Objective statement, and are listed at the end of each strategy. For the purposes of this document, the strategies provided in the appendices have been restricted to goals, objectives, and actions, keeping them general and brief. These strategies and actions will be refined through continuing collaboration with our conservation partners.

**Table 1.** Priority species identified for each of four IFWO Priority Conservation Areas. See appendices for scientific names of all Priority Species.

Blue Mountains	Middle Rockies	Owyhee Uplands	Selkirk Cabinet-Yaak
Bighorn Sheep	American Beaver	American Beaver	American Beaver
Bull Trout	Aspen	Aspen	Bull Trout
Flammulated Owl	Bighorn Sheep	Columbia Spotted Frog	Canada Lynx
MacFarlane’s Four-o’clock	Bull Trout	Greater Sage-grouse	Fisher
Mountain Quail	Chinook Salmon	Interior Redband Trout	Grizzly Bear
Northern Goshawk	Greater Sage-grouse	Pygmy Rabbit	Interior Redband Trout
Northern Idaho Ground Squirrel	Grizzly Bear	Sage Thrasher	Kootenai White Sturgeon <sup>7</sup>
Pacific Lamprey	Little Brown Bat	Sagebrush Sparrow	Little Brown Bat
Rocky Mountain Tailed Frog	Pygmy Rabbit	Slickspot Peppergrass	Northern Leopard Frog
Spalding’s Catchfly	Rocky Mountain Tailed Frog		Western Bumble Bee
Westslope Cutthroat Trout	Sage Thrasher		Westslope Cutthroat Trout
White Sturgeon <sup>7</sup>	Sagebrush Sparrow		Whitebark Pine
White-headed Woodpecker	Steelhead		Willow Flycatcher
Willow Flycatcher	Townsend’s Big-eared Bat		Woodland Caribou
	Trumpeter Swan		
	Western Pearlshell		
	Westslope Cutthroat Trout		
	Whitebark Pine		
	White-faced Ibis		
	Yellow-billed Cuckoo		
	Yellowstone Cutthroat Trout		

## 4. CONTINUING PROCESS

The four Conservation Teams have identified a list of strategies and actions intended to advance on-the-ground conservation in the State of Idaho. A number of the strategies and actions are already underway or being actively planned (e.g., IFWO Partners for Fish and Wildlife Program, statewide sage-grouse initiatives), while others have willing partners but are awaiting support and engagement to move them forward. Many of the strategies and/or actions outlined in this document target the same habitats and species as the Idaho State Wildlife Action Plan (SWAP<sup>8</sup>) and propose many of the same general management actions to achieve conservation of these resources. These commonalities will provide for significant opportunities to pursue collaboratively prioritized conservation objectives.

The IFWO Strategy does not address all threats to all species. For example, emerging threats such as wind energy development and white-nose syndrome, and their effects on Idaho’s bat species, are not addressed or are restricted to monitoring actions. This Strategy focuses on long-standing threats to habitats and species, as well as established conservation solutions to those threats, and begins a prioritization framework. Addressing emerging and future threats will be part of the adaptive approach that will include multiple partners, as will the next iteration of identification and prioritization of Conservation Actions. Completion of this version of the Strategy positions the IFWO to help guide or provide a supporting role with other Idaho partners. As noted by IDFG in their 2015 State Wildlife Action Plan, ongoing collaboration will help ensure natural resource management agencies and organizations will achieve their conservation goals and objectives and the IFWO will actively engage with these managers to better assure our mutual successes. The IFWO’s Conservation Teams shall remain engaged in the SWAP and other collaborative processes to advance effective conservation in Idaho.

## **APPENDICES: PRIORITY CONSERVATION AREA STRATEGIES**

The appendices include a brief description of the conservation strategies developed by each of the four Conservation Teams. Conservation Strategies are meant to provide a step-down outline of the most pressing conservation issues in which the Service is engaged within the identified Priority Conservation Areas. Maps of each of these areas are provided at the beginning of each appendix: Blue Mountains, Middle Rockies, Owyhee Uplands, and Selkirk Cabinet-Yaak. The list of Conservation Actions, located immediately following the strategy goals and supporting Conservation Objectives, do not contain great detail, but identify the primary needs or threats that will be necessary to address the stated objectives. Each Conservation Team will develop more detailed accounts to help guide the planning and implementation of these Conservation Strategies with partners.



Canada lynx © David Moskowitz

## **APPENDIX I: BLUE MOUNTAINS PRIORITY CONSERVATION AREA**

The Blue Mountains Conservation Team identified three conservation targets and drafted Conservation Strategies to address them: 1) aquatic habitats that support native resident salmonids; 2) canyon grasslands of the Snake and Salmon River drainage systems; and 3) ponderosa pine woodlands. These targets include 14 IFWO Priority Species, four of which are federally listed. This area's western boundary contacts both Oregon and Washington States, serving as a habitat corridor from terrestrial habitats of the Rocky Mountains to the Cascades, and includes an important anadromous link to much of central Idaho (Figure 2). This conservation area contains or helps connect significant wilderness areas and their biota such as Seven Devils, Gospel Hump, Frank Church River of No Return, and the Eagle Cap (Oregon) wilderness areas.

### **Conservation Strategy 1: Secure and enhance native, resident salmonid populations and their habitats in the Blue Mountains Priority Conservation Area.**

**Priority Species: Bull Trout (*Salvelinus confluentus*), Westslope Cutthroat Trout (*Oncorhynchus clarkia lewisi*), Rocky Mountain Tailed Frog (*Ascaphus montanus*), White Sturgeon (*Acipenser transmontanus*), Pacific Lamprey (*Entosphenus tridentatus*).**

#### **Goal 1a: Ensure resilient, ecologically functioning aquatic habitats capable of supporting native species in the Blue Mountains Priority Conservation Area.**

##### Conservation Objectives

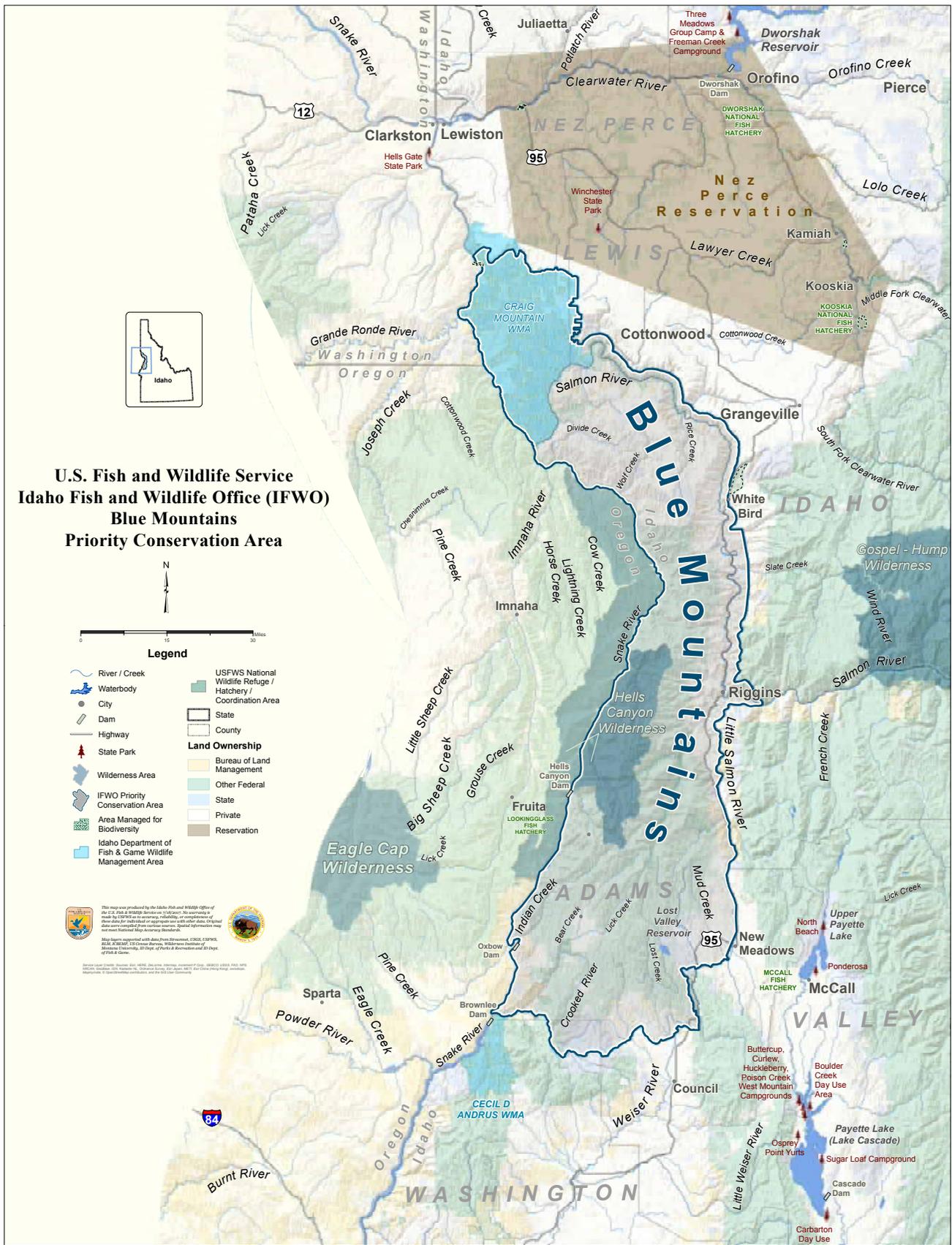
- i. Conserve remaining functional blocks of streams and rivers supporting aquatic Priority Species.
- ii. Identify and restore aquatic habitats to ensure their use by aquatic Priority Species and that will promote connectivity within existing functional blocks of aquatic habitat.
- iii. Identify and address threats to aquatic habitats and their surrounding terrestrial and riparian habitats to ensure aquatic integrity.
- iv. Protect and restore all aquatic habitat types (lakes, rivers, streams) to ensure habitats for all life-history needs of aquatic Priority Species are available and connected.

Actions: 1, 2, 4, 5, 6, 7, 8 (see complete list of Actions below).

#### **Goal 1b: Ensure abundant, diverse, and resilient populations of aquatic Priority Species within the habitats of the Blue Mountain Priority Conservation Area.**

##### Conservation Objectives

- i. Confirm Priority Species and identify appropriate indicator species as needed. Identify additional aquatic species that require special consideration as appropriate (e.g., federally listed species or other species identified by partners).
- ii. Protect or restore native habitats that support key life history components of Priority Species.
- iii. Identify and address threats to aquatic Priority Species and their habitats.
- iv. Promote connectivity between important habitat patches for aquatic Priority Species.
- v. Promote genetic diversity of Priority Species in the Blue Mountains.



**Figure 2.** The Blue Mountains Priority Conservation Area covers an estimated 2.0% of the State of Idaho, contains diverse habitats and serves as a corridor for anadromous and terrestrial species between the coastal states and mountain interior.

- vi. Protect unique native species associated with aquatic habitats of the Blue Mountains Priority Conservation Area.

Actions: 2, 3, 5, 6, 7 (see below).

**Goal 1c: Ensure that aquatic habitats within the Blue Mountains Priority Conservation Area are biologically connected to adjacent habitats.**

Conservation Objectives

- i. Identify existing and potential aquatic corridors to existing functional blocks of aquatic habitats in the Salmon and Snake River drainages, and similar drainages in Oregon, that will provide connectivity to aquatic Priority Species.
- ii. With partners, promote connectivity between important habitat patches adjacent to the Blue Mountains Priority Conservation Area.
- iii. With partners, plan restoration and/or mitigation efforts for aquatic habitats that connect adjacent areas or functional blocks of aquatic habitat.

Actions: 8 (see below).

**Conservation Actions for Blue Mountains Conservation Strategy 1:**

Action 1: Using climate and resiliency models assess predicted habitat suitability for bull trout and/or other native aquatic species and focus on suitable areas for Conservation Actions (Focal Drainages).

