

Idaho's Aquatic Resource Program Plan 2022–2027



Idaho Transportation Department wetland mitigation site, McCammon, Idaho. Photo by Chris Murphy.



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ABSTRACT

Idaho’s diverse and extensive aquatic resources include wetland, riparian, and open water habitats, which provide highly valued ecosystem services to Idaho’s citizens. Aquatic resources include Idaho’s wetlands, riparian, shallow water aquatic habitats, and surface waters (streams, rivers, lakes, ponds, vernal pools, springs, seeps, etc.). However, aquatic resources are being lost or altered across Idaho. The Idaho Aquatic Resource Program Plan’s (ARPP) goal is to guide statewide conservation of priority aquatic resources per the following objectives: (1) sustain aquatic resource functions and condition, (2) support aquatic resource conservation efforts through strong partnerships, and (3) promote recognition of aquatic resources as providers of important ecosystem services for Idaho’s citizens (e.g., watershed health and economic values). The ARPP will be implemented through the Idaho Interagency Mitigation Working Group’s (IIMWG) collaborative forum. During the 2022–2027 implementation period, the ARPP will focus on actions and activities within three core program elements: Monitoring and Assessment, Voluntary Restoration and Protection, and Regulation. Participation in ARPP activities by individual IIMWG members will be voluntary and dependent on factors including funding, personnel, and support of stakeholders.

KEYWORDS

actions; activities; aquatic resources; assessment; collaboration; conservation; coordination; data management and delivery; education; enhancement; function; habitat; Idaho Interagency Mitigation Working Group; management; mitigation; monitoring; National Wetlands Inventory; objectives; outreach; partnerships; permitting; protection; regulation; restoration; riparian; technical assistance; water quality; Wetland Program Plan; wetland

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I. INTRODUCTION

Idaho's Aquatic Resources

Idaho's diverse and extensive aquatic resources include wetland, riparian, and open water habitats supported by surface waters and groundwater. Based on the National Wetlands Inventory (NWI) (USFWS 2021), which maps the nation's aquatic resources, Idaho supports approximately 1.5 million ac of emergent, scrub-shrub, forested, riverine, and pond/mudflat wetlands (Figures 1 and 2) and over 530,000 ac of lacustrine wetlands. This represents less than half of Idaho's historical estimated wetland extent (IWWG 2008). It is recognized that the hydrologic, water quality, ecosystem support, and habitat functions of aquatic resources provide highly valued ecosystem services to Idaho's citizens, including the following:

- groundwater recharge
- irrigation water supply
- domestic water supply
- support of base flows for springs, streams, and rivers
- flood minimization
- wastewater treatment
- sediment and shoreline stabilization
- water quality improvement (e.g., nutrient removal and sequestration)
- carbon sequestration
- habitat for fish, wildlife, plants, and other species
- food and fiber (including culturally important fish, waterfowl, plants, etc.)
- environmental education, interpretation
- wildlife and bird observation, appreciation
- solitude and nature observation, appreciation
- scientific research
- hunting and fishing
- other recreation (e.g., camping, swimming, ice skating, boating, hiking)

However, aquatic resources are being lost, degraded, or altered across Idaho. During the last 30 years, wetland and riparian extent in many areas (southern Idaho especially) declined due to changing climate (increased drought frequency, decreased snowpack, higher irrigation demand), changing agricultural practices (conversion from flood to sprinkler irrigation, more groundwater pumping), and urbanization (Donnelly and Dreitz 2019).

Approximately 45% of Idaho's aquatic resource habitats occur on privately owned lands (Figure 3; Murphy 2014), creating abundant opportunities for collaborative conservation projects with private landowners. Over 36% of Idaho's aquatic resources are federally owned, primarily in National Forests and on Bureau of Land Management lands where many of these habitats are protected and/or managed according to federal environmental laws, regulations, and plans. The State of Idaho is directly responsible for regulating and conserving aquatic resources, including management of approximately 6% of the state's wetland and riparian area (Murphy 2014). Clearly, collaboration among governmental agencies, non-governmental organizations, private landowners, and other stakeholders is critical for conserving Idaho's aquatic resources.



Figure 1. Black Rock Slough, Coeur d’Alene River, showing gradient of aquatic resource habitats, from deeply flooded pond and aquatic beds, to shallowly flooded emergent wetlands, to scrub-shrub and forested riparian margins. Photo by Chris Murphy.

