

6. Implementation and Monitoring

6.1 Introduction

The Arctic National Wildlife Refuge (Arctic Refuge, Refuge) Revised Comprehensive Conservation Plan (Plan, Revised Plan) will be implemented through the goals, objectives, management guidelines and policies, and specific actions described in Chapters 2 and 3. The Refuge will also use various step-down management plans described in Section 6.3 to implement the Revised Plan. Each step-down plan has its own focus, and each identifies and directs the implementation of specific actions, techniques, and tools designed to achieve the objectives outlined in this Plan (Service Manual 602 FW 1.5).

The vision and goals adopted in the Revised Plan are intended to guide management of Arctic Refuge for the next 15 years. The objectives and management actions adopted in the Plan are the concrete steps that the Refuge would take to reach those goals, and they serve an integral role in implementation. The intent is for these objectives to be a measure of real progress toward goals for Arctic Refuge. Because opportunities and needs for new objectives will most likely arise, the U.S. Fish and Wildlife Service (Service) considers these objectives dynamic and responsive to changing environmental and social conditions and management situations, such as those anticipated from accelerating climate change or infrastructure development in local communities. Implementation is also dependent on future Service budgets and regional funding allocations. Plan adjustments and amendments might be needed depending on the nature of unfolding concerns or opportunities (Section 6.7).

Implementation of this Plan will require the Refuge to coordinate closely with partners throughout the region and with the State to implement strategies for accomplishing objectives and to identify new partnership opportunities as they arise (Section 6.4). The Plan's objectives also identify numerous monitoring activities that would directly or indirectly provide feedback on the effects of the revised Plan on Refuge resources and operations (Section 6.5). The Plan is scheduled for full revision in 15 years.

6.2 Current Step-Down Plans

Step-down plans deal with specific management topics. They describe strategies and implementation schedules and provide details necessary to implement goals and objectives in this Plan.

6.2.1 *Fire Management Plan*

Service wildland fire management planning is a complex activity incorporating interagency fire management obligations and coordination at local, regional, and national levels; the mission of the Service and the National Wildlife Refuge System (Refuge System); and local Refuge management. It must also be consistent with overall Refuge System planning processes.



Every unit managed by the Service that has burnable vegetation must have an approved Fire Management Plan (FMP), unless exempted in writing by the regional director. An approved FMP ensures consistency with the Comprehensive Conservation Plan and other management plans, and allows a manager to consider a wide range of management responses to wildfires and to conduct prescribed fires.

FMPs are intended to be dynamic and reflect current situations and policies; therefore, to remain up-to-date, FMPs must be reviewed each year using a nationally established annual review process. Plans must be revised when substantial changes occur or substantial changes in management are proposed. Minor plan revisions may be accomplished through an amendment added to the plan and signed by the line officer and servicing fire management officer. Major scheduled revisions to fire management plans will follow the 15-year Comprehensive Conservation Plan revision cycle to provide consistency in objectives and management strategy formulation. Without a current FMP, prescribed fires cannot be conducted, and response to unplanned ignitions can only consider suppression strategies. Preparedness and prevention activities can continue in the interim period as outlined in the expired plan.

Wildland fire events occasionally occur in Arctic Refuge. An FMP was completed in 2007 and approved in 2008; a revision of the FMP is required every five years.

6.3 Future Step-Down Plans

The following sections provide more detail on the step-down plans mentioned in this Plan's objectives (Section 2.1); included is an estimated schedule for their completion (Table 6-1).

6.3.1 *Integrated Cultural Resources Management Plan*

An Integrated Cultural Resource Management Plan (ICRMP) is a step-down plan that will assist Refuge staff in meeting legal requirements to protect and manage the cultural resources of the Refuge. It provides a ready reference to cultural resource laws and regulations, the Service Manual and the Cultural Resource Management Handbook. The ICRMP outlines a program for implementing Section 110 of the National Historic Preservation Act and Section 14 of the Archaeological Resources Protection Act requirements to determine the nature and extent of cultural resources on the Refuge and evaluate them for eligibility to the National Register of Historic Places. The plan will identify funding needs and possible timetables for completion of identified work.