Action 2: Removal of passage barriers within Focal Drainages: a) Culvert replacement, b) fish ladder installation, c) fish screen installation, d) thermal barrier remediation (identified as primary threat and/or recovery action in USFWS 2010, 2015a, b)<sup>9</sup>;

Action 3: Control harmful non-native fish species within Focal Drainages (identified in 2015 RUIP<sup>9</sup>);

Action 4: Restore or enhance anadromy, where appropriate, within Focal Drainages;

Action 5: Within Focal Drainages assess human water use in drainage and secure necessary in-stream flow sufficient for healthy trout populations and anadromy (identified in RUIP<sup>9</sup>);

Action 6: Reduce sedimentation to streams in Focal Drainages;

Action 7: Develop implementation and monitoring plan with partners for achieving selected objectives.

Action 8: Consider habitat conditions adjacent to Blue Mountains Priority Conservation Area and work with partners to promote connectivity of aquatic habitats where appropriate.

## **Conservation Strategy 2: Secure and enhance canyon grasslands in the Salmon and Snake River corridors.**

**Priority Species: MacFarlane’s Four-o’clock (*Mirabilis macfarlanei*), Spalding’s Catchfly (*Silene spaldingi*), Willow Flycatcher (*Empidonax traillii*), Mountain Quail (*Oreortyx pictus*), Rocky Mountain Bighorn Sheep (*Ovis canadensis canadensis*).**

### **Goal 2a: Ensure resilient, ecologically functioning canyon grassland habitats capable of supporting native species in the Blue Mountain Priority Conservation Area.**

#### Conservation Objectives

- i. Conserve remaining functional blocks of canyon grasslands and the Priority Species within them.
- ii. Identify and restore impacted grassland habitats to ensure their use by Priority Species and promote connectivity to adjacent functional blocks of grassland habitat.
- iii. Identify and address threats to canyon grassland habitats.
- iv. Protect and restore adjacent habitats to provide connected mosaic of native habitats.

Actions: 1, 2, 3, 4, 5, 6, 7 (see complete list of Actions below).

### **Goal 2b: Ensure abundant, diverse, and resilient populations of native species within the targeted canyon grassland habitats.**

#### Conservation Objectives

- i. Confirm Priority Species and identify appropriate indicator species as needed. Identify additional canyon grassland species that require special consideration as appropriate (e.g., federally listed species, SGCNs, or other species identified by partners).
- ii. Protect or restore native habitats that support key life history components of Priority Species.
- iii. Identify and address threats to canyon grassland-inhabiting Priority Species within targeted habitats.
- iv. Promote connectivity for Priority Species between important habitat patches of targeted canyon grasslands (Focal Grasslands; see Strategy below).
- v. Promote genetic diversity of Priority Species in the targeted canyon grassland habitats.
- vi. Protect native species (Priority, listed, SGCNs, etc.) associated with canyon grassland habitats of the Blue Mountains Priority Conservation Area.

Actions: 1, 2, 3, 4, 5, 7, 9, 10, 11, 12 (see below).

### **Goal 2c: Ensure that Priority Conservation Areas within and adjacent to Idaho are biologically connected.**

#### Conservation Objectives

- i. Identify existing and potential corridors between existing functional blocks of canyon grassland habitats within the Blue Mountains Ecoregion (Idaho, Oregon, and Washington).
- ii. With partners, promote connectivity between important habitat patches throughout the Blue Mountains and adjacent areas.

- iii. With partners, plan restoration and/or mitigation efforts for canyon grasslands and adjoining habitats that promote connectivity of Priority Species.

Actions: 1, 8 (see below).

## **Conservation Actions for Blue Mountains Conservation Strategy 2:**

Action 1: Using climate and resiliency models and land condition data, assess predicted habitat changes in the canyon grasslands biome within the Blue Mountains Priority Conservation Area. Identify resilient canyon grassland habitat patches (Focal Grasslands) with partner participation (IDFG, Bureau of Land Management (BLM), and The Nature Conservancy (TNC)).

Action 2: Develop integrated weed management plan with partners for identified invasive plants within Focal Grasslands (identified as Primary Threat in plant recovery plans<sup>10</sup> and IDFG<sup>11</sup>).

Action 3: Effectively manage livestock grazing within Focal Grasslands (identified in recovery plans<sup>10</sup> and IDFG<sup>11</sup>) and associated riparian habitats.

Action 4: Restore or enhance native vegetation communities (and supporting components) for the benefit of co-occurring plants and native animal species within Focal Grasslands and adjacent habitats (e.g., riparian).

Action 5: Control use of pesticides (herbicides, insecticides, fungicides) in Focal Grasslands and adjacent habitats as appropriate.

Action 6: Include Riparian and spring protection and restoration projects where they occur within Focal Grassland project areas.

Action 7: Develop implementation and monitoring plan with partners (IDFG, BLM, TNC, and Nez Perce Tribe and private parties as appropriate) for achieving selected objectives.

Action 8: Consider canyon grassland habitat conditions adjacent to Blue Mountains Priority Conservation Area and work with partners to promote connectivity where appropriate.

Action 9: Work with partners to minimize grazing conflicts between bighorn sheep and domestic sheep.

Action 10: Work with partners (internal and external) to increase public education on bighorn sheep, specific to disease transmission risk.

Action 11: Support research associated with bighorn sheep.

Action 12: Assist partners with augmentation and translocation of bighorn sheep.

## **Conservation Strategy 3: Secure and enhance ponderosa pine woodlands.**

**Priority Species: Northern Goshawk (*Accipiter gentilis*), Northern Idaho Ground Squirrel (*NIDGS*; *Uroditellus brunneus*), Flammulated Owl (*Otus flammeus*), White-headed Woodpecker (*Leuconotopicus albolarvatus*).**

### **Goal 3a: Ensure resilient, ecologically functioning ponderosa pine woodland habitats capable of supporting native species in the Blue Mountain Priority Conservation Area.**

#### Conservation Objectives

- i. Conserve remaining functional blocks of ponderosa pine woodlands and the Priority Species within them.

- ii. Using projected climate and habitat models, identify future habitat areas and migration corridors for ponderosa pine forest within and adjacent to the Blue Mountain Priority Conservation Area.
- iii. Identify and restore impacted ponderosa pine woodland habitats to ensure their use by Priority Species and promote connectivity to adjacent functional blocks of ponderosa pine woodland habitat.
- iv. Identify and address threats to ponderosa pine woodland habitats.
- v. Protect and restore adjacent habitats to provide connected mosaic of native habitats.

Actions: 1, 2, 3, 4, 5 (see complete list of Actions below).

**Goal 3b: Ensure abundant, and resilient populations of native species within the targeted ponderosa pine woodland habitats.**

Conservation Objectives

- i. Confirm Priority Species and identify appropriate indicator species as needed. Identify additional ponderosa pine woodland species that require special consideration as appropriate (e.g., federally listed species, SGCNs, or other species identified by partners).
- ii. Protect or restore native habitats that support key life history components of Priority Species.
- iii. Identify and address threats to ponderosa pine woodland-inhabiting Priority Species within targeted habitats.
- iv. Promote connectivity for Priority Species between important habitat patches of targeted ponderosa pine woodlands (Focal Woodlands; see Conservation Action below) for current and projected future range.
- v. Promote genetic diversity of Priority Species in the targeted ponderosa pine woodland habitats.
- vi. Protect unique native species (Priority, listed, SGCNs, etc.) associated with ponderosa pine woodland habitats of the Blue Mountains Priority Conservation Area.

Action: 1, 3, 4, 5 (see below).

**Goal 3c: Ensure that Priority Conservation Areas within and adjacent to Idaho are biologically connected.**

Conservation Objectives

- i. Identify existing and potential corridors between existing functional blocks of ponderosa pine woodland habitats within Blue Mountain Ecoregion (Idaho, Oregon, and Washington). Identify areas with likely future climatic regimes, within or adjacent to areas where ponderosa pine is likely to thrive in the future (50-100 years).
- ii. With partners, promote connectivity between important habitat patches throughout the Blue Mountains Ecoregion and adjacent Ecoregions.
- iii. With partners, plan restoration and/or mitigation efforts for ponderosa pine woodlands and adjoining habitats that promote connectivity of Priority Species.

Actions: 1, 6, 7 (see below).

### **Conservation Actions for Blue Mountains Conservation Strategy 3:**

Action 1: Using climate and resiliency models and land condition data, assess predicted habitat changes in the ponderosa pine woodland biome within the Blue Mountains Priority Conservation Area. Identify resilient ponderosa pine habitat patches (Focal Woodlands) with partner participation (IDFG, BLM, TNC). Identify sites supportive of ponderosa pine woodland habitat in the future (100-year) and plan for appropriate management of these areas.

Action 2: Develop integrated weed management plan with partners for identified invasive plants within ponderosa pine woodland habitat.

Action 3: Restore or enhance native vegetation communities (and supporting components) to historical conditions, including restoring a fire regime similar to conditions supportive of ponderosa pine woodland habitat (more frequent, low intensity fires), for the benefit of Priority Species and other co-occurring plants and native animal species.

Action 4: Utilize ESA candidate and recovery programs to support recovery of candidate and listed native species, and co-occurring native species, on private lands.

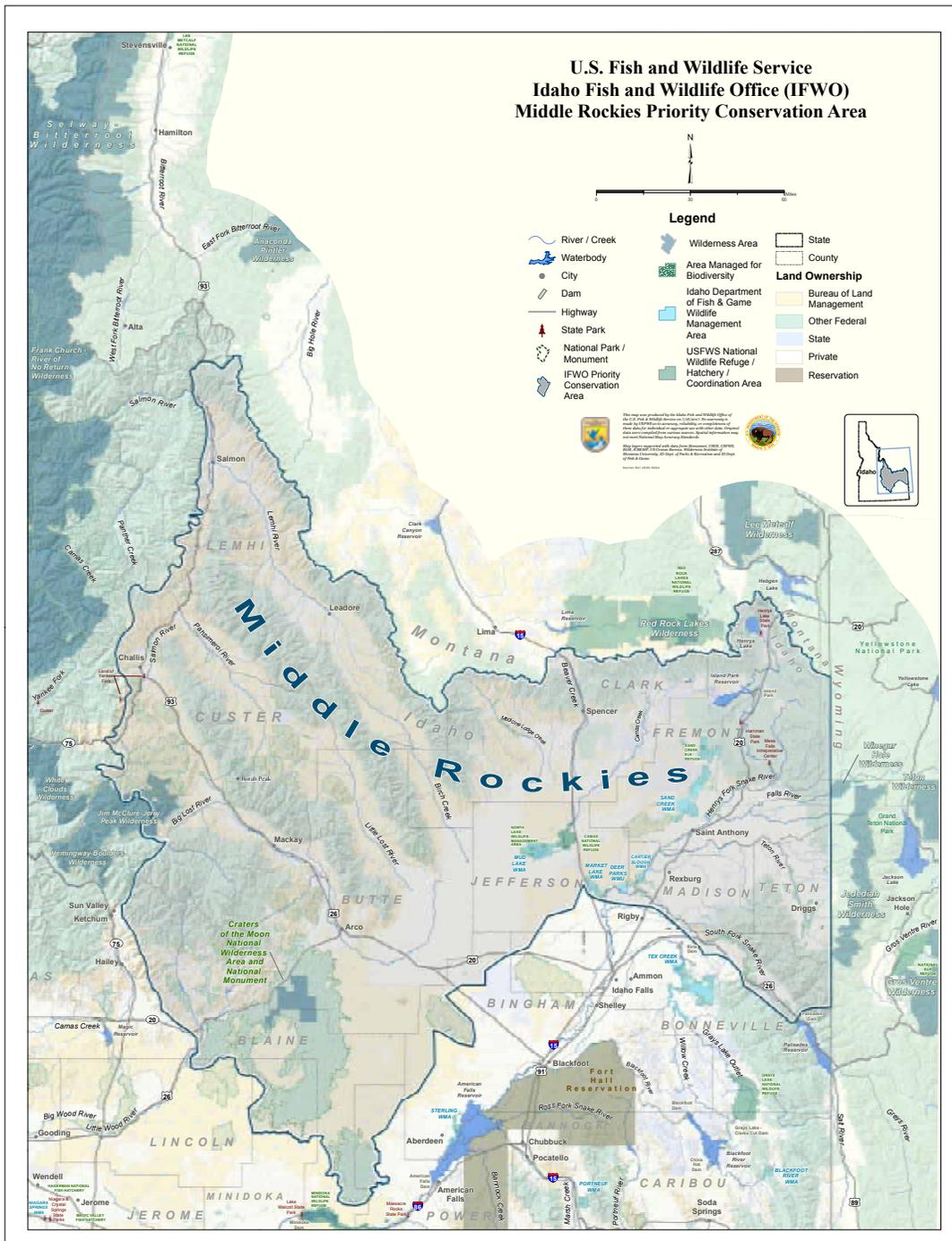
Action 5: Develop and implement focal species monitoring plans with partners (IDFG, Forest Service, and others as appropriate).