Wetland Program Plan Background

Per US Environmental Protection Agency (EPA) guidance, a Wetland Program Plan (WPP) is a multi-year plan that directs and tracks state or tribal wetland conservation activities (EPA 2008). It is an action plan centered on the EPA core elements of a wetland program for implementing effective and efficient aquatic resource conservation, restoration, and management, including assessment and monitoring (Association of State Wetland Managers 2013). In 2009, the EPA encouraged states and tribes to develop WPPs for the purpose of guiding and prioritizing wetland actions, and measuring implementation progress. WPPs also list current and proposed work that can be funded by EPA Wetland Program Development Grants.

State and federal agency regulations, activities, and decisions affect the condition and function of many aquatic resources and the watersheds in which they occur. IDFG completed Idaho’s first non-tribal WPP in 2014 (Murphy 2014). This 2015–2019 WPP focused on IDFG led management and restoration actions and activities supporting the EPA core elements of *Assessment and Monitoring* and *Voluntary Protection and Restoration*. This WPP also aimed to implement some statewide strategies originating from the 2008 Idaho Wetland Conservation Strategy. The strategy was developed through public meetings of the Idaho Wetlands Working Group (IWWG), a statewide collection of governmental and non-governmental stakeholders (IWWG 2008). In 2021, a review of 2015–2019 WPP accomplishments and progress toward desired outcomes for wetland condition, function, conservation, and restoration was completed (Murphy 2021).

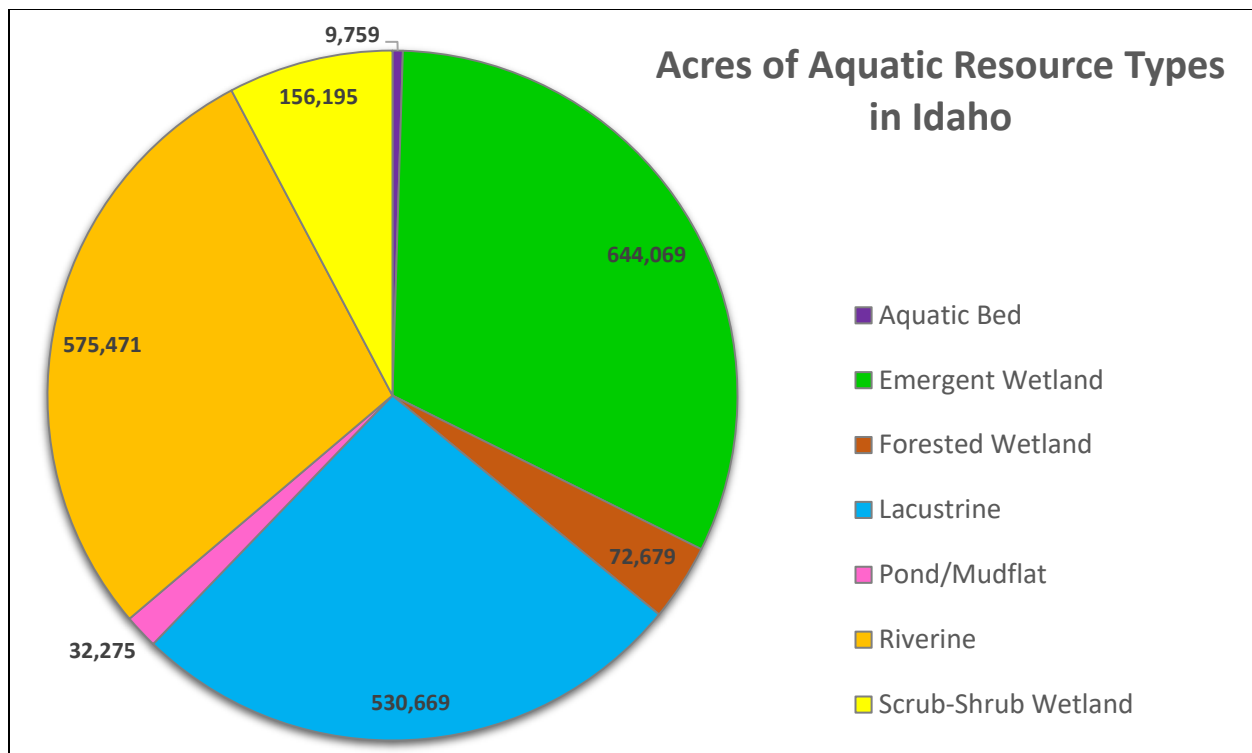


Figure 2. Acreage of aquatic resource types in Idaho based on 2021 National Wetlands Inventory mapping.