The ICRMP for Arctic Refuge is scheduled to be completed within one year of approval of the Revised Plan. This plan is fifth on the Refuge manager's step-down plan priority list; however, most of the work on the ICRMP is conducted in the Service's regional office with minimal input from the Refuge.

6.3.2 *Comprehensive River Management Plan*

Comprehensive River Management Plans (CRMPs) apply only to rivers included in the National Wild and Scenic Rivers System. A CRMP is a step-down plan that, at a minimum: includes a detailed description of the river's outstandingly remarkable values (ORVs); addresses development of lands and facilities; defines the goals and desired conditions for protecting river values; addresses user capacities; addresses water quality issues and instream flow requirements; reflects a collaborative approach with all stakeholders; identifies regulatory authorities of other governmental agencies that assist in protecting river values; and includes a monitoring strategy to maintain desired conditions (Wild and Scenic Rivers Act 16 U.S.C. 1271-1287).

A CRMP for the three currently designated wild rivers in Arctic Refuge is number three on the Refuge manager's priority list and is scheduled to be completed within three years of approval of the Revised Plan. A CRMP will also be completed within three to five years of designation for any river(s) recommended suitable through the Plan and subsequently designated by Congress. CRMPs will be reviewed, and potentially modified, after the completion of the Visitor Use Management and Wilderness Stewardship plans so that the CRMPs adopt and/or are otherwise consistent with Refuge-wide management objectives identified in these step-down plans.

6.3.3 *Ecological Inventory & Monitoring Plan*

The Ecological Inventory & Monitoring Plan (I&M Plan) is a step-down plan that will guide an annual program for collection of data on species of management concern to the Service unit (Service Manual 701 FW 2). Service policy requires each refuge to develop a plan as to how biological resources relate to refuge resource management programs. Study protocols detail

how a specific survey or project is implemented at a refuge and, where appropriate, contain measurable thresholds for initiating specific management actions.

Refuge staff prepared a draft I&M Plan in 2000, but it was never approved. Recently, the Alaska Region implemented a new policy mandating development of an I&M Plan for each refuge. The policy requires each plan to be reviewed every two years by the Refuge and reviewed by the regional office at five to eight year intervals. Updates to the I&M Plan will be made in accordance with these reviews.

Arctic Refuge will draft an IMP within two years of approval of the Revised Plan. The I&M Plan will be finalized after completion of the Ecological Review, or in about three to five years after approval of the Revised Plan. A Research Plan will be developed concurrently with the I&M Plan (Section 6.3.4). The Refuge manager has identified the I&M Plan, along with the Research Plan, as the highest priority step-down planning effort.

6.3.4 Research Plan

The Research Plan is a step-down plan that outlines research projects, partnerships, and funding resources. Projects will address specific biological questions; the answers will help develop effective conservation measures for the Refuge. The Research Plan will be prepared concurrently with the I&M Plan (Section 6.3.3) and will be incorporated as an appendix to the I&M Plan. It will be completed within three to five years of approval of the Revised Plan, after completion of the Ecological Review. The Refuge manager has identified the Research Plan, along with the I&M Plan, as the highest priority step-down planning effort.



6.3.5 Wilderness Stewardship Plan

The Wilderness Stewardship Plan is a step-down management plan that provides detailed strategies and implementation schedules for meeting the broader wilderness goals and objectives identified in the Revised Plan. Service policy requires that refuges develop a Wilderness Stewardship Plan for all congressionally designated wilderness areas. A WSP is used to guide the preservation, stewardship, and use of a particular wilderness area (Service Manual 610 FW 3).

A WSP for Arctic Refuge would start concurrently with the Visitor Use Management Plan (VUMP) (Section 6.3.6) within two years of completion of the Revised Plan. We intend to conduct extensive preplanning and public scoping, and the two step-down plans could possibly be combined into a single planning effort. At this point, there is no set date for completion of the WSP, but we estimate that it will take two to three years to complete after the initial scoping period, longer if combined with the VUMP. The Refuge manager has identified the WSP and the VUMP as the second planning priority.