Action 6: Consider ponderosa pine woodland conditions adjacent to Blue Mountains Priority Conservation Area and work with partners to promote connectivity where appropriate.

Action 7: Work with partners across state borders to keep habitats connected and in good ecological condition, regardless of land ownership or jurisdiction.

# APPENDIX II: MIDDLE ROCKIES PRIORITY CONSERVATION AREA

The Middle Rockies Priority Conservation Area represents the largest of the IFWO’s identified conservation areas, covering an estimated 18.6% of the state, and supporting a number of diverse habitat types, including basalt desert scrub, alpine, anadromous river systems, and some of the largest areas of karst and pseudo-karst (volcanic) in the state (Figure 3). The Middle Rockies Conservation Team identified four Conservation Strategies for this area: 1) secure and enhance sagebrush ecosystems for the benefit of Priority Species, 2) secure and enhance wetland habitats, 3) enhancing the viability of forest ecosystems, and 4) securing and enhancing riverine/riparian habitats. These strategies identify 21 IFWO Priority Species, six of which are federally listed or candidates for listing. A highly complex region, the Middle Rockies Priority Conservation Area contains substantial areas of sagebrush ecosystem to the south and montane habitat corridors and anadromous streams and rivers to the north, and is recognized as an important corridor within the greater Rocky Mountain ecosystem. This Priority Conservation Area connects protected areas such as Yellowstone National Park, Boulder-White Clouds Wilderness Area and the Frank Church River of No Return Wilderness.



**Figure 3.** The Middle Rockies Priority Conservation Area covers an estimated 18.6% of the State of Idaho. This large, geographically complex area includes sage-steppe, alpine and sub-alpine habitats, and montane woodlands, as well as anadromous rivers and streams.

## **Conservation Strategy 1: Stabilize and enhance sagebrush ecosystems, targeting populations of Priority Species.**

**Priority Species: Aspen (*Populus tremuloides*), Greater Sage-grouse (*Centrocercus urophasianus*), Pygmy Rabbit (*Brachylagus idahoensis*), Sagebrush Sparrow (*Artemisiospiza nevadensis*), Sage Thrasher (*Oreoscoptes montanus*), Rocky Mountain Bighorn Sheep (*Ovis canadensis canadensis*), Townsend’s Big-eared Bat (*Plecotus townsendii*).**

### **Goal 1a: Ensure resilient, ecologically functioning sagebrush ecosystem habitats capable of supporting native species in the Middle Rockies Priority Conservation Area.**

#### Conservation Objectives

- i. Conserve remaining functional blocks of sagebrush habitats to support Priority Species.
- ii. Identify and restore habitats to ensure their use by Priority Species and that will promote connectivity within existing functional blocks of sage-steppe habitats.
- iii. Identify and address threats to sagebrush ecosystem habitats and their surrounding habitats to ensure integrity.
- iv. Protect and restore all sagebrush ecosystem habitat types to ensure habitats for all life-history needs of Priority Species are available and connected.
- v. Conserve sage-grouse Priority Habitat Management Areas (PHMA) and Important Habitat Management Areas (IHMA) in Idaho as developed in Bureau of Land Management (BLM) and Forest Service (FS) Greater Sage-Grouse Approved Resource Management Plan Amendment of 2015<sup>12</sup>.

Actions: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 28, 29 (see complete list of Actions below).

### **Goal 1b: Ensure abundant, diverse, and resilient populations of native species within sagebrush ecosystems of the Middle Rockies Priority Conservation Area.**

#### Conservation Objectives

- i. Use identified Priority Species (indicator, umbrella, keystone, etc.) as needed to achieve strategic conservation. If needed, continue to identify species that require special consideration as appropriate (e.g., federally listed species or other species identified by partners).
- ii. Protect or restore native habitats that support key life history components of Priority Species.
- iii. Identify and address threats to Priority Species and their habitat.
- iv. Promote connectivity between important habitat patches for Priority Species.
- v. Promote genetic diversity of Priority Species in the sagebrush ecosystem.
- vi. Protect native species associated with habitats of the sagebrush ecosystem within the Middle Rockies Priority Conservation Area.
- vii. With partners, create opportunities to monitor populations of Priority Species and other indicators.
- viii. With partners, evaluate Priority Species populations and habitat function to validate identified goals and objectives.

- ix. As identified in the BLM and FS Greater Sage-Grouse Approved Resource Management Plan Amendment of 2015<sup>12</sup>, protect sage-grouse populations at the established level (based on counts of males on leks).

Actions: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33 (see below).

### **Goal 1c: Ensure that sagebrush ecosystems within and adjacent to the Middle Rockies Priority Conservation Area are biologically connected.**

#### Conservation Objectives

- i. Identify existing and potential corridors to existing functional blocks of sagebrush habitats in Idaho, Montana and Wyoming that will provide connectivity to Priority Species.
- ii. With partners, plan restoration and/or mitigation efforts for sage-steppe habitats that connect adjacent areas or functional blocks of habitat to promote connectivity within and adjacent to the Middle Rockies Priority Conservation Area.

Actions: 13, 18, 26 (see below).

### **Conservation Actions for Middle Rockies Conservation Strategy 1:**

Action 1: Assist the BLM/FS with implementing land-use and management plans developed for sage-grouse conservation<sup>12</sup>.

Action 2: Assist BLM/FS with implementing priority actions identified by Snake-Salmon-Beaverhead Fire & Invasives Assessment Team (FIAT).

Action 3: Assist BLM/FS with Burned Area Emergency Rehabilitation (BAER) and Emergency Stabilization and Rehabilitation (ES&R) efforts.

Action 4: Assist BLM with planning, funding, and implementation of sage-grouse nesting habitat restoration.

Action 5: Assist the State of Idaho with implementing the Idaho Department of Lands Greater Sage-grouse Conservation Plan.

Action 6: Provide funding and technical assistance to Sage-grouse Initiative Strategic Watershed Action Team biologists.

Action 7: Provide funding and assistance to establish Sage-grouse in the Schools programs.

Action 8: Assist Idaho National Laboratory with Candidate Conservation Agreement (CCA) implementation.

Action 9: Assist IDFG with lek counts.

Action 10: Assist Natural Resources Conservation Service (NRCS) and other partners with conservation strategy for the Pioneers area.

Action 11: Identify and address species-specific threats and habitat needs for Priority Species in sagebrush ecosystems within the Middle Rockies Priority Conservation Area.

Action 12: Support research projects in the Middle Rockies Priority Conservation Area that will help refine management strategies for Priority Species in sagebrush ecosystems.

Action 13: Identify existing and potential corridors for Priority Species in sagebrush ecosystems that are needed for conservation. Consider habitat conditions adjacent to Middle Rockies Priority Conservation Area and work with partners (in Idaho, Montana, and Wyoming) to promote connectivity (including migratory corridors) and to promote genetic diversity for Priority Species, where appropriate.

Action 14: Work with partners to develop implementation and monitoring plans for all actions/objectives.

Action 15: Using climate and resiliency models as well as soil and vegetation requirements, assess predicted habitat suitability for pygmy rabbit, within the Middle Rockies Priority Conservation Area. Plan for long-term habitat shifts for this species.

Action 16. Collaborate with BLM, NRCS, IDFG, IDL, and private landowners to focus habitat restoration in Focal Sagebrush Habitat that will provide for sustainable populations of sagebrush obligate species as well as connectivity between Focal Sagebrush Habitat areas for pygmy rabbits.

Action 17: Encourage BLM, IDL, NRCS, and private landowners to employ a suite of tools to reduce invasive nonnative annual grasses (e.g., cheatgrass, medusahead) within and adjacent to pygmy rabbit suitable habitat within the Middle Rockies Conservation Team.

Action 18: Encourage BLM, NRCS, IDFG, IDL, and private landowners to employ a suite of tools to increase native species diversity within and adjacent to pygmy rabbit suitable habitat dominated by nonnative vegetation, including areas seeded post-fire with non-native plants.

Action 19: Collaborate with BLM, NRCS, IDFG, and IDL to accelerate the re-establishment of shrub cover in areas with limited mid- to late-seral sagebrush within identified Focal Pygmy Rabbit Sagebrush Habitat in the Middle Rockies Priority Conservation Area.

Action 20: Encourage BLM, NRCS, IDFG, and IDL to maintain adequate shrub cover (>30%) in deep soil areas of Focal Sagebrush Habitat Areas to promote conservation of pygmy rabbit within the Middle Rockies Priority Conservation Area.

Action 21: Work with partners to minimize grazing conflicts between bighorn sheep and domestic sheep.

Action 22: Assist partners with evaluation, repair, and replacement of water development structures for bighorn sheep (and other ungulates).

Action 23: Work with partners (internal and external) to increase public education on bighorn sheep, specific to disease transmission risk.

Action 24: Work with partners to minimize collisions with vehicles and bighorn sheep.

Action 25: Support research associated with bighorn sheep.

Action 26: Assist partners with augmentation and translocation of bighorn sheep.

Action 27: Collaborate with BLM, IDFG, Idaho Bird Observatory (IBO), and Audubon Society to establish breeding bird survey routes within the Middle Rockies Priority Conservation Area for long term monitoring of sagebrush obligate songbirds (Brewer's sparrow, sagebrush sparrow, and sage thrasher) and sagebrush habitats.

Action 28: Collaborate with partners to incorporate sagebrush obligate songbird monitoring as early indicators to evaluate restoration effectiveness of habitat improvement projects within the Middle Rockies Priority Conservation Area.

Action 29: Work with land management agencies to enhance habitats necessary to sustain viable population levels of Priority Species.

Action 30: Identify hibernacula and roosting sites (including lava tubes, abandon mines, and caves, etc.) for Priority Species bats.

Action 31: Assist IDFG, BLM, Idaho National Laboratory (INL), and National Park Service (NPS) with winter and summer bat surveys.

Action 32: Assist with and foster development of cooperative agreement to develop and execute the North American Bat Monitoring Program<sup>13</sup> (NABat).

Action 33: Increase public education and engagement to reduce human-bat conflicts.

## **Conservation Strategy 2: Secure and enhance wetlands (e.g., Lacustrine and Palustrine) in the Middle Rockies Priority Conservation Area.**

**Priority Species: Trumpeter Swan (*Cygnus buccinator*), White-faced Ibis (*Plegadis chihi*), Greater Sage-grouse (*Centrocercus urophasianus*).**

### **Goal 2a: Ensure resilient, ecologically functioning lacustrine and palustrine wetland ecosystems capable of supporting native species and habitat.**

#### Conservation Objectives

- i. Identify priority wetlands within the conservation area.
- ii. Work with partners to create opportunities for potential wetland improvement and construction of highest priority wetlands.
- iii. Work with partners on water conservation actions (incentives).
- iv. Reduce and/or prevent invasive species introduction into priority wetlands.
- v. Ensure objectives appropriate for individual wetlands are met.

Actions: 1, 2, 3, 4, 5 (see complete list of Actions below).

### **Goal 2b: Ensure abundant, diverse, and resilient populations of priority and native species within wetlands across the conservation area.**

#### Conservation Objectives

- i. Confirm Priority Species as well as appropriate indicator species as needed. Identify additional terrestrial species that require special consideration as appropriate (e.g., federally listed species or other species identified by partners).
- ii. Identify and address threats to Priority Species and their habitat.
- iii. With partners, create opportunities to implement population monitoring.
- iv. With partners, evaluate species populations, as needed, and habitat function to validate identified goals and objectives.

Actions: 6, 7 (see below).