Percent of Aquatic Resource Habitat in Idaho by Land Management Responsibility

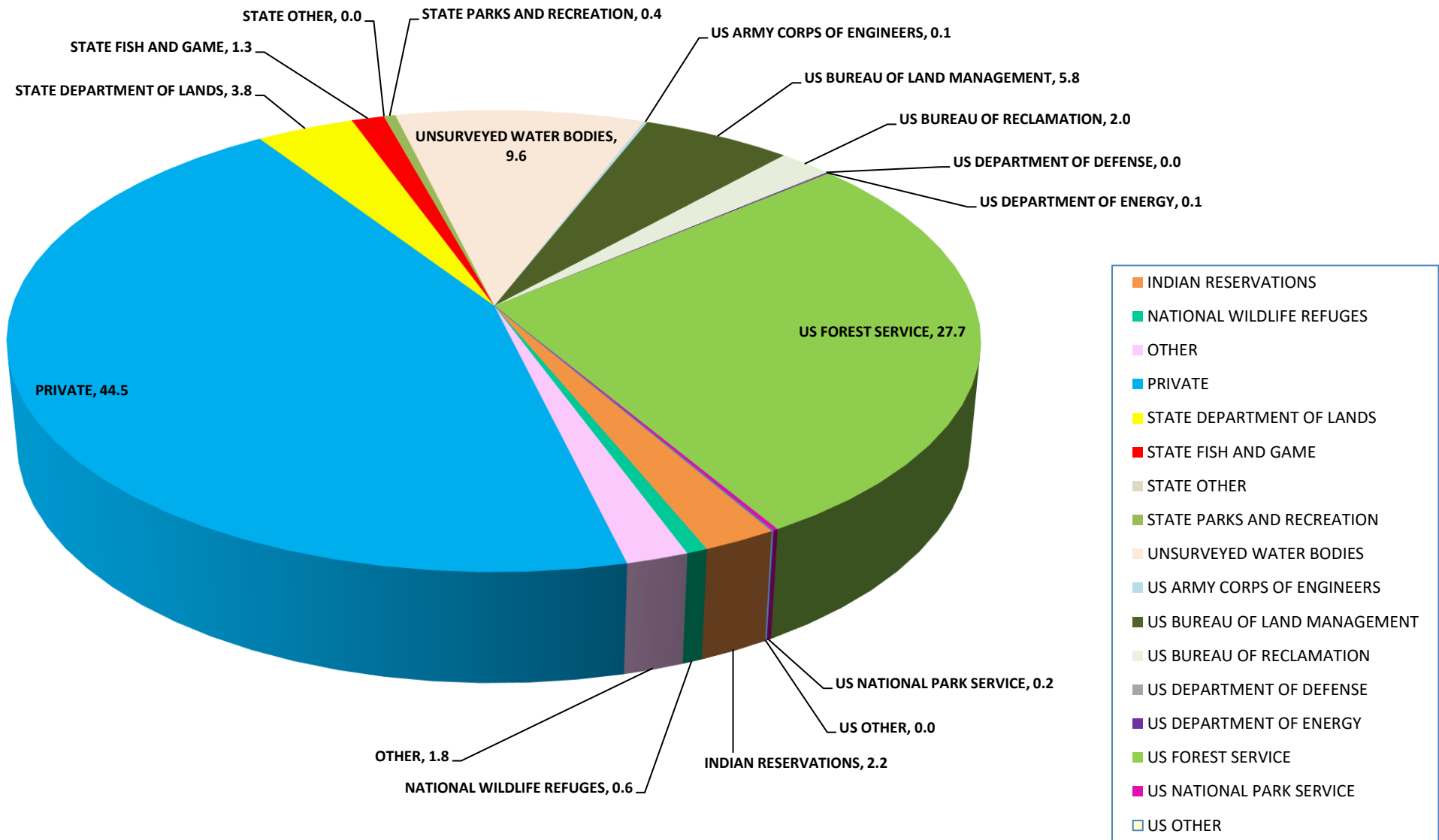


Figure 3. Proportion of estimated aquatic resource habitat by land management responsibility, based on 2012 map of potential wetland and riparian distribution in Idaho (Murphy 2014).

Developing Idaho's Aquatic Resource Program Plan

Idaho's original 2015–2019 WPP expired at the end of 2019 and was relatively narrow in focus. Although the 2008 IWWG was not sustained, a new stakeholder group, the Idaho Interagency Mitigation Working Group (IIMWG), has met since 2019 to collaborate on aquatic resource conservation in Idaho. A key part of IIMWG's success thus far is the realization by the diverse state and federal agency stakeholders that dedicated collaboration and partnerships are necessary for effective conservation of Idaho's aquatic resources. Accordingly, the IIMWG determined that a key step to developing a statewide aquatic resource program was to complete a revised plan that addresses the state's diversity of aquatic resources through broad-based stakeholder partnerships. To signify Idaho's diversity of aquatic resources and associated stakeholders, the revised WPP is henceforth called the Idaho Aquatic Resource Program Plan (ARPP).