6.3.6 Visitor Use Management Plan

The Visitor Use Management Plan (VUMP) is a step-down plan that will develop visitor provisions to protect Arctic Refuge biophysical resources and wildlife, wilderness, and recreational values. The planning process will:

- Review visitor use activities and current conditions, including:
 - private and commercial aviation access and landing area impacts
 - commercial services regulations for air taxi, transporting, and recreation and hunting guide access as tied to crowding impacts
 - front country management, including increasing visitor use along the Dalton Highway
 - law enforcement activities and priorities
 - outreach methods and priority messages
 - the effects of wildlife viewing upon Refuge resources and conditions
- Establish desired conditions, including measurable indicators and thresholds for management actions
- Prioritize threatened and impaired conditions that require immediate management actions to preserve resources and values
- Conduct public scoping and prepare an appropriate level of environmental analysis for proposed actions and alternatives

The VUMP is scheduled to start concurrently with the WSP two years after completion of the Revised Plan. Extensive preplanning and scoping will be conducted, and it is possible the two step-down plans could be combined into a single planning effort. The VUMP will likely be completed three to five years after the initial scoping period. The Refuge manager has identified the VUMP and the WSP as the second planning priority.

6.3.7 Land Protection Plan

A Land Protection Plan (LPP) is a step-down plan that focuses on private lands within refuge boundaries with the goal of identifying and conserving high-quality habitat on those lands. It provides a framework for refuge and private landowner cooperation. Land conservation measures will be pursued only with landowners who are willing to work with the Service, and LPPs do not obligate the refuge or landowners to undertake any of the measures identified in the plan. The refuge must consider management goals, priorities, and availability of funds when approached by private landowners with land conservation proposals.

An LPP for Arctic Refuge is scheduled to be initiated within eight years of approval of this Plan and will likely take two years to complete. It is the lowest priority among the identified step-down plans.

Table 6-1. Timeline for start and completion dates of step-down plans of Arctic Refuge.

Step-Down Plan	Start Date	Estimated Completion Date	Priority
Integrated Cultural Resources Management Plan (ICRMP)	2012	2013	5
Fire Management Plan (FMP)	2012	2014	4
Comprehensive River Management Plans (CRMPs)	2012	2015	3
Ecological Inventory and Monitoring Plan (I&M Plan)	2012	2015 – 2017	1
Research Plan	2012	2015 – 2017	1
Wilderness Stewardship Plan (WSP)*	2014	2018 – 2019	2
Visitor Use Management Plan (VUMP)*	2014	2019 – 2021	2
Land Protection Plan (LPP)	2017 – 2020	2019 – 2022	6

* These plans could be combined into a single planning effort

6.4 Partnership Opportunities

Partnerships with other organizations are among the ways the Service fulfills its mission of “working with others to conserve, protect and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people.”

Arctic Refuge is a dynamic ecosystem. Many of the resources in the Refuge are of regional, State, national, and international importance. The Service recognizes that the public, organizations, and other governmental agencies have interests in the Refuge and the work of the Service. Successful implementation of many Refuge programs requires involvement from these interested parties. Partnerships are among the best ways for the Refuge to accomplish its work and fulfill its mission, and it seeks opportunities with others to do that work, including but not limited to the following:

- Doyon, Ltd.
- Arctic Slope Regional Corporation
- Local tribal and city councils
- Local municipalities and cities
- Council of Athabascan Tribal Governments
- Tanana Chiefs Conference
- Gwich'in Steering Committee
- State of Alaska – Alaska Department of Fish and Game (ADFG), Alaska Department of Natural Resources (ADNR), Board of Fisheries, Board of Game, and the State Historic Preservation Office
- Other Federal agencies – such as the U.S. Geological Survey (USGS), the National Oceanic and Atmospheric Administration (NOAA), the National Park Service (NPS), the Bureau of Land Management (BLM), the National Aeronautic and Atmospheric Administration (NASA), the U.S. Coast Guard, and Department of Homeland Security
- Landscape Conservation Cooperatives (LCCs)
- Migratory Bird Co-management Council
- Non-governmental organizations
- Universities and museums, including the University of Alaska Fairbanks
- Local businesses
- Commercial recreation interests
- Friends of Alaska National Wildlife Refuges

6.5 Implementation

The Refuge is committed to implementing the projects and studies identified in the Plan's objectives (Chapter 2, Section 2.1). These projects and studies are summarized in Table 6-2 along with their associated timelines. Continuing and ongoing efforts, such as outreach activities or partnerships, are not included. For more details, refer to the Refuge's goals and objectives.

