

3 Alternatives



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Pricklypear

This chapter describes the management alternatives considered for Pathfinder NWR. Alternatives are different approaches to planning unit management designed to achieve:

- ❑ the refuge's purpose, vision, and goals
- ❑ the mission of the Refuge System
- ❑ the mission of the Service

3.1 ALTERNATIVES DEVELOPMENT

Alternatives are formulated to address the significant issues, concerns, and problems identified by the Service, the public, and the governmental partners during public scoping and throughout the development of the draft plan.

This chapter contains the following sections:

- ❑ elements common to all alternatives
- ❑ description of alternatives
- ❑ summary of alternatives and environmental consequences (table 2)

This chapter describes three management alternatives that represent different approaches to enhance protection and restoration of fish, wildlife, plants, habitats, and other resources. Alternative A, the no-action alternative, describes ongoing refuge management. The no-action alternative is a basis of comparison with alternatives B and C. Alternative C is the Service's proposed action and basis for the draft CCP (chapter 6).

The planning team assessed biological conditions and external relationships affecting the refuge. This information contributed to the development of alternatives, each of which presents a unique approach for addressing long-term goals. Each alternative was evaluated based on expected progress in meeting the vision and goals of the refuge and how it would address core wildlife and habitat issues and threats. Where data are available, trends in habitat and wildlife are evaluated, and the environmental consequences of each alternative are projected.

3.2 ALTERNATIVES CONSIDERED BUT ELIMINATED

No alternatives were considered but eliminated during the planning process.

3.3 ELEMENTS COMMON TO ALL ALTERNATIVES

Several elements of refuge management are common to all alternatives. Management activities that could affect natural, archaeological, and historical resources would comply with applicable laws, regulations, and policies.

All alternatives would provide equal protection and management of cultural resources. Individual projects may require additional consultation with the Wyoming State Historic Preservation Office. Additional consultation, surveys, and clearance may be required when activities could affect properties eligible for the National Historic Register.

3.4 DESCRIPTION OF ALTERNATIVES

Management actions to advance the mission of the Refuge System and the purpose and vision of Pathfinder NWR are summarized below. The alternatives reflect options to address significant threats, problems, and issues raised by public agencies, private citizens, and interested organizations.

Each alternative differs in its ability to achieve long-term wildlife and habitat goals. However, each is similar in its approach to managing the refuge. Each alternative

- ❑ would pursue the goals outlined in chapter 2;
- ❑ would be consistent with the purpose of the refuge and with the mission and goals of the Refuge System.

The focus and actions for each of alternatives A–C are described below.

ALTERNATIVE A—CURRENT MANAGEMENT PLAN (NO ACTION)

Alternative A, the no-action alternative, reflects the current management of Pathfinder NWR. It provides the baseline against which to compare other alternatives. It is also a requirement of the NEPA that a no-action alternative is addressed in the planning process.

The no-action or current management alternative should not be interpreted to mean no change in refuge management. National wildlife refuges are required to be managed in compliance with Refuge System laws, regulations, and policies. The CCP

process provides an opportunity to review and update current refuge management to comply with Refuge System laws, regulations, and policies.

Under alternative A, management activity being conducted by the Service would remain the same. The Service would not develop any new management, research, restoration, education, or visitor services programs at the refuge. Current habitat and wildlife practices benefiting migratory bird species and other wildlife would not be expanded or changed. No new funding or staff levels would occur and programs would continue to follow the same direction, emphasis, and intensity as they do at present.

Refuge Administration

The Bureau of Reclamation would continue to administer lands within the Pathfinder Project boundary. The Service would continue to manage the area within the refuge boundary as a national wildlife refuge in accordance with the MOU between Reclamation and the Service (appendix D). Management agreements would be reviewed to provide a better understanding of the roles and responsibilities of each party.

Refuge Uses

Existing refuge uses would be evaluated to determine if the use is appropriate on a refuge (appendix E). If the use is found to be appropriate, a compatibility determination would be made before the use is allowed to occur on the refuge (appendix F).



Ground squirrel.

Habitat Management

Reservoir (Deepwater)

Reclamation would continue to manage the water levels of the Pathfinder Reservoir. The Service would continue to own no water rights and have no control over the reservoir water level.

Wetlands and Riparian Areas

No management of refuge wetlands would occur due to the Service's lack of water rights and limited infrastructure. Riparian habitats and wetlands in the Steamboat Lake area of the Sweetwater Arm Unit and Goose Bay Unit would continue to receive water based on natural runoff and hydrological processes.