Key partners invested in the ARPP and their roles and responsibilities are listed in Table 1. Numerous other organizations are active and important collaborative partners for aquatic resource conservation. Their involvement will be critical for implementing the ARPP. They may include, but are not limited to the following:

- Bureau of Land Management
- Ducks Unlimited
- Henry's Fork Foundation
- Idaho Conservation League
- Idaho Soil and Water Conservation Districts
- Idaho State Parks and Recreation
- industry (agricultural producers, livestock producers, irrigators, timber, mining, energy, consultants)
- Intermountain West Joint Venture
- land trusts
- Natural Resources Conservation Service
- National Marine Fisheries Service
- The Nature Conservancy
- Tribes
- Trout Unlimited
- universities
- US Bureau of Reclamation
- US Forest Service

Preparing the ARPP included 4 tasks:

- 1) IIMWG engagement to identify potential topics, priorities, actions, activities, and potential lead agencies for ARPP implementation
- 2) a review of accomplishments and progress implementing the 2015–2019 WPP; this included a survey of IDFG habitat biologists responsible for implementing actions and activities; survey results described implementation progress, problems related to accomplishing actions and activities, and activities planned (or dropped) for the next 5 years (Murphy 2021)
- 3) efforts to develop a NWI-based Idaho wetland map with improved accuracy to support Idaho Transportation Department's (ITD) Wetland Impact Forecasting Assessment Tool (WIFAT) for calculating the extent of wetland impacts from transportation infrastructure projects (Horrocks Engineers 2021)
- 4) preparation of the ARPP including updated map products and datasets available on IDFG's wetland webpage: [Idaho's Wetlands | Idaho Fish and Game](#).

The WPP review and stakeholder input identified the following themes for developing the ARPP:

- focus on new, innovative, and effective statewide actions and activities that will have positive outcomes for program development and will result in aquatic resource protection and restoration
- focus on fewer, but more achievable, statewide collaborative actions
- remove duplicative, routine, or mandated maintenance-type activities

Table 1. Key IIMWG partner and ARPP stakeholder roles and responsibilities pertaining to aquatic resource conservation.

Agency Partners	Monitoring and Assessment	Voluntary Restoration and Protection	Regulatory Activities	
			Mitigation	Wetland Related Regulations
Idaho Dept. of Environmental Quality (IDEQ)	Beneficial Use Reconnaissance Program: stream bioassessment, including aquatic life (fish, algae, macroinvertebrates); water quality (nutrients, sediment, toxics, temperature, bacteria); habitat (channel, riparian)	Clean Water Act (CWA) §319 nonpoint source management program and grants; §303(d) Subbasin Assessments, TMDLs; technical assistance	Interagency Review Team (technical review of mitigation projects); IIMWG member	Clean Water Act: §401 water quality certification for §404 dredge/fill and nationwide permits; §303(d) and §305(b) water quality Integrated Report; Idaho Pollutant Discharge Elimination System: point source discharge; IDAPA 58.01.02: water quality anti-degradation
Idaho Dept. of Fish and Game (IDFG)	GIS modeling of hydrodynamics and wetland condition; habitat classification; condition and functional assessment of wetland, meadow, and riparian habitats; effectiveness of restoration, enhancement, and management; vegetation and fish and wildlife response	management, restoration, enhancement, conservation, acquisition; collaborative partnerships; education, outreach, data delivery; technical assistance; review of permitting, mitigation, other activities	Interagency Review Team (technical review of mitigation projects); IIMWG member	N/A
Idaho Dept. of Lands (IDL)	fish population, in-stream habitat, and watershed condition on state endowment trust lands	technical assistance	IIMWG member	Idaho Lake Protection Act: lake bed and shoreline alteration (lacustrine wetlands); Idaho Forest Practices Act: riparian buffers for timber harvest; mining laws protecting water quality; management and leasing of state lands (grazing, mining)
Idaho Transportation Dept. (ITD)	N/A	preserve, protect, and enhance wetlands, water quality, wildlife, fish, and sensitive plants by avoiding, minimizing, or mitigating impacts of transportation projects; CWA compliance, Endangered Species Act, etc.	IIMWG member	N/A
Idaho Dept. of Water Resources (IDWR)	N/A	floodplain management; water supply and groundwater management; technical assistance	IIMWG member	Idaho Stream Channel Protection Act: channel, floodplain, and flow alteration below high water (riverine wetlands); water rights applications and compliance