### **Goal 2c: Ensure that wetlands within and adjacent to the Middle Rockies Priority Conservation Area are biologically connected.**

#### Conservation Objectives

- i. Identify existing and potential wildlife corridors for Priority Species.
- ii. Promote connectivity between important wetlands.
- iii. Promote restoration efforts on wetlands adjacent to intact connected habitats.
- iv. Coordinate with partners to ensure implementation of conservation actions do not conflict with adjacent conservation efforts.

Actions: 8 (see below).

## **Conservation Actions for Middle Rockies Conservation Strategy 2:**

Action 1: Identify threats to wetland function and prioritize wetlands within the conservation area.

Action 2: Work with partners to create opportunities for potential wetland improvement.

Action 3: Work with partners on water conservation actions (incentives).

Action 4: Reduce and prevent invasive species introduction and habitat conversions.

Action 5: Set measurable objectives appropriate for individual wetland types.

Action 6: Prioritize wetland-dependent Priority Species of the Service and partners.

Action 7: Work with partners to create opportunities for population monitoring.

Action 8: Identify existing and potential wetlands corridors for Priority Species between wetlands within and adjacent to the Middle Rockies Priority Conservation Area.

## **Conservation Strategy 3: Enhance the viability of Middle Rockies Priority Conservation Area forested ecosystems for the continuing benefit of Priority Species.**

**Priority Species: Aspen (*Populus tremuloides*), Whitebark Pine (*Pinus albicaulis*), Grizzly Bear (*Ursus arctos*), Townsend’s Big-eared Bat (*Plecotus townsendii*), Rocky Mountain Bighorn Sheep (*Ovis canadensis canadensis*), Little Brown Bat (*Myotis lucifugus*).**

### **Goal 3a: Ensure resilient, ecologically functioning forested ecosystems capable of supporting native terrestrial species and habitats.**

#### Conservation Objectives

- i. Conserve and enhance remaining functional habitat blocks or mosaics that support Priority Species.
- ii. Identify and address threats to habitats to ensure ecosystem integrity.
- iii. Identify and restore human-impacted habitats to ensure their use by Priority Species and will promote connectivity within existing functional blocks of habitats.
- iv. Promote connectivity between important habitat patches to sustain all life history stages of native terrestrial species.
- v. Protect mosaics of habitat at multiple scales.

Actions: 1, 2, 3, 4, 5, 9 (see complete list of Actions below).

### **Goal 3b: Ensure abundant, diverse, and resilient populations of native forest species within the Middle Rockies Priority Conservation Area.**

#### Conservation Objectives

- i. Protect or restore native habitats that support key life history components of Priority Species and mutualistic species (i.e. Clark’s nutcracker).
- ii. Identify and address threats to Priority Species and their habitats.
- iii. Promote connectivity between important habitat patches for Priority Species.

- iv. Promote genetic diversity in the Priority Conservation Area.
- v. Promote recovery of Priority Species.

Actions: 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18 (see below).

**Goal 3c: Ensure that forest habitats within and adjacent to the Middle Rockies Priority Conservation Area are biologically connected.**

Conservation Objectives

- i. Identify existing and potential wildlife corridors that will provide connectivity for Priority Species.
- ii. With partners, promote connectivity between important habitat patches adjacent to the Middle Rockies Priority Conservation Area.
- iii. With partners, plan restoration and/or mitigation efforts for habitats that connect adjacent areas or functional blocks of habitat.

Actions: 2, 6, 7, 12, 13 (see below).

**Conservation Actions for Middle Rockies Conservation Strategy 3:**

Action 1: Investigate current Priority Species distribution and abundance within the Priority Conservation Area. Information from these projects will be used in conjunction with other occurrence data to target areas for habitat enhancement or management projects.

Action 2: Improve function and complexity of vegetation communities where necessary/appropriate to support or contribute to sustainable population levels of Priority Species.

Action 3: Work with land management agencies to enhance habitats necessary to sustain viable population levels of Priority Species.

Action 4: Identify hibernacula and roosting sites (including lava tubes, abandon mines, and caves, etc.) for Priority Species bats.

Action 5: Promote the whitebark pine restoration strategy<sup>14</sup> by providing research and funds towards tasks in order to protect and enhance whitebark pine stands and provide for resiliency into the future (collect whitebark pine seed; grow rust resilient seedlings; promote saving the relics; plant burned areas; treat stands; inventory and monitor).

Action 6: Identify and work with partners to improve our understanding of wildlife corridors the Middle Rockies Priority Conservation Area and surrounding states and National Forests.

Action 7: Perform habitat resistance analyses to identify potential wildlife corridors.

Action 8: Increase public education and engagement to reduce human-wildlife conflicts (bats, bears).

Action 9: Work with partners to minimize grazing conflicts between bighorn sheep and domestic sheep.

Action 10: Assist partners with evaluation, repair, and replacement of water development structures for bighorn sheep (and other ungulates).

Action 11: Work with partners (internal and external) to increase public education on bighorn sheep, specific to disease transmission risk.

Action 12: Work with partners to minimize collisions with vehicles and bighorn sheep.

Action 13: Support research associated with bighorn sheep.

Action 14: Assist partners with augmentation and translocation of bighorn sheep.

Action 15: Assist IDFG, BLM, INL, and NPS with winter and summer bat surveys.

Action 16: Assist with and foster development of cooperative agreement to develop and execute the North American Bat Monitoring Program<sup>13</sup> (NABat).

Action 17: Coordinate, where applicable, data collection associated with the direct response to the threat of white-nose syndrome.

## **Conservation Strategy 4: Secure and enhance riverine/riparian habitats in the Middle Rockies Priority Conservation Area for the continuing benefit of Priority Species.**

**Priority Species: Bull Trout (*Salvelinus confluentus*), Westslope Cutthroat Trout (*Oncorhynchus clarkia lewisi*), Yellowstone Cutthroat Trout (*Oncorhynchus clarkia bouvieri*), Chinook Salmon (*Oncorhynchus tshawytscha*), Steelhead (*Oncorhynchus mykiss irideus*), Rocky Mountain Tailed Frog (*Ascaphus montanus*), Western Pearlshell (*Margaritifera falcata*), American Beaver (*Castor canadensis*), Western Yellow-billed Cuckoo (*Coccyzus americanus occidentalis*), and Cottonwood/Willow Complexes.**

### **Goal 4a: Ensure resilient, ecologically functioning riverine/riparian habitats capable of supporting native species in the Middle Rockies Priority Conservation Area.**

#### Conservation Objectives

- i. Conserve remaining functional blocks of streams, rivers, and associated riparian habitat supporting Priority Species.
- ii. Identify and restore impacted riverine/riparian habitats to ensure their use by Priority Species, and promote connectivity within existing functional blocks of riverine/riparian habitat.
- iii. Identify and address threats to streams, rivers, and associated riparian habitat to ensure ecosystem integrity.
- iv. Protect and restore streams, rivers, and associated riparian habitat to ensure habitats for all life-history needs of Priority Species are available and connected.

Actions: 1, 2, 4, 5, 6, 7, 9, 11, 12, 13, 14 (see complete list of Actions below).

### **Goal 4b: Ensure abundant, diverse (including life histories), and resilient populations of Priority Species within the riverine/riparian habitats of the Middle Rockies Priority Conservation Area.**

#### Conservation Objectives

- i. Protect or restore native habitats that support key life history components of Priority Species.
- ii. Identify and address threats to Priority Species and their habitat.
- iii. Promote connectivity between important habitat patches for Priority Species.

Actions: 2, 3, 5, 6, 7, 8, 9, 11, 12, 13, 15, 16, 17 (see below).

**Goal 4c: Ensure that riverine/riparian habitats within the Middle Rockies Priority Conservation Area are biologically connected to adjacent habitats.**

Conservation Objectives

- i. Identify existing and potential riverine/riparian corridors to existing functional blocks of riverine/riparian habitats in the Salmon and Upper Snake River drainages that will provide connectivity for Priority Species.
- ii. With partners, promote connectivity between important habitat patches adjacent to the Priority Conservation Area.
- iii. With partners, plan restoration and/or mitigation efforts for riverine/riparian habitats that connect adjacent areas or functional blocks of riverine/riparian habitat.

Actions: 10, 12 (see below).

**Conservation Actions for Middle Rockies Conservation Strategy 4:**

Action 1: Using climate and resiliency models assess predicted habitat suitability for bull trout, Yellowstone cutthroat, westslope cutthroat, and salmon and focus on suitable areas for Conservation Actions (Focal Drainages). Assessment of suitable habitat should consider susceptibility of drainages to wildfire.

Action 2: Remove passage barriers within Focal Drainages (identified in 2015 Bull Trout Recovery Plan and RUIP<sup>15</sup>), and a factor influencing Yellowstone cutthroat distribution<sup>16</sup>): a) culvert replacements, b) fish ladder installation, c) fish screen installation, d) thermal barrier remediation, e) velocity barrier remediation where not natural.

Action 3: Control harmful non-native fish species within Focal Drainages (identified in 2015 Bull Trout Recovery Plan and RUIP and a concern Yellowstone cutthroat trout<sup>14</sup>).

Action 4: Restore or enhance salmonid fluvial and adfluvial life histories, where appropriate, within Focal Drainages.

Action 5: Within Focal Drainages assess human water use in drainage and secure necessary in-stream flow sufficient for healthy salmonid populations (identified as Primary Threat in RUIP<sup>13</sup> and identified as a factor influencing Yellowstone cutthroat trout populations) and as needed for tailed frog and western pearlshell.

Action 6: Assess the suitability of existing flow regimes to sustain cottonwood/willow complexes. Where flow regimes have been altered by dams and/or irrigation, investigate the feasibility, and work with partners, to establish a more natural flow regime.

Action 7: Reduce sedimentation and other water quality impacts in Focal Drainages and where impacting western pearlshell and tailed frog.

Action 8: Assess non-native diseases and/or parasite infections and address as feasible.

Action 9: Develop implementation and monitoring plans with partners.

Action 10: Consider habitat conditions adjacent to Middle Rockies Priority Conservation Area and work with partners to promote connectivity of habitats where appropriate.

Action 11: Restore stream habitat by implementing restoration projects where stream habitat is lacking complexity by placing wood, doing riparian plantings, restoring grade control, nutrient replacement, and other stream restoration techniques (e.g., beaver introduction or analogs).

Action 12: Work with partners to identify cottonwood/willow complexes that are not functioning appropriately and collaboratively restore these habitats to facilitate recruitment of cottonwoods and willows.

Action 13: Work with partners to address invasive species encroachment into riparian habitats.

Action 14: Leverage opportunities and partnerships to promote conservation within the Priority Conservation Area (Land and Water Conservation Fund, Bonneville Power Administration funds, watershed groups, etc.).