Uplands

Uplands habitat management would continue to consist of grazing the refuge in conjunction with adjacent BLM grazing allotments. The grazing program would continue to be administered by the BLM through an MOA between the Service and the BLM.

The lack of boundary fencing on the refuge would continue to prohibit management of the grazing program to Service standards. An evaluation of upland habitat conditions would assist refuge staff in determining appropriate grazing program as a habitat management tool. Current stocking rates, duration, seasons, and so forth would continue until data analysis indicates further management direction.

Threatened and Endangered Species and State Species of Concern

Management for threatened and endangered species and state species of concern would occur if they were discovered on the refuge. At the present time, no known threatened or endangered species or state species of concern use Pathfinder NWR.

Invasive Species

Monitoring and management of invasive species would continue at present levels with no active monitoring of invasive species occurring.

Visitor Services

Public use of the refuge would be evaluated to determine appropriate uses under the guidelines established in the Service's appropriate uses and compatibility policies.

Five of the six wildlife-dependent public uses (hunting, wildlife observation and photography, and environmental education and interpretation) would be maintained and encouraged to the extent possible. The sixth use, fishing, is not allowed on the refuge.

Hunting

All four units of the refuge would remain open to hunting of ducks, coots, mergansers, deer, and pronghorn in accordance with dates and regulations established by the Wyoming Game and Fish Commission. WGFD would assist with law enforcement activities related to hunting regulations on the refuge.

Fishing

The refuge is closed to fishing and would remain closed to fishing.

Wildlife Observation, Photography, Environmental Education, and Interpretation

The refuge would continue to provide wildlife observation, photography, environmental education, and interpretation opportunities. The Service would continue to partner with Audubon Wyoming to maintain the interpretive site off Highway 220 at the Sweetwater Arm Unit. Audubon Wyoming would continue to use the site for environmental education purposes.

Nonwildlife-dependent Recreation

Existing and proposed nonwildlife-dependent recreational uses such as picnicking, camping, water sports, motorboating, and sailing would be evaluated for appropriateness and compatibility with the purpose of the refuge. Uses that are found to be inappropriate or incompatible would be modified or eliminated.

Research and Science

Refuge staff would not conduct research on the refuge. Data collection would continue to be opportunistic in nature and performed mainly by other entities.

Partnerships

Existing refuge partnerships would be maintained, but no new partnerships would be developed or pursued. Refuge staff would continue to work with Audubon Wyoming toward the goals of habitat protection and restoration, public education and awareness, and data collection at the refuge.

Operations

The refuge would continue to be managed by Service staff headquartered at the Arapaho NWR near Walden, Colorado.

ALTERNATIVE B—ENHANCED REFUGE MANAGEMENT

Under Alternative B, refuge management activities would be increased and enhanced. Refuge habitats

would be actively managed to achieve refuge goals and objectives. Refuge staff would strive to better understand the effects of management actions on the refuge. An emphasis on adaptive management, including monitoring the effects of habitat management practices and use of the research results to direct ongoing management, would be a priority. Partnerships would be essential to accomplish these actions.

Refuge Administration

Management agreements would be reviewed and updated, where appropriate, to provide a better understanding of the roles and responsibilities of each party.

Refuge staff would investigate potential land exchanges with other agencies to block out the refuge boundary.

Refuge Uses

Proposed uses on refuge lands would be evaluated to determine if the use is appropriate on a refuge (appendix E). If the use is found to be appropriate, a compatibility determination would be made before the use is allowed to occur on the refuge (appendix F). Nonwildlife-dependent recreational uses would not be permitted on the refuge.

Habitat Management

Reservoir (Deepwater)

Reclamation would continue to manage the water levels of Pathfinder Reservoir. The Service would continue to own no water rights and have no control over the reservoir water level.

Wetlands and Riparian Areas

No management of refuge wetlands would occur due to the Service's lack of water rights and limited infrastructure. Riparian habitats and wetlands in the Steamboat Lake area and Goose Bay units would continue to receive water based on natural runoff and hydrological processes.

Uplands

Refuge personnel would work with the BLM to evaluate the grazing program to ensure grazing regimes meet wildlife objectives. The existing MOA (contract #14-06-700-4737) between the Service and the BLM, whereby BLM administers grazing, would be reviewed by both agencies and amended as needed or revoked. Fencing and other infrastructure needed to facilitate a grazing program would be evaluated and addressed. Uplands management would continue to use grazing as a habitat management tool under special use permit. Refuge grazing programs (stocking rates, duration, and seasons) would be evaluated to determine whether grazing would be used as a habitat management

tool. Boundary fencing would be installed, where appropriate, to permit active management of the grazing program.