Agency Partners	Monitoring and Assessment	Voluntary Restoration and Protection	Regulatory Activities	
			Mitigation	Wetland Related Regulations
Idaho Governor's Office of Species Conservation (OSC)	N/A	planning, coordinating, and implementing the State's actions to preserve, protect, and restore species listed as candidate, threatened, and endangered under the federal Endangered Species Act; technical assistance to state, federal and private stakeholders	IIMWG member	N/A
Local Highway Tech. Assistance Council (LHTAC)	N/A	supports local highway jurisdictions on issues including impact avoidance, minimization, and compensatory mitigation	IIMWG member	N/A
Federal Highway Admin. (FHWA)	N/A	avoids or mitigates impacts to wetland integrity from national transportation infrastructure and technical assistance	IIMWG member	N/A
US Army Corps of Engineers (USACE)	develop Idaho rapid assessment methods for wetland and stream functions	technical assistance to CWA §404 permittees	Interagency Review Team leadership; credit/debit for rapid assessment methods; IIMWG member	Clean Water Act: §404 dredge and fill discharge permits; jurisdictional determinations; compliance; mitigation and wetland banking
US Environmental Protection Agency (EPA)	National Wetland Condition Assessment 2026	support capacity and consistency among state's wetland monitoring, protection, regulation, and water quality programs through technical assistance and funding (Wetland Program Development Grants)	Interagency Review Team (technical review of mitigation projects); IIMWG member	Clean Water Act: enforcement (with USACE) of §404 permit provisions; §304(a) water quality standards
US Fish and Wildlife Service (USFWS)	National Wetlands Inventory updates	support state's monitoring, protection, and restoration through technical assistance and grant funding	IIMWG member	enforcement and administration of Endangered Species Act and migratory bird laws

II. IDAHO'S AQUATIC RESOURCE PROGRAM PLAN 2022–2027

Aquatic Resources Covered by ARPP

For the ARPP, the holistic term “aquatic resources” will be used to include Idaho’s wetlands, riparian areas, shallow water aquatic habitats, and surface waters (streams, rivers, lakes, ponds, vernal pools, springs, seeps, etc.). More narrowly defined jurisdictional wetlands covered by the waters of the US rule under CWA §404 and wetlands associated with waters of the state of Idaho (i.e., surface water as defined by IDAPA 58.01.02) fall under the umbrella of aquatic resources.

Goal and Objectives of Idaho’s ARPP

The overarching goal of Idaho’s ARPP is to guide statewide protection, restoration, management, and mitigation of priority aquatic resources for the benefit of watershed health, ecosystem services, and economic values. The plan includes actions and activities that aim to fulfill the following objectives:

- sustain aquatic resource functions and condition through existing regulatory frameworks, program building, and collaborative restoration, management, mitigation, monitoring, and assessment
- support effective and efficient management, conservation, and restoration of aquatic resources through formation of strong partnerships and providing science-based technical assistance and decision-support tools to the public
- broaden stakeholder support for aquatic resources as important providers of ecosystem services for the human environment, such as water quality improvement, water supply, flood control, recreation, and open space, and as crucial habitat for fish, wildlife, plant, and other aquatic and terrestrial species

These goals and objectives represent those of the IWMG, but also reflect concepts from the Idaho Wetland Conservation Strategy (IWWG 2008) and 2015–2019 WPP.

ARPP Elements

This ARPP focuses on the EPA’s wetland program core elements (EPA 2008) of:

- Monitoring and Assessment (including classification, mapping, data management and delivery)
- Voluntary Restoration and Protection (including management, enhancement, creation, water quality improvement, technical assistance, and education through collaboration and partnerships)
- Regulation (including permitting and mitigation)

ARPP Timeframe

The ARPP implementation timeframe is 6 years, beginning in 2022 and extending through the end of 2027. However, implementation schedules for activities vary within this timeframe. For example, some complex, large-scale, on-the-ground aquatic resource conservation projects or state program development actions may require more than 6 years to plan and fully implement. Therefore, this ARPP includes ongoing activities begun during the prior WPP timeframe. ARPP implementation during the 6-year timeframe will be determined ultimately by the occurrence of conservation project opportunities, availability IWMG partners’ resources (e.g., staffing capacity and funding), and potential changes in priorities or needs.