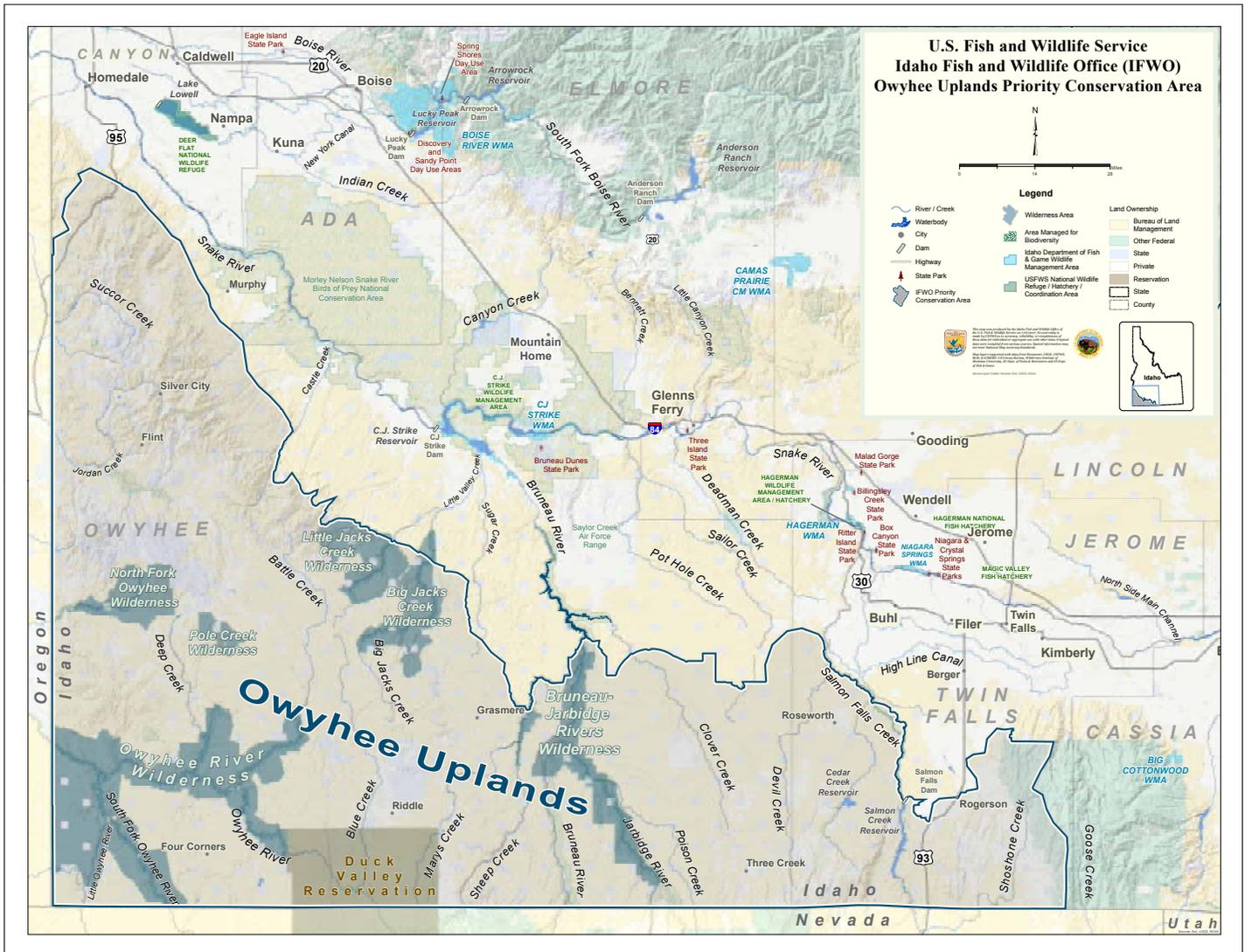
Action 15: Gather information regarding the status of western pearlshell, tailed frog, beaver, and cottonwood/willow complexes. Assess status, current distribution and abundance, etc. to identify key areas to conduct restoration activities.

Action 16: Work with partners to gather information regarding the status of yellow-billed cuckoo. Identify cottonwood/willow complexes which are selected for use by yellow-billed cuckoo.

Action 17: Work with partners to monitor yellow-billed cuckoo prey base and restore or enhance those areas where feasible.

## APPENDIX III: OWYHEE UPLANDS PRIORITY CONSERVATION AREA

The Owyhee Uplands Conservation Team identified three conservation targets addressed with the following Conservation Strategies: 1) sagebrush ecosystems, 2) aquatic and wet meadow systems, and 3) aspen ecosystems. Within the Owyhee Uplands (Figure 4), the aquatic and wet meadow systems as well as aspen comprise important habitats nested within the greater sagebrush ecosystems which predominates this region of the state. The aquatic-wet meadow and aspen habitat/ecosystems are integral to the life histories of many of the species that are regarded as members of the sagebrush ecosystem. This area supports nine IFWO Priority Species, none of which are currently listed under the Act. The Owyhee Uplands Priority Conservation Area area was selected to focus IFWO conservation efforts on the greater sage-grouse, which continues to be a high conservation priority of the Service. The boundaries of the Owyhee Uplands Priority Conservation Area were based upon the location of habitat for the greater sage-grouse, and contains the largest contiguous core habitat for greater sage-grouse in Idaho.



**Figure 4.** Owyhee Uplands Priority Conservation Area covers an estimated 8.2% of the State of Idaho and is comprised mostly of sagebrush habitats with associated wetlands, woodlands, and canyon lands.

## **Conservation Strategy 1: Secure and enhance native, obligate sagebrush species and their habitats in the Owyhee Uplands Priority Conservation Area.**

**Priority Species: Greater Sage-grouse (*Centrocercus urophasianus*), Pygmy Rabbit (*Brachylagus idahoensis*), Slickspot Peppergrass (*Lepidium papilliferum*), Sagebrush Sparrow (*Artemisiospiza nevadensis*), Sage Thrasher (*Oreoscoptes montanus*).**

### **Goal 1a: Ensure resilient, ecologically functioning sagebrush ecosystems capable of supporting native species and habitats in the Owyhee Uplands Priority Conservation Area.**

#### Conservation Objectives

- i. Conserve remaining functional blocks of sagebrush habitats supporting sagebrush Priority Species.
- ii. Identify and restore large enough blocks of functioning sagebrush habitat to support sagebrush Priority Species. Focus habitat restoration efforts to maintain or enhance resistance and resiliency of sagebrush habitats.
- iii. Identify and address threats to sagebrush habitats.
- iv. Promote connectivity between important sagebrush habitat patches.
- v. Protect mosaics of sagebrush habitat at multiple scales.
- vi. Conserve sage-grouse Priority Habitat Management Areas (PHMA) and Important Habitat Management Areas (IHMA) in Idaho as developed in Bureau of Land Management (BLM) and Forest Service (FS) Greater Sage-Grouse Approved Resource Management Plan Amendment of 2015<sup>17</sup>.

Actions: 1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 31 (see complete list of Actions below).

### **Goal 1b: Ensure abundant, diverse, and resilient populations of sagebrush obligate species within their habitats in the Owyhee Uplands Priority Conservation Area.**

#### Conservation Objectives

- i. Confirm sagebrush Priority Species as well as appropriate indicator as needed. Identify additional sagebrush obligate species that require special consideration as appropriate (e.g., federally listed species or other species identified by partners).
- ii. Protect or restore native sagebrush habitats that support key life history components of sagebrush Priority Species.
- iii. Identify and address threats to sagebrush Priority Species and their habitats.
- iv. Promote connectivity between important sagebrush habitat patches.
- v. Promote genetic diversity of sagebrush Priority Species.
- vi. Promote recovery of sagebrush Priority Species.
- vii. Protect mosaics of sagebrush habitat at multiple scales.
- viii. Protect unique sagebrush native species associated with the Owyhee Uplands Priority Conservation Area.

- ix. As identified in the BLM and FS Greater Sage-Grouse Approved Resource Management Plan Amendment of 2015<sup>17</sup>, protect sage-grouse populations at the established level (based on counts of males on leks).

Actions: 1, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31 (see below).

**Goal 1c: Ensure that sagebrush habitats within the Owyhee Uplands Priority Conservation Area are biologically connected to adjacent habitats.**

Conservation Objectives

- i. Identify existing and potential corridors to existing functional blocks of sagebrush habitats in the Owyhee Uplands Priority Conservation Area that will provide connectivity to sagebrush Priority Species.
- ii. With partners, promote connectivity between important habitat patches adjacent to the Owyhee Uplands Priority Conservation Area.
- iii. With partners, plan restoration and/or mitigation efforts for sagebrush habitats that connect adjacent areas or functional blocks of sagebrush habitat.

Actions: 13, 16, 22, 32 (see below).

**Conservation Actions for Owyhee Uplands Conservation Strategy 1:**

Action 1: Assist the BLM with implementing management plans<sup>17</sup> developed for sage-grouse conservation.

Action 2: Assist BLM with implementing priority actions identified by the Boise District and Twin Falls District Fire & Invasives Assessment Team (FIAT).

Action 3: Assist BLM with Burned Area Emergency Rehabilitation (BAER) and Emergency Stabilization and Rehabilitation (ES&R) efforts.

Action 4: Assist BLM with planning, funding, and implementation of Bruneau Owyhee Sage-Grouse Habitat (BOSH) Project.

Action 5: Assist BLM with planning, funding, and implementation of the Tri-State Fuels Breaks Project.

Action 6: Assist the State of Idaho with implementing the Idaho Department of Lands Greater Sage-grouse Conservation Plan<sup>18</sup>.

Action 7: Provide funding and technical assistance to Sage-grouse Initiative (SGI) Strategic Watershed Action Team biologists.

Action 8: Provide funding and assistance to establish Sage-grouse in the Schools programs.

Action 9: Assist Idaho Department of Fish and Game (IDFG) with lek counts.

Action 10: Assist Natural Resource Conservation Service (NRCS) and other partners with conservation strategy for the Owyhee Uplands Priority Conservation Area.

Action 11: Identify and address species-specific threats and habitat needs for Priority Species in the Owyhee Uplands Priority Conservation Area.

Action 12: Support research projects in the Owyhee Uplands Priority Conservation Area that will help refine management strategies for Priority Species in sagebrush habitats.

Action 13: Identify existing and potential corridors for Priority Species in the Owyhee Uplands Priority Conservation Area that are needed for conservation.

Action 14: Work with partners to develop implementation and effectiveness monitoring plans for all actions.

Action 15: Using climate and resiliency models, assess predicted habitat suitability for slickspot peppergrass and pygmy rabbit (Focal Sagebrush Habitats), within the Owyhee Uplands Priority Conservation Area.

Action 16: Collaborate with BLM, NRCS, IDFG, IDL, Mountain Home Air Force Base (MHAFB), private landowners, and tribes to focus habitat restoration in Focal Sagebrush Habitat that will provide for sustainable populations of sagebrush-steppe obligate species as well as connectivity between Focal Sagebrush Habitat areas for pygmy rabbit and slickspot peppergrass.

Action 17: Collaborate with partners to develop a recovery plan for slickspot peppergrass, including within the Owyhee Uplands Priority Conservation Area.

Action 18: Encourage BLM, IDL, NRCS, and private landowners, and BLM livestock permittees to employ a suite of tools to reduce invasive non-native annual grasses (e.g., cheatgrass, medusahead) within and adjacent to slickspot peppergrass Occupied Habitat and pygmy rabbit suitable habitat within the Owyhee Uplands Priority Conservation Area.

Action 19: Encourage BLM, NRCS, IDFG, IDL, private landowners, Tribes, and BLM livestock permittees to employ a suite of tools to increase species diversity within and adjacent to slickspot peppergrass Occupied Habitat and pygmy rabbit suitable habitat, that dominated by non-native vegetation, including areas seeded post-fire with non-native plants.

Action 20: Fund pilot projects that will identify new techniques for maintaining or re-establishing resilience and resistance of sagebrush habitats, with an emphasis on native shrubs, grasses, and forbs.

Action 21: Collaborate with BLM, NRCS, IDFG, IDL, MHAFB, and tribes to accelerate the re-establishment of shrub cover in areas with limited mid- to late-seral sagebrush within identified Focal Sagebrush Habitat for slickspot peppergrass and pygmy rabbit in the Owyhee Uplands Priority Conservation Area.

Action 22: Actively engage in and encourage partner collaboration with Tribes, IDFG, Nevada Department of Wildlife, and Oregon Department of Fish and Wildlife to promote sagebrush habitat connectivity for pygmy rabbit across tribal and state boundaries, where appropriate.

Action 23: Encourage BLM, NRCS, IDFG, IDL, and tribes to maintain adequate shrub cover (>30 percent total shrub cover) in deep soil areas of Focal Sagebrush Habitat Areas to promote conservation of pygmy rabbit within the Owyhee Uplands Priority Conservation Area.

Action 24: In collaboration with the LEPA Technical Team, BLM, MHAFB, IDL, BLM livestock permittees, and IDFG, identify priority Elemental Occurrences (EOs) within the Owyhee Uplands Priority Conservation Area for slickspot peppergrass habitat restoration and population augmentation or re-establishment through the Recovery planning process.

Action 25: In collaboration with BLM, MHAFB, IDL, BLM livestock permittees, and IDFG, maintain or re-establish native grasses, forbs, and shrubs as well as biological soil crusts at identified priority EOs to benefit slickspot peppergrass and the insect pollinators on which it depends.

Action 26: In collaboration with BLM, MHAFB, IDL, BLM livestock permittees, and IDFG, avoid or minimize ground disturbance and the incidence of invasive non-native plants within and adjacent to identified priority EOs to benefit slickspot peppergrass and the slickspot microsites on which it depends.