The use of additional habitat management tools (e.g., prescribed fire, mechanical, chemical) would be considered where appropriate.

Threatened and Endangered Species and State Species of Concern

Monitoring for the presence of threatened and endangered species and state species of concern on the refuge would be increased.

Invasive Species

Monitoring and management of invasive species on the refuge would be increased.

Visitor Services

The six priority wildlife-dependent public uses and supporting programs would be enhanced and expanded. A step-down management plan would be developed to address refuge access, circulation, facility, and infrastructure needs.

Hunting

All four units of the refuge would remain open to hunting of ducks, coots, mergansers, deer, and pronghorn in accordance with dates and regulations established by the Wyoming Game and Fish Commission. Hunting programs would be enhanced to provide a higher-quality hunt where possible.

Fishing

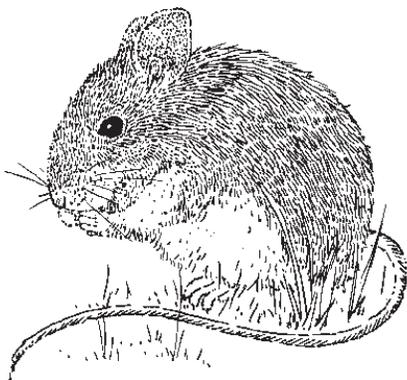
Refuge staff would consider opening the refuge to fishing through the CFR process. A compatibility determination would be performed to ensure compliance with refuge goals and objectives. Boating would be controlled to minimize impacts to migratory bird species. Fishing would be permitted year-round in accordance with dates and regulations established by the Wyoming Game and Fish Commission, except where otherwise posted.

Wildlife Observation, Photography, Environmental Education, and Interpretation

Efforts to provide wildlife observation, photography, environmental education, and interpretation opportunities on the refuge would be expanded. The interpretive overlook off Highway 220 in the Sweetwater Arm Unit would be maintained and enhanced. The Service would continue to partner with Audubon Wyoming to expand opportunities for these four uses on the refuge.

Nonwildlife-dependent Recreation

Nonwildlife-dependent recreational uses such as picnicking, camping, water sports, motorboating, and sailing would not be permitted on the refuge.



Deer Mouse

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Facilities and infrastructure that support these uses would be modified or removed as expediently as possible.

Research and Science

Baseline data for habitat and wildlife on the refuge would be acquired. Refuge staff would partner with universities and other entities to collect baseline data to identify refuge resources and obtain a better understanding of the effects of management activities.

Partnerships

Increased emphasis would be placed on maintaining existing and developing new partnerships to achieve refuge goals and objectives. Efforts would be increased to focus research-based partnerships on collecting baseline data for the refuge.

Operations

The refuge would be managed by Service staff headquartered at Arapaho NWR near Walden, Colorado. One additional full-time employee would be hired to perform increased management activities at Pathfinder NWR and at three refuges located near Laramie known collectively as the “Laramie Plains refuges” (Bamforth, Hutton Lake, and Mortenson Lake). Additional funding would be required to fully implement the goals, objectives, and strategies described in this alternative.

ALTERNATIVE C—MODIFY REFUGE BOUNDARY (PROPOSED ACTION)

Under Alternative C, the refuge boundary would be modified to remove areas from the refuge that provide minimal opportunity to improve wildlife habitat and are difficult to manage. Remaining refuge areas would be managed similar to those actions described in alternative B. Modifying the refuge’s boundary would enable the Service to focus efforts on manageable lands, thereby enhancing

refuge management and efficiently directing refuge resources toward accomplishing the mission of the Refuge System.

History and Development of the Refuge

Pathfinder Dam construction was completed in 1909. The dam created Pathfinder Reservoir, the first reservoir on the North Platte River. At the same time, Pathfinder NWR was established as an overlay refuge on the reservoir. This large body of water was very attractive to waterbirds, as it was a unique feature along the North Platte River in Wyoming. From 1905 to 1924, over 2,000 miles of canals, laterals, and drains were dug across Wyoming and Nebraska. As these canals were completed, Reclamation initiated plans to build more dams along the North Platte River. Ultimately, a number of dams were built downstream of Pathfinder Reservoir. Upstream dams were also built, and the waters of the North Platte River pass through Seminoe and Kortez dams before entering Pathfinder Reservoir (Autobee 1996).

In 1928, the Guernsey Dam and Power Plant were constructed, expanding the purpose of Pathfinder Reservoir to include the generation of hydroelectric power.