ARPP Funding Strategies

ARPP actions and activities with a statewide or watershed focus can be supported by EPA Region 10 Wetland Program Development Grants (WPDG’s). For example, WPDG funding was used to complete statewide assessment and mitigation related activities outlined in the 2015–2019 WPP. IDFG also recently used WPDGs

to complete a river floodplain assessment project and a technical review of wetland enhancement options at a state Wildlife Management Area. IDFG and ITD used a WPDG to attempt to improve the accuracy of NWI mapping in Idaho in support of ITD’s WIFAT, and to revise the WPP. Projects with a state, watershed, or private land focus can be funded, in part, by USFWS North American Wetland Conservation Act Grants and State Wildlife Grants, or CWA §319 grants administered through IDEQ. Other federal or state funds (e.g., IDFG Habitat Improvement Program) can be used when available.

List of Abbreviations and Acronyms

ARPP	Aquatic Resource Program Plan	IRT	Interagency Review Team
BMP	Best Management Practice	ISFAM	Idaho Stream Function Assessment Method
CWA	Clean Water Act	ITD	Idaho Transportation Department
EPA	Environmental Protection Agency	IWESP	Idaho Wetland Ecosystem Services Protocol
FHWA	Federal Highway Administration	IWWG	Idaho Wetlands Working Group
IDAPA	Idaho Administrative Procedures Act	LHTAC	Local Highway Technical Assistance Council
IDEQ	Idaho Department of Environmental Quality	NWI	National Wetlands Inventory
IDFG	Idaho Department of Fish and Game	OSC	Idaho Governor’s Office of Species Conservation
IDL	Idaho Department of Lands	USACE	United States Army Corps of Engineers
IDWR	Idaho Department of Water Resources	USFWS	United States Fish and Wildlife Service
IIMWG	Idaho Interagency Mitigation Working Group	USBWP	Upper Salmon Basin Watershed Program

ARPP Objectives, Actions, Activities, and Implementation Schedule

The following tables contain Idaho’s priority ARPP objectives, actions, and activities. As new information becomes available, actions and activities may be modified to achieve goals. The ARPP will be implemented through the IIMWG’s collaborative forum. Participation in any ARPP activity by individual IIMWG members is voluntary and dependent on factors including funding, personnel, and support of stakeholders.

Monitoring and Assessment Element

Objective	Action	Schedule	Activity	Potential Activity Lead
1. Develop monitoring and assessment strategies and methods.	Create a statewide monitoring and assessment framework.	2022–2027	Collaboratively identify monitoring and assessment needs and data gaps, shared goals and objectives, and aquatic resources that would benefit from coordinated and sustained statewide monitoring and assessment.	IIMWG
	Collaboratively develop Idaho-specific aquatic resource assessment methods within EPA's Level 1-2-3 assessment approach.	2023–2024	Utilize GIS (Level 1) to collaboratively create a statewide value and need-based watershed prioritization for aquatic resource protection and mitigation decision-making.	
		2022–2027	Use GIS analysis of high-resolution remotely sensed imagery to monitor changes in wetland extent, condition, and hydrology including restoration and mitigation project outcomes.	
		2022–2023	Continue development, testing, and refinement of Rapid Assessment Methods (Level 2), such as Idaho Wetland Ecosystem Services Protocol (IWESP) and Idaho Stream Function Assessment Method (ISFAM).	
		2022–2027	Examine innovative ways to use monitoring data to improve aquatic resource management decisions, develop success measures for projects, and support water quality protection.	
2. Implement statewide monitoring and assessment.	Monitor and assess aquatic resource condition and function to inform protection, restoration, and management.	2022–2027	As needed, use existing protocols to rapidly assess aquatic resource condition and function to estimate project effects, determine mitigation requirements, track outcomes, and inform adaptive management.	IDFG, OSC
		2022–2027	As needed, monitor effectiveness of high priority aquatic resource restoration, enhancement, mitigation, and management projects.	
		2022–2027	Continue statewide annual stream and riparian habitat and water quality monitoring through the Beneficial Use Reconnaissance Program.	IDEQ
		2026	Participate in, or support, National Aquatic Resource Surveys including the National Wetland Condition Assessment.	IIMWG
	Support inventory and monitoring of aquatic resources of conservation concern.	2022–2027	As needed, promote and/or conduct monitoring or inventory of aquatic resources that provide critical functions, or which are highly threatened and difficult to restore.	IIMWG
		2022–2027	Assess importance of aquatic resources for water supply and climate change adaptation, resilience, and mitigation.	
3. Incorporate monitoring and assessment information in agency decision-making.	Increase application of aquatic resource data, decision support tools, spatial layers, and other information.	2022–2027	Build capacity necessary for maintaining and delivering data, spatial layers, tools, reports, etc. necessary for impact-analysis, assessments, watershed planning, and monitoring.	IIMWG
		2022–2023	Create classification, conservation assessment, and identification guides for Idaho's aquatic resources useful for conservation planning and management.	IDFG
		2022–2027	Continue to use monitoring data to inform CWA §305(b) Integrated Report, §319 BMP effectiveness, and subbasin reviews.	IDEQ