Action 27: In collaboration with BLM, MHAFB, IDL, and IDFG, identify appropriate locations for population augmentation or reintroduction as part of slickspot peppergrass recovery.

Action 28: In collaboration with BLM, MHAFB, IDL, NRCS, tribes, and IDFG, develop implementation and monitoring plans for sagebrush habitat activities to ensure pygmy rabbit conservation objectives are being met.

Action 29: In collaboration with BLM, MHAFB, IDL, and IDFG, continue to implement implementation and effectiveness monitoring to ensure slickspot peppergrass conservation objectives are being met. Develop

and implement appropriate monitoring to determine success of population augmentation and reintroduction efforts, as needed.

Action 30: Collaborate with BLM, IDFG, Idaho Bird Observatory, Audubon to establish breeding bird survey routes within the Owyhee Uplands Priority Conservation Area for long term monitoring of sagebrush obligate songbirds (Brewer's sparrow, sagebrush sparrow, and sage thrasher) and sagebrush habitats.

Action 31: Collaborate with partners to incorporate sagebrush obligate songbird monitoring as early indicators to evaluate restoration effectiveness of habitat improvement projects within the Owyhee Uplands Priority Conservation Area.

## **Conservation Strategy 2: Secure and enhance American beaver, Columbia spotted frog, and interior redband trout populations and their habitats (lotic, lentic, and wet meadow) within the Jarbidge, Bruneau, and Owyhee watersheds of the Owyhee Uplands Priority Conservation Area.**

**Priority Species: American Beaver (*Castor canadensis*), Columbia Spotted Frog (*Great Basin DPS; Rana luteiventris*), and Interior Redband Trout (*Oncorhynchus mykiss gairdneri*).**

### **Goal 2a: Ensure resilient, ecologically functioning aquatic habitats capable of supporting native aquatic species in the Owyhee Uplands Priority Conservation Area.**

#### Conservation Objectives

- i. Conserve remaining functional lotic, lentic, and wetland aquatic habitats supporting aquatic Priority Species.
- ii. Identify and restore large enough blocks of functioning aquatic habitat to support aquatic Priority Species. Focus habitat restoration efforts to maintain or enhance resistance and resiliency of aquatic habitats.
- iii. Identify and address threats to aquatic habitats.
- iv. Promote connectivity between important aquatic habitat patches.
- v. Protect aquatic habitat at multiple scales.

Actions: 1, 2, 3, 4, 5, 6, 7, 8 (see complete list of Actions below).

### **Goal 2b: Ensure abundant, diverse, and resilient populations of native aquatic species within their habitats in the Owyhee Uplands Priority Conservation Area.**

#### Conservation Objectives

- i. Identify aquatic Priority Species as well as appropriate indicator species as needed. Identify additional aquatic species that require special consideration as appropriate (e.g., federally listed species or other species identified by partners).
- ii. Protect or restore aquatic habitats that support key life history components of aquatic Priority Species.
- iii. Identify and address threats to aquatic Priority Species and their habitats.
- iv. Promote connectivity between important aquatic habitat patches.
- v. Promote genetic diversity of aquatic Priority Species.

vi. Promote recovery of aquatic Priority Species.

vii. Protect mosaics of aquatic habitat at multiple scales.

viii. Protect unique aquatic native species associated with the Owyhee Uplands Priority Conservation Area.

Actions: 2, 3, 4, 6, 7, 8 (see below).

**Goal 2c: Ensure that aquatic habitats within the Owyhee Uplands Priority Conservation Area are biologically connected to adjacent habitats outside of the area.**

Conservation Objectives

i. Identify existing and potential corridors to existing functional reaches of aquatic habitats in the Owyhee Uplands Priority Conservation Area that will provide connectivity to aquatic Priority Species.

ii. With partners, promote connectivity between important habitat patches adjacent to the Owyhee Uplands Priority Conservation Area.

iii. With partners, plan restoration and/or mitigation efforts for aquatic habitats that connect adjacent areas or functional reaches of aquatic habitat.

Actions: 1, 9 (see below).

**Conservation Actions for Owyhee Uplands Conservation Strategy 2:**

Action 1. Use climate and resiliency models and GIS mapping to identify the configuration of predicted moderate to high quality future habitat for Columbia spotted frog, interior redband trout, and beaver in the Jarbidge, Bruneau, and Owyhee watersheds. Identify these areas as Focal Drainages and Focal Ponds/Wetlands.

Action 2. Collaborate with The Nature Conservancy (TNC), Trout Unlimited (TU), BLM, Ducks Unlimited (DU), IDL, and IDFG to restore or enhance beaver populations and their habitat, where appropriate.

Action 3. Collaborate with BLM, TU, and IDFG to remove stream passage barriers to benefit redband trout within Focal Drainages. Projects to remediate current stream passage barriers may include culvert replacement, fish ladder installation, fish screen installation, and thermal barrier remediation.

Action 4. Collaborate with IDFG to evaluate the presence of invasive non-native species and remove/control invasive non-native fish (primarily small-mouth bass) and bullfrogs, as needed, focusing on Focal Drainages and Focal Ponds/Wetlands.

Action 5. Collaborate with BLM, IDA, NRCS, Animal and Plant Health Inspection Service (APHIS), and TU and provide funding to reduce sedimentation and pesticide contamination of streams and wetlands in Focal Drainages.

Action 6. Collaborate with U.S. Geological Survey (USGS), DU, and IDFG to fund assessments of non-native disease and/or parasite infection (interior redband trout; Columbia spotted frog) and to treat as needed and feasible.

Action 7. Collaborate with NRCS, TU, DU, private landowners, and IDFG to encourage the use of flood irrigation within historic floodplains (rather than pivot irrigation) for conservation of wetland habitats.

Action 8. Collaborate with BLM, NRCS, USGS, TU, and IDFG to develop implementation and monitoring plans for aquatic habitat activities.

Action 9. Actively engage in and encourage partner collaboration to promote aquatic habitat connectivity across tribal and state boundaries, where appropriate.

## **Conservation Strategy 3: Aspen Habitats: Secure and enhance aspen habitats in the Owyhee Uplands Priority Conservation Area and the species that depend upon them.**

**Aspen Habitats Priority Species: Aspen (*Populus tremuloides*), American Beaver (*Castor canadensis*).**

### **Goal 3a: Ensure resilient, ecologically functioning aspen habitats capable of supporting native species and habitats in the Owyhee Uplands Priority Conservation Area.**

#### Conservation Objectives

- i. Conserve remaining functional blocks of aspen habitats supporting aspen Priority Species.
- ii. Identify and restore large enough blocks of functioning aspen habitat to support aspen Priority Species. Focus habitat restoration efforts to maintain or enhance resistance and resiliency of aspen habitats.
- iii. Identify and address threats to aspen habitats.
- iv. Promote connectivity between important aspen habitat patches.
- v. Protect aspen habitat at multiple scales.

Actions: 1, 2, 3, 4, 5, 6, 7, 8, 9 (see complete list of Actions below).

### **Goal 3b: Ensure abundant, diverse, and resilient populations of aspen and species that depend on this habitat in the Owyhee Uplands Priority Conservation Area.**

#### Conservation Objectives

- i. Confirm aspen Priority Species as well as appropriate indicator species as needed. Identify additional species dependent on aspen that require special consideration as appropriate (e.g., federally listed species or other species identified by partners).
- ii. Protect or restore native aspen habitats that support key life history components of aspen Priority Species.
- iii. Identify and address threats to aspen Priority Species and their habitats.
- iv. Promote connectivity between important aspen habitat patches.
- v. Promote genetic diversity of aspen Priority Species.
- vi. Promote recovery of aspen Priority Species.
- vii. Protect mosaics of aspen habitat at multiple scales.
- viii. Protect unique native species dependent on aspen that are associated with the Owyhee Uplands Priority Conservation Area.

Actions: 1, 2, 3, 4, 5, 6, 7 (see below).

**Goal 3c: Ensure that aspen habitats within the Owyhee Uplands Priority Conservation Area are biologically connected to adjacent habitats.**

Conservation Objectives

- i. Identify existing and potential corridors to existing functional blocks of aspen habitats in the Owyhee Uplands Priority Conservation Area that will provide connectivity to aspen Priority Species.
- ii. With partners, promote connectivity between important habitat patches adjacent to the Owyhee Uplands Priority Conservation Area.
- iii. With partners, plan restoration and/or mitigation efforts for aspen habitats that connect adjacent areas or functional blocks of aspen habitat.

Actions: 1, 2, 8 (see below).

**Conservation Actions for Owyhee Uplands Conservation Strategy 3:**

Action 1. Meet with IDFG and other partners to determine their willingness to collaboratively develop an aspen conservation strategy for the Owyhee Uplands Priority Conservation Area.

Action 2. Using climate and resiliency models and land condition data, assess predicted habitat changes in the aspen habitats within the Owyhee Uplands Priority Conservation Area. Identify resilient aspen habitat patches (Focal Aspen Sites) with TNC, IDFG, NRCS, USGS, and BLM. Prioritize predicted moderate to high quality future habitat (Focal Aspen Areas) to focus future conservation/restoration actions in these Focal Aspen Habitat Sites/Areas.

Action 3. Collaborate with IDFG, BLM, NRCS, private landowners, USGS, Tribes, and Audubon to maintain or enhance Focal Aspen Sites. Techniques could include silvicultural practices (coppice management), prescribed burning, or domestic and wild large ungulate management through fencing or herd management.

Action 4. Collaborate with IDFG, BLM, NRCS, private landowners, USGS, Tribes, TNC, and TU to restore or enhance beaver populations, where appropriate.

Action 5. In collaboration with IDFG, BLM, NRCS, private landowners, USGS, Tribes, TNC, TU, Audubon, and the Idaho Conservation League, provide funding and input on a public education program on the conservation of aspen habitat and its value to Idaho's wildlife legacy.

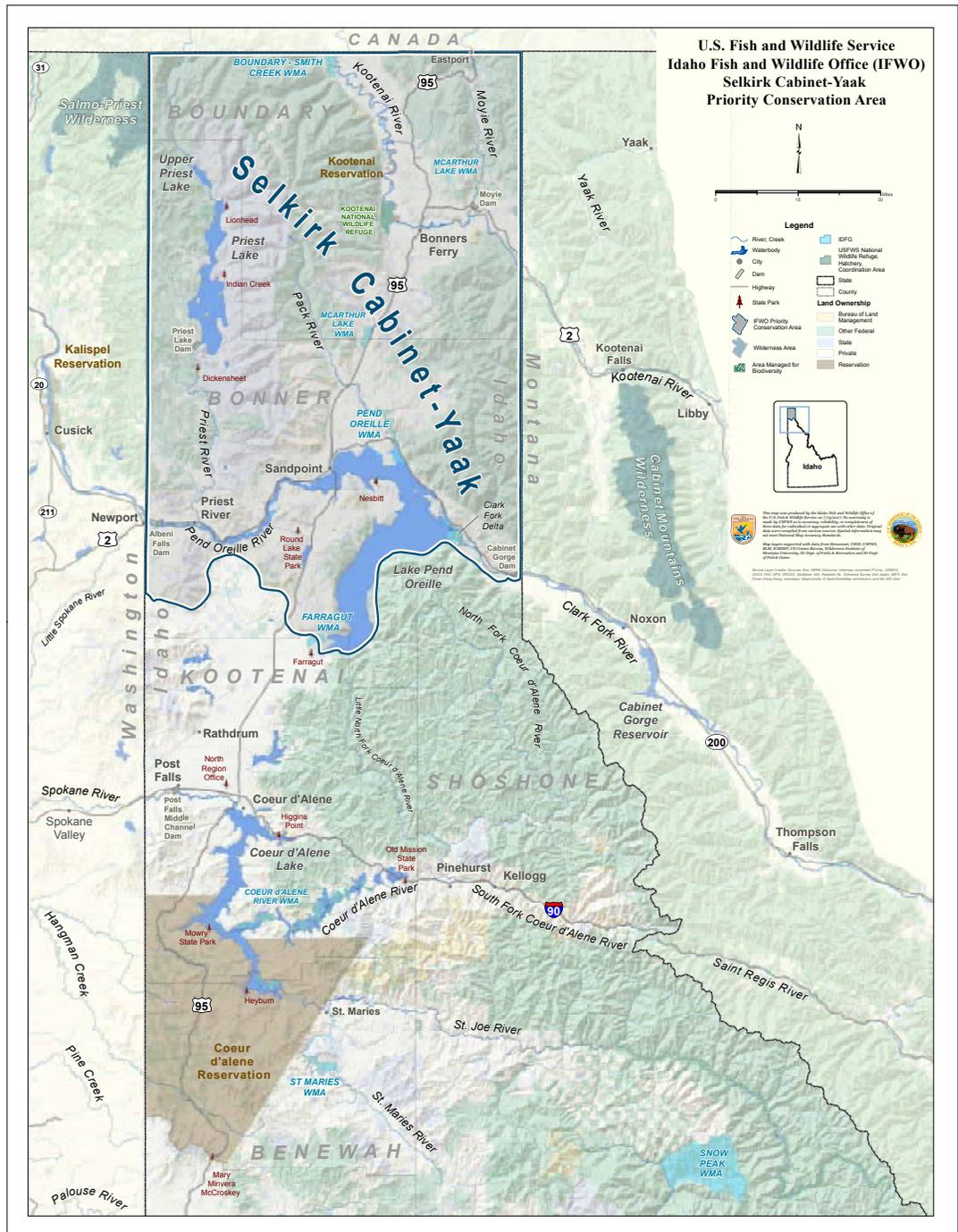
Action 6: In collaboration with BLM, NRCS, private landowners, USGS, Tribes, and IDFG, lead an effort to monitor aspen stand health over time, inclusive of the extent of current and future Sudden Aspen Decline (SAD), within and adjacent to the Owyhee Uplands through techniques such as satellite photo analyses, aerial photo analyses, and stand condition verification field visits.