Table 6-2. Projects and studies to be implemented by Arctic Refuge.

Date	Activities	Comments
2012	Protect cultural resources sites Conduct outreach about wild rivers Conduct wild river assessment	ongoing
	Interview and document elders and residents in preparation for traditional access study	through 2017
2013	Complete wild river assessment Develop protocols and priorities for scientific research by cooperators Complete review of existing Minimum Requirement Analyses Establish partnerships for subsistence use data Revise the Visitor Study	revise again in 2018, 2023, 2028, 2033
2014	Establish partnerships for village harvest monitoring program Complete cultural resource inventory Incorporate potential impacts of climate change into I&M Plan Identify important climate change and other stressors Complete an environmental analysis of the Peters Lake administrative cabins project	
2015	Conduct Ecological Review	implement by 2017
2016	Complete field component of the Peters Lake administrative cabin project	
2017	Implement baseline ecological inventories Repeat baseline water quality study of the Coastal Plain Identify and determine status of rare species Develop cultural resource atlas and archive Expand Refuge Information Technician (RIT) program	ongoing ongoing
2017	Complete traditional access study	could take until 2020
2019	Revise the National Interest Study	revise again in 2029
2020	Implement monitoring of biological components vulnerable to climate change	could take until 2022

6.6 Monitoring and Evaluation

Monitoring helps Refuge staff track the progress of Plan implementation. In this Plan, objectives specify numerous monitoring programs. These programs use various methods and strategies, including but not limited to surveys, inventories, censuses, and strategic frameworks. While the results from these monitoring programs pertain directly to the program areas requiring the monitoring, the data collected will also provide feedback on the Revised Plan. The Refuge monitoring programs listed in this section will indirectly monitor the impact of the Revised Plan on Refuge management, operations, and resources.

- Long-term ecological monitoring
- Baseline water quality study on Coastal Plain and of designated wild rivers
- Impact of climate change on Refuge resources
- Aircraft impacts monitoring
- Community harvest monitoring
- Cultural resource monitoring
- Visitor Study
- National Interest Study
- Additional monitoring programs that come out of the following step-down planning efforts
 - Ecological Inventory & Monitoring Plan
 - Comprehensive River Management Plans
 - Visitor Use Management Plan
 - Wilderness Stewardship Plan



The Service will maintain flexibility in implementation of the Plan to account for changing environmental conditions, policies, budgets, technologies, and opportunities for partnerships that might occur during the life of the Plan. The Service will evaluate monitoring results and amend or revise the Plan accordingly to improve wildlife conservation and Refuge management (Section 6.7).

6.7 Plan Amendment and Revision

Periodic review and change of the Plan will be necessary. As knowledge of Refuge resources, users, and uses improves, changes in management may be identified. Fish and wildlife populations, user groups, adjacent land users, and other management considerations change with time, often in unforeseen ways. Challenges may also be encountered in trying to implement the Plan.

Revisions are a necessary part of the adaptive management approach used by the Service. This means that objectives and strategies to reach goals can be adjusted. Most of the resulting changes will fine-tune the Plan. These changes will be addressed in the more detailed Refuge step-down and annual work plans. An appropriate level of public involvement and environmental analysis will be conducted for any proposed change.

To enable Refuge users; adjacent landowners; local, State, and Federal agencies; and other interested parties to express their views on how the Refuge is being managed, the Refuge might periodically hold meetings or use other techniques, such as comment cards and surveys, to solicit comments for evaluation purposes. By encouraging continuing public input, the Refuge will be better able to serve the public, determine potential problems before they occur, and take immediate action to resolve existing problems.

Every three to five years, Refuge staff will review public comments, local and State government recommendations, research studies, and other sources to determine if revisions to the Plan are necessary. If major changes are proposed, public meetings may be held, and new environmental analyses may be necessary. The Plan will be fully reviewed and revised every 15 years.

This page intentionally left blank.