Voluntary Restoration and Protection Element

Objective	Action	Schedule	Activity	Potential Activity Lead
1. Implement program and engage conservation partners and stakeholders.	Develop broad-based stakeholder support for Idaho's aquatic resource program.	2022–2027	Maintain the IIMWG as the centralized collaborative forum for aquatic resource conservation.	IIMWG
		2022–2027	Conduct public outreach to broaden stakeholder support for aquatic resource conservation.	
		2022–2024	Identify prospective statewide public and agency conservation partners.	
	Provide guidance on protection, restoration, and management techniques and planning tools.	2022–2024	Develop outreach, education, and guidance materials to broaden public and stakeholder support for aquatic resource conservation, impact avoidance, and restoration.	IIMWG
		2023–2025	Provide stakeholder training for aquatic resource conservation and restoration methods, including use of data and tools (e.g., IWESP, ISFAM) for CWA §404 permitting, watershed planning, and improving project outcomes.	
		2022–2023	Develop recommended watershed-specific native species lists and seed mixes for restoration and enhancement.	IDFG
		2024–2027	Promote propagation of locally sourced native plant materials.	IIMWG
2. Protect, restore, and enhance aquatic resources.	Establish and leverage broad-based public and agency partnerships.	2022–2024	Engage prospective public and agency project partners, and identify shared aquatic resource and watershed protection and restoration goals, priorities, and opportunities.	IIMWG
		2023–2025	Form aquatic resource protection, restoration, and enhancement partnerships.	
	Prioritize and fund collaborative watershed and aquatic resource projects.	2023–2024	Establish watershed and aquatic resource priorities (e.g., function, water quality, aquifer recharge, fish and wildlife habitat, recreation, and other environmental services) and identify locations high-priority resources that can be successfully restored or protected.	
		2023–2024	Identify priority protection, restoration, and enhancement projects and secure diverse and robust funding, and opportunities to share capacity, for project planning, implementation, and monitoring.	
	Protect, restore, and enhance high value aquatic resources.	2024–2027	Implement high-priority aquatic resource protection with mechanisms including incentives, conservation easements, and fee-title acquisition as appropriate.	Agency-specific
		2022–2027	Implement high-priority aquatic resource restoration and enhancement projects with a focus on process-based and sustainable hydrologic restoration.	

Voluntary Restoration and Protection continued.

Objective	Action	Schedule	Activity	Potential Lead
3. Support protection, restoration, and enhancement with technical assistance.	Review proposed development projects, legislation, and regulations that potentially affect aquatic resources.	2022–2027	Provide technical comments identifying potential resource impacts and recommendations to offset adverse effects including avoidance, minimization, and mitigation measures.	IDFG, OSC
		2022–2027	Review wetland mitigation proposals, including compensatory requirements, mitigation banks, in-lieu fee programs, etc.	IRT
		2022–2027	Continue to provide Best Management Practice guidance during permitting process to minimize project effects to aquatic resources.	Permitting Agencies
	Aid aquatic resource conservation and restoration project development and implementation.	2023–2024	Review protection, restoration, and enhancement projects for conservation values relative to identified aquatic resource and watershed priorities.	IIMWG
		2022–2027	Provide habitat-specific restoration and management guidance (e.g., project design, hydrologic restoration, water control, vegetation management, planting and seeding, invasive species control, success measures, etc.) to private and agency project proponents.	IDFG, OSC