Action 7: In collaboration with BLM, NRCS, private landowners, USGS, Tribes, and IDFG, develop implementation and effectiveness monitoring plans for projects designed to benefit aspen.

Action 8: Actively engage in and encourage partner collaboration between Tribes, Nevada Department of Wildlife, Oregon Department of Fish and Wildlife, and the Humboldt Toiyabe National Forest to promote aspen connectivity across tribal and state boundaries, where appropriate.

# APPENDIX IV: SELKIRK CABINET-YAAK PRIORITY CONSERVATION AREA

The boundaries of the Selkirk Cabinet-Yaak Priority Conservation Area encompass the northern Idaho Panhandle from the Canada-Montana-Washington borders to the Pend Oreille Basin to the south. Diverse forests, cool temperatures and abundant precipitation support diverse assemblages of fish and wildlife species. The Selkirk Cabinet-Yaak Conservation Team identified four conservation strategies to conserve and restore: 1) native salmonids in the Priest and Pend Oreille Basins, 2) terrestrial species in the Selkirk Mountain ecosystem, 3) Kootenai Basin ecosystems and watersheds, and 4) riparian and wetland habitats (Figure 5). The area contains 14 species identified by the IFWO as priorities, six of which are federally listed as threatened or endangered. Numerous glacial lakes occur within the area, including Lake Pend Oreille, the largest lake in Idaho. Remnant wetlands, riparian habitat and dry conifer forest along the Kootenai River Valley provide important wildlife corridors between the flanking mountain ranges.



**Figure 5.** The Selkirk Cabinet-Yaak Priority Conservation Area occupies an estimated 3.3% of the state. It contains unique wet and mesic forest, as well as large lake and aquatic systems unique in Idaho.

## **Conservation Strategy 1: Enhance native salmonid populations within the Priest and Pend Oreille Basin.**

**Priority Species: Bull Trout (*Salvelinus confluentus*), Westslope Cutthroat Trout (*Oncorhynchus clarkia lewisi*).**

### **Goal 1a: Ensure resilient, ecologically functioning ecosystems capable of supporting native aquatic species and habitats in the Priest and Pend Oreille Basins.**

#### Conservation Objectives

- i. Conserve remaining functional blocks of streams and rivers supporting aquatic Priority Species.
- ii. Identify and restore impacted aquatic habitats to ensure their use by aquatic Priority Species. Maintain and enhance the resilience of these habitats.
- iii. Promote connectivity between existing functional networks of aquatic habitat within the Priest and Pend Oreille Basins.
- iv. Identify and address threats to aquatic habitats and their surrounding terrestrial and riparian habitats to ensure aquatic integrity.
- v. Protect and restore mosaics of aquatic habitat types (lakes, rivers, streams, and associated wetland and riparian areas) to ensure habitats for all life-history needs of aquatic Priority Species are available and connected.

Actions: 1, 2, 3, 4, 5, 6, 7 (see complete list of Actions below).

### **Goal 1b: Ensure abundant, diverse, and resilient populations of native aquatic species within the habitats of the Priest and Pend Oreille River basin.**

#### Conservation Objectives

- i. Protect or restore native habitats that support key life history components of Priority Species.
- ii. Identify and address threats to aquatic Priority Species and their habitat.
- iii. Promote connectivity between important habitat patches for aquatic Priority Species within the Priest and Pend Oreille Basins.
- iv. Promote genetic diversity of Priority Species in the aquatic habitats.
- v. Promote recovery of Priority Species.

Actions: 3, 4, 5, 6, 7, 8, 9 (see below).

### **Goal 1c: Ensure that key aquatic systems within the Priest and Pend Oreille Basins are biologically connected to other river systems and adjacent to the Selkirk Cabinet-Yaak Priority Conservation Area.**

#### Conservation Objectives

- i. Identify existing and potential aquatic corridors to existing functional blocks of aquatic habitats in the Priest and Pend Oreille River systems that will provide connectivity to aquatic Priority Species.
- ii. With partners, promote connectivity between important habitat patches adjacent to the Selkirk Cabinet-Yaak Priority Conservation Area.

- iii. With partners, focus restoration and/or mitigation efforts on aquatic habitats that connect functional blocks of aquatic habitat within the Selkirk Cabinet-Yaak Priority Conservation Area to adjacent habitats as appropriate.

Actions: 3, 9 (see below).

### **Conservation Actions for Selkirk Cabinet-Yaak Conservation Strategy 1:**

Action 1: Protect, enhance, and restore key riparian habitats and their ecological function so that they support or contribute to sustainable population levels of Priority Species.

Action 2: Improve channel complexity within focal drainages.

Action 3: Restore fish passage at key dams.

Action 4: Restore and provide passage to migratory fish by removing potential human-caused barriers, i.e. impassable culverts, hydraulic head-cuts, water diversion blockages, landslides, and impassable deltas.

Action 5: Incorporate climate adaptive planning when identifying key areas for conservation and restoration.

Action 6: Work with partners to prevent, identify, contain, and control invasive species, and to restore affected native habitats.

Action 7: Reduce threats from introduced fish species.

Action 8: Maintain or increase the total number of identified local populations of Priority Species, and maintain the broad distribution of local populations.

Action 9: Identify additional areas for connectivity between aquatic habitats within and adjacent to the Selkirk Cabinet-Yaak Priority Conservation Area.

### **Conservation Strategy 2: Enhance the viability of the Selkirk Mountains ecosystem for the continuing benefit of native species.**

**Priority Species: Woodland Caribou (*Rangifer tarandus*), Canada Lynx (*Lynx canadensis*), Grizzly Bear (*Ursus arctos*), Fisher (*Martes pennanti*), Whitebark Pine (*Pinus albicaulis*), Little Brown Bat (*Myotis lucifugus*), Western Bumble Bee (*Bombus occidentalis*).**

#### **Goal 2a: Ensure resilient, ecologically functioning Selkirk Mountains ecosystem capable of supporting native terrestrial species and habitats.**

##### Conservation Objectives

- i. Conserve and enhance remaining functional habitat blocks or mosaics that support Priority Species.
- ii. Identify and address threats to habitats to ensure ecosystem integrity.
- iii. Identify and restore habitat blocks large enough to support native and Priority Species, and focus efforts on maintaining and enhancing the resiliency of these native habitats.
- iv. Promote connectivity between important habitat patches to sustain all life history stages of native terrestrial species.
- v. Protect mosaics of habitat at multiple scales.

Actions: 1, 2, 3, 4, 7, 8, 9, 10, 13 (see complete list of Actions below).

**Goal 2b: Ensure abundant, diverse, and resilient populations of native Selkirk Mountains species within their habitats.**

Conservation Objectives

- i. Protect or restore native habitats that support key life history components of Priority Species.
- ii. Identify and address threats to Priority Species and their habitats.
- iii. Promote connectivity between important habitat patches for Priority Species within the Selkirk Mountains Ecosystem.
- iv. Promote genetic diversity of Priority Species within the Selkirk Mountains Ecosystem.
- v. Promote recovery of Priority Species.

Actions: 5, 6, 7, 10, 11, 12, 13, 14, 15 (see below).

**Goal 2c: Ensure the Selkirk Mountains are biologically connected to habitats within and adjacent to the Selkirk Cabinet-Yaak Priority Conservation Area.**

Conservation Objectives

- i. Identify existing and potential wildlife corridors that will provide connectivity for Priority Species.
- ii. With partners, promote connectivity between important habitat patches adjacent to the Selkirk Mountains Ecosystem.
- iii. With partners, focus restoration and/or mitigation efforts on habitats that connect functional blocks of habitat between the Selkirk Cabinet-Yaak Priority Conservation Area and adjacent areas.

Actions: 4, 8, 9, 10, 11 (see below).

**Actions for Selkirk Cabinet-Yaak Conservation Strategy 2:**

Action 1: Work with partners to conserve, protect, and enhance forest mosaics that contribute to sustainable populations of Priority Species.

Action 2: Continue to coordinate with partners on developing and implementing a wildland fire use plan to allow for non-suppression of naturally ignited fires when appropriate, and the implementation of a prescribed fire program to maintain suitable habitats for Priority Species.

Action 3: Improve function and complexity of mainstem riparian habitats to levels that support or contribute to sustainable population levels of Priority Species.

Action 4: Incorporate climate adaptive planning when identifying key areas for conservation and restoration.

Action 5: Work with partners to reduce human-caused mortalities of Priority Species, particularly in the wildlife-urban interface.

Action 6: Working with partners, identify the current distribution and abundance of Priority Species within the Selkirk Mountains Ecosystem.

Action 7: Update and expand the population viability analysis (PVA) for trans-boundary woodland caribou in southern British Columbia.

Action 8: Help partners identify and prioritize areas for conservation, acquisition, and/or restoration.

Action 9: Work with partners to protect, restore, or enhance existing wildlife corridors within the Selkirk Mountains Ecosystem.

Action 10: Assess and restore genetic connectivity for Priority Species between the Selkirk Mountains Ecosystem and adjacent ecosystems.

Action 11: Begin scoping efforts to provide a wildlife corridor between the Selkirk and Cabinet Mountains at McArthur Lake.

Action 12: Work with partners to implement standardized monitoring programs for Priority Species within the Selkirk Mountains Ecosystem.

Action 13: Work with Partners to create pollinator habitat and minimize the use of pesticides where practical.

Action 14: Work with partners and stakeholders to develop and implement a statewide strategic plan for white-nose syndrome (WNS), including protocols for surveillance and response to the introduction of WNS in Idaho.

Action 15: Assist our partners with conducting bat surveys, identifying summer roosts and winter hibernacula, and developing/implementing the North American Bat Monitoring Program (NABat)<sup>13</sup>.

### **Conservation Strategy 3: Maintain and restore healthy ecosystems and watersheds within the Kootenai Basin to ensure the continued persistence, health, and diversity of native species.**

**Priority Species: Kootenai White Sturgeon (*Acipenser transmontanus*), Bull Trout (*Salvelinus confluentus*), Westslope Cutthroat Trout (*Oncorhynchus clarkia lewisi*), Interior Redband Trout (*Oncorhynchus mykiss gairdneri*), Little Brown Bat (*Myotis lucifugus*), Western Bumble Bee (*Bombus occidentalis*).**

#### **Goal 3a: Ensure resilient, ecologically functioning aquatic habitats capable of supporting native aquatic species and their habitats within the Kootenai Basin.**

##### Conservation Objectives

- i. Conserve remaining functional blocks of streams and rivers supporting aquatic Priority Species.
- ii. Restore functional blocks of impacted aquatic habitats capable of supporting native and Priority Species. Maintain and enhance the resiliency of these habitats.
- iii. Promote connectivity between existing functional blocks of aquatic habitat within the Kootenai Basin.
- iv. Identify and address threats to aquatic habitats and their surrounding terrestrial and riparian habitats to ensure aquatic integrity.
- v. Protect and restore all aquatic habitat types (lakes, rivers, streams, and associated wetland and riparian areas) to ensure habitats for all life-history needs of aquatic Priority Species are available and connected.

Actions: 1, 2, 3, 4, 5, 6, 7, 8, 13 (see complete list of Actions below).

#### **Goal 3b: Ensure abundant, diverse, and resilient populations of native Kootenai Basin species within their habitats.**

##### Conservation Objectives

- i. Protect or restore native habitats that support key life history components of Priority Species.
- ii. Identify and address threats to aquatic Priority Species and their habitat.

- iii. Promote connectivity between important aquatic habitat patches within the Kootenai Basin.
- iv. Promote genetic diversity in the aquatic habitats.
- v. Promote recovery of Priority Species.

Actions: 1, 2, 7, 8, 9, 10, 11, 12, 13, 14, 15 (see below).

**Goal 3c: Ensure that aquatic habitats within the Kootenai Basin are connected to other aquatic systems within and adjacent to the Selkirk Cabinet-Yaak Priority Conservation Area.**

Conservation Objectives

- i. With partners, promote connectivity between important aquatic habitat patches within the Kootenai Basin.
- ii. With partners, focus restoration and/or mitigation efforts on aquatic habitats that connect the Kootenai Basin to adjacent functional blocks of habitat within and outside of the Selkirk Cabinet-Yaak Priority Conservation Area.

Action: 10 (see below).

**Conservation Actions for Selkirk Cabinet-Yaak Conservation Strategy 3:**

Action 1: Protect and maintain prime, functioning tributary habitat.

Action 2: Restore and provide passage to migratory fish by removing human-created barriers, i.e. impassable culverts, hydraulic headcuts, water diversion blockages, landslides, and impassable deltas.

Action 3: Working with Action Agencies, bring Libby Dam operations closer to normal hydrograph conditions during summer and spring while providing flood control.

Action 4: Improve riparian function and complexity to levels that support or contribute to sustainable population levels of Priority Species.

Action 5: Improve channel complexity and habitat function within focal drainages.

Action 6: Establish a more normative mainstem thermal regime to be more within the tolerance range of all life stages of Priority Species and their prey.

Action 7: Incorporate climate adaptive planning when identifying key areas for conservation and restoration.

Action 8: Restore and enhance spawning and rearing habitat for Priority Species.

Action 9: Reduce threats from introduced species.

Action 10: Work with partners to maintain connectivity between the Kootenai Basin and important spawning stocks in British Columbia.

Action 11: Characterize, conserve, and monitor genetic diversity and gene flow among local populations of Priority Species, and maintain or increase the total number of genetically pure local populations.

Action 12: Maintain or increase the total number of identified local populations of Priority Species, and maintain the broad distribution of local populations across all existing core areas within recovery units.

Action 13: Work with Partners to create pollinator habitat and minimize the use of pesticides where practical.

Action 14: Work with partners and stakeholders to develop and implement a statewide strategic plan for white-nose syndrome (WNS), including protocols for surveillance and response to the introduction of WNS in Idaho.

Action 15: Assist our partners with conducting bat surveys, identifying summer roosts and winter hibernacula, and developing/implementing the North American Bat Monitoring Program (NABat)<sup>13</sup>.

## **Conservation Strategy 4: Restore riparian and wetland habitats within the Selkirk Cabinet-Yaak Priority Conservation Area to ensure the continued persistence, health, and diversity of native species.**

**Priority Species: American Beaver (*Castor canadensis*), Willow Flycatcher (*Empidonax traillii*), Western Bumble Bee (*Bombus occidentalis*), Northern Leopard Frog (*Rana pipiens*).**

### **Goal 4a: Ensure resilient, ecologically functioning riparian and wetland habitats capable of supporting native species and their habitats.**

#### Conservation Objectives

- i. Conserve and enhance remaining functional riparian and wetland habitats that support Priority Species.
- ii. Restore large functional blocks of riparian and wetland habitats capable of supporting native and Priority Species. Maintain and enhance the resiliency of these habitats.
- iii. Identify and address threats to riparian and wetland habitats and their surrounding terrestrial and aquatic habitats to ensure ecosystem integrity.
- iv. Protect and restore all riparian and wetland habitat types (floodplain, vernal pool, peat, etc.) to ensure habitats for all life history needs of Priority Species are available and connected.
- v. Protect mosaics of riparian and wetland habitat at multiple scales.

Actions: 1, 2, 3, 4, 5, 6, 10 (see complete list of Actions below).

### **Goal 4b: Ensure abundant, diverse, and resilient populations of native species within riparian and wetland habitats.**

#### Conservation Objectives

- i. Protect or restore riparian and wetland habitats that support key life history components of Priority Species.
- ii. Identify and address threats to Priority Species and their habitats.
- iii. Promote connectivity between important habitat patches for Priority Species.
- iv. Promote genetic diversity of Priority Species within riparian and wetland habitats.
- v. Promote recovery of Priority Species.

Actions: 5, 6, 7, 8, 9, 10 (see below).

### **Goal 4c: Ensure that riparian and wetland habitats within the Selkirk Cabinet-Yaak Priority Conservation Area are biologically connected to adjacent functional blocks of habitat.**

#### Conservation Objectives

- i. Identify existing and potential wildlife corridors that will provide connectivity for Priority Species.
- ii. With partners, promote connectivity between important riparian and wetland habitat patches within the Selkirk Cabinet-Yaak Priority Conservation Area.

- iii. With partners, focus restoration and/or mitigation efforts on habitats that connect functional blocks of riparian and wetland habitat within the Selkirk Cabinet-Yaak and adjacent areas.

Actions: 4, 9 (see below).

#### **Conservation Actions for Selkirk Cabinet-Yaak Conservation Strategy 4:**

Action 1: Work with partners to restore, protect, and enhance prime, functioning, and rare riparian and wetland habitats that support or contribute to sustainable population levels of Priority Species.

Action 2: Work with action agencies to reduce impacts to riparian and wetland habitat from development, agriculture, and hydrologic alteration.

Action 3: Reduce threats to riparian and wetland habitats by controlling for non-native species.

Action 4: Work with partners to reconnect functional blocks of riparian and wetland habitat.

Action 5: Restore and maintain the broad habitat diversity of riparian and wetland habitat types across the Selkirk Cabinet-Yaak Priority Conservation Area.

Action 6: Incorporate climate adaptive planning when identifying key areas for conservation and restoration.

Action 7: Work with partners to maintain or increase the distribution and abundance of Priority Species that utilize riparian and wetland habitats.

Action 8: Work with partners to implement standardized monitoring programs for Priority Species within riparian and wetland habitats.

Action 9: Work with partners in surrounding areas to ensure connectivity of riparian and wetland habitats that provide wildlife corridors between the Selkirk Cabinet-Yaak Priority Conservation Area and adjacent areas.

Action 10: Work with Partners to create pollinator habitat and minimize the use of pesticides where practical.

## ENDNOTES

(NOTE: Endnotes are linked back to the [pages](#) where they appear in the document.)

1. Pertain to federal trust resources. ([p.2](#))
2. See References: Fish and Wildlife Service 2014. ([p.2](#), [p.3](#))
3. For more on this approach go to: <http://www.fws.gov/landscape-conservation/shc.htm> ([p.3](#))
4. Omernik and Griffith (2014) ([p.4](#))
5. Referenced species lists includes: Fish and Wildlife Service 2008, Idaho Dept. Fish and Game 2005, Idaho Native Plant Society 2011, Forest Service 2011. See also Fish and Wildlife Service 2014. ([p.5](#))
6. Both Westslope and Yellowstone Cutthroat subspecies are named independently, but they can be treated as a single species given their common habitat requirements and allopatric distribution within Idaho. ([p.7](#))
7. White Sturgeon is a single species that includes the federally listed Kootenai Distinct Population Segment. ([p.8](#))
8. Idaho Department of Fish and Game 2015 ([p.8](#))
9. Fish and Wildlife Service (2010, 2015a, b) ([p.12](#))
10. Fish and Wildlife Service 2000, 2007 ([p.14](#))
11. Idaho Department of Fish and Game 2014 ([p.14](#))
12. Bureau of Land Management 2015 ([p.18](#), [p.19](#))
13. Loeb et al. 2015 ([p.20](#), [p.24](#), [p.25](#), [p.39](#), [p.40](#))
14. Keane et al. 2012. ([p.23](#), [p.25](#))
15. Fish and Wildlife Service 2015a, c ([p.25](#))
16. May et al. 2007 ([p.25](#))
17. Bureau of Land Management 2015 ([p.28](#), [p.29](#))
18. Idaho Department of Lands 2015 ([p.29](#))

## GLOSSARY OF KEY TERMS

*(NOTE: Each term below is linked back to the page in the document where it first appears in the document.)*

**Conservation Actions:** Specific actions that, when carried out, will result in on the ground conservation or inform future actions, that will support the stated Conservation Objectives for each of the Priority Conservation Areas. [\(p.7\)](#)

**Conservation Objectives:** General objectives based on accepted conservation principles that support IFWO's stated goals for each of the selected Priority Conservation Areas. These are broad objectives lacking quantifiable or stated measurable outcomes. [\(p.7\)](#)

**Conservation Strategies:** Individual plans developed by the IFWO Conservation Teams that outline conservation goals, conservation objectives, and a suite of Conservation Actions to address important conservation targets. [\(p.4\)](#)

**Conservation Teams:** Teams made up of IFWO staff assembled to identify and help implement conservation strategies within each of the Priority Conservation Areas. [\(p.5\)](#)

**Ecological Integrity:** The structure, composition, and function of an ecosystem operating within the bounds of natural or historic range of variation. [\(p.3\)](#)

**Ecoregion Teams:** Teams made up of IFWO staff assembled to identify important conservation landscapes within each of seven ecoregions found in Idaho (modified). Ecosystem Teams were disbanded after selection of four Priority Conservation Areas and replaced by Conservation Teams. See: Fish and Wildlife Service 2014. [\(p.4\)](#)

**Iconic Species:** Also referred to as “flagship species,” is a concept that holds that by raising the profile of a specific charismatic species, it can successfully leverage more support for conservation of a habitat, region, ecosystem, or assemblage of other species. [\(p.3\)](#)

**Indicator Species:** A species whose presence, absence, or relative well-being in a given environment is a sign of the overall health of its ecosystem or a specific environmental condition. A species particularly sensitive to environmental conditions and therefore provide warnings/information on ecosystem or habitat health. [\(p.3\)](#)

**Keystone Species:** A species that has a disproportionately large effect on its environment relative to its abundance. Keystone species play a critical role in maintaining structure within a habitat type or ecological community, affecting numerous other organisms within it. [\(p.3\)](#)

**Priority Conservation Areas:** Large geographic areas inside of Idaho, determined by IFWO staff to be of elevated conservation value. Selection of Priority Conservation Areas was conducted to focus IFWO conservation efforts in an attempt to make coordinated and significant advances in achieving conservation goals and objectives on the ground. [\(p.3\)](#)

**Priority Species:** Native species identified by IFWO staff to serve as habitat icons, indicators, or umbrella species, or with significant ecosystem values, to be used to garner public support and/or as monitoring metrics as proxies for habitat or ecosystem health. [\(p.3\)](#)

**Trust Resources:** Those natural resources that are protected or regulated under federal law and hence under some level of jurisdiction by a federal entity or agency. Examples of federal trust resources include: species listed under the Endangered Species Act, migratory birds, interjurisdictional fish, and wetlands. The Service and other federal agencies also have trust responsibilities with native American Tribes. [\(p.6\)](#)

**Umbrella Species:** Terminology typically used in conservation applications; protecting the selected “umbrella species,” through ecosystem or habitat protection, will indirectly protect numerous other species associated with that ecosystem or habitat. [\(p.3\)](#)

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