Regulation Element

Objective	Action	Schedule	Activity	Potential Activity Lead
1. Develop successful mitigation strategies for unavoidable aquatic resource impacts.	Establish and sustain a stream and wetland compensatory mitigation program using a watershed approach.	2022–2027	Coordinate and collaborate among agencies to develop mitigation program goals, priorities, and implementation.	IIMWG
		2022–2023	Continue work to establish an in-lieu fee mitigation program, including finalizing a framework, sponsors, and agreements.	
		2024–2027	Utilize collaboratively developed watershed and aquatic resource prioritization for mitigation decision making.	
		2022–2027	Build capacity necessary to maintain, refine, and deliver web-based mitigation planning tools.	
	Create function-based accounting system for mitigation.	2023	Complete development and implementation of credit/debit quantification system based on IWESP and ISFAM scores.	IIMWG
		2024	Define performance standards for mitigation projects, including monitoring, assessment, and stewardship guidelines.	IRT
2. Promote efficient and consistent administration of regulatory activities through coordination.	Use existing laws and regulations to avoid, minimize, mitigate, and monitor impacts to aquatic resources from proposed alterations.	2022–2027	Continue administration and enforcement of CWA §404 dredge or fill discharge permits; maintain joint application process with state.	USACE; EPA
		2022–2027	Continue to protect aquatic resources through CWA programs, including §401 Water Quality Certification, §303(d) monitoring, and §305(b) reporting; continue to regulate point source discharges through Idaho Pollutant Discharge Elimination System program	IDEQ
		2022–2027	Continue administration and enforcement of Idaho Stream Channel Protection Act to minimize impacts to streams and floodplains.	IDWR
		2022–2027	Continue to protect aquatic resources, including riverine and lacustrine wetlands, during land uses such as forestry, mining, and development, using buffers and BMPs as appropriate.	IDL
	Evaluate regulatory activities and outcomes to inform decisions.	2024	Collaboratively assess Idaho's regulatory activities to identify needs (e.g., data gaps, water quality standards for wetlands, public guidance, shared objectives, etc.) and ensure aquatic resources are being adequately and efficiently protected.	IIMWG



Wetland ecology training at Grays Lake National Wildlife Refuge. Photo by Chris Murphy.

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LITERATURE CITED

- Association of State Wetland Managers. 2013. Wetland program plans handbook: A resource to assist states and tribes in developing strategic approaches to achieve comprehensive wetland programs. The Association of State Wetland Managers, Windham, ME.
- Cowardin, L. M., V. Carter, F. C. Golet, and E. T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. FWS/OBS-79/31. US Department of the Interior, Fish and Wildlife Service, Washington, DC.
- Donnelly, P. and V. Dreitz. 2019. Managing risk and maximizing return; decision support for conservation of Idaho's dynamic wetland landscapes. Intermountain West Joint Venture and University of Montana.
- Environmental Protection Agency (EPA). 2008. Core elements of effective state and tribal wetlands programs. US Environmental Protection Agency, Washington DC. Available from: http://water.epa.gov/grants_funding/wetlands/estp.cfm
- Horrocks Engineers. 2021. Idaho statewide wetland data refinement report – Evaluation and update of the Idaho Wetland Program Plan, Objective 3. Prepared for Idaho Department of Fish and Game and US Environmental Protection Agency, Region 10, Wetland Program Development Grant EPA-REG10-WPDG-19-01. Meridian, ID. 4 pp. plus appendices.
- Idaho Department of Fish and Game (IDFG). 2017. Idaho State Wildlife Action Plan, 2015. Grant No.: F14AF01068 Amendment #1. Sponsored by the US Fish and Wildlife Service, Wildlife and Sport Fish Restoration Program. Idaho Department of Fish and Game, Boise, ID. Available from: <http://fishandgame.idaho.gov/>.
- Idaho Wetlands Working Group (IWWG). 2008. Idaho Wetland Conservation Strategy, Version 1.0. Idaho Department of Fish and Game, Boise, ID.
- Murphy, C. 2014. Idaho's Wetland Program Plan: A plan for implementing the Idaho Wetland Conservation Strategy focused on Idaho Department of Fish and Game's wetland and riparian habitats. Prepared for US Environmental Protection Agency, Region 10, Wetland Program Development Grant. Idaho Department of Fish and Game, Wildlife Bureau, Habitat Section, Boise, ID. 99 pp. plus appendix. Available from: <https://www.epa.gov/sites/default/files/2015-10/documents/idfg-wetland-program-plan-2015.pdf>
- Murphy, C. 2021. Idaho Wetland Program Plan 2015–2019 Accomplishments. Prepared for US Environmental Protection Agency, Region 10, Wetland Program Development Grant EPA-REG10-WPDG-19-01. Idaho Department of Fish and Game, Boise, ID. 41 pp.
- US Fish and Wildlife Service (USFWS). 2021. National Wetlands Inventory website. US Department of the Interior, Fish and Wildlife Service, Washington, DC. Available from: <http://www.fws.gov/wetlands/>