With the building of subsequent dams on the North Platte River, and the expanded use of Pathfinder Reservoir, the Service’s ability to manage Pathfinder NWR to benefit migratory bird species was limited. A 1964 memorandum from the Bureau of Sport Fisheries and Wildlife to the Wyoming State Office of the Bureau of Land Management indicates the issues and concerns regarding management of the refuge and the decision to delete lands from the refuge. Below is an excerpt from this memorandum:

The Bureau of Sport Fisheries and Wildlife has become increasingly concerned with the decline in waterfowl use of the reservoir. This is attributed to various ecological changes resulting from Bureau of Reclamation activities, particularly water manipulation. Recreation pressure is also increasing and the trend is expected to continue. The popularity of this site for boating and fishing has contributed to the dilemma.

We have concluded that rather than continue extensive management of the entire area, it will be more worthwhile from a wildlife management viewpoint to develop and intensively manage only those portions that have existing and potential waterfowl attraction.

In 1964, Pathfinder NWR was reduced from 48,353 acres to 16,806 acres. Current refuge lands include the Sweetwater Arm, Goose Bay, Deweese Creek, and Sage Creek units.

The present-day refuge lands were thought to have either existing or potential waterbird habitat. A few years following the initial reduction in refuge lands, however, the BSFW discovered that it did not have water rights to pursue the development of waterbird habitat. The following excerpt from the refuge's 1966 annual narrative report (BSFW) documents the BSFW's efforts to acquire water rights for the development of shallow-water wetlands at Pathfinder NWR:

After several years of hesitant water development, all with the permission of the Bureau of Reclamation, which has primary use of the Pathfinder [Reservoir] waters, an effort was made this year to determine if any water was legally available to our Bureau. On July 13, Messrs. Godby and Nitisahke(sp) of the Regional Office and the refuge manager met in a special session with officials of the Bureau of Reclamation in their Denver office to discuss our possible filing on apparently unclaimed waters. It had appeared that there were some old water rights which had fallen to disuse on the Sweetwater River and its tributary, Horse Creek. The refuge hopes lay in claiming these rights so that ponds and crops could be developed for waterfowl.

It was finally brought to light at this meeting that there were no unclaimed waters, that the Bureau of Reclamation had purchased said waters and transferred them to the reservoir pool as project water for the users downstream, and that the Bureau of Reclamation never has any water rights, anyway, since they are purchased solely for the water districts.

It now appears that, unless an outside chance of drilling a legal deep well avails itself, we are left without hope of additional water development on the refuge. This about pulls the props out from under any extensive program plans we may have treasured in our minds.

Since that time, development of the refuge units for water management purposes has been nonexistent. Further complications with water rights have arisen since the signing in July 1997 of the North Platte River Compact, a three-state agreement between Colorado, Nebraska, and Wyoming to provide water for the life-cycle needs of endangered species in the North Platte River system. Water must be delivered downstream to be in compliance with this compact, further influencing the significant water fluctuations at Pathfinder Reservoir. The benefits to the endangered species downstream are vital, and the compact must be adhered to by the Service and the three states involved.

Areas to Be Removed from the Refuge

The areas that would be removed from the refuge include the eastern half of the Sweetwater Arm Unit and the Goose Bay, Deweese Creek, and Sage Creek units in their entirety. These areas would remain in federal ownership under the administrative jurisdiction of Reclamation or the BLM. Areas within the Reclamation Pathfinder Project boundary would be managed by the Reclamation or its designee, and areas outside the project boundary would be returned to the public domain administered by the BLM (figure 6).

Sweetwater Arm Unit (eastern half)

While the large open water areas of the reservoir provide resting habitat for migratory birds, reservoir levels affect habitat, and the Service has no control over the water management of the reservoir. These areas that fall outside the proposed refuge boundary would continue to provide resting habitat for migratory birds in the future without Service oversight and management.

Due to the fluctuations in reservoir water levels (figure 7) and the dry, sandy soils at Pathfinder NWR, most of the wetland areas along the reservoir shoreline do not provide submergent or emergent vegetation for waterfowl and do not meet habitat requirements for trust species.

These fluctuations also impact the uplands in the eastern half of the Sweetwater Arm Unit. As shown in the photograph below of the area, these upland areas have little vegetation and are dominated by sandy soils, producing marginal habitat (at best) for upland-obligate species.

Goose Bay, Deweese Creek, and Sage Creek Units

The Goose Bay, Deweese Creek, and Sage Creek units of Pathfinder NWR are small, isolated tracts of land located at the southern end of the Pathfinder



Sand deposits in the uplands in the eastern half of Sweetwater Arm Unit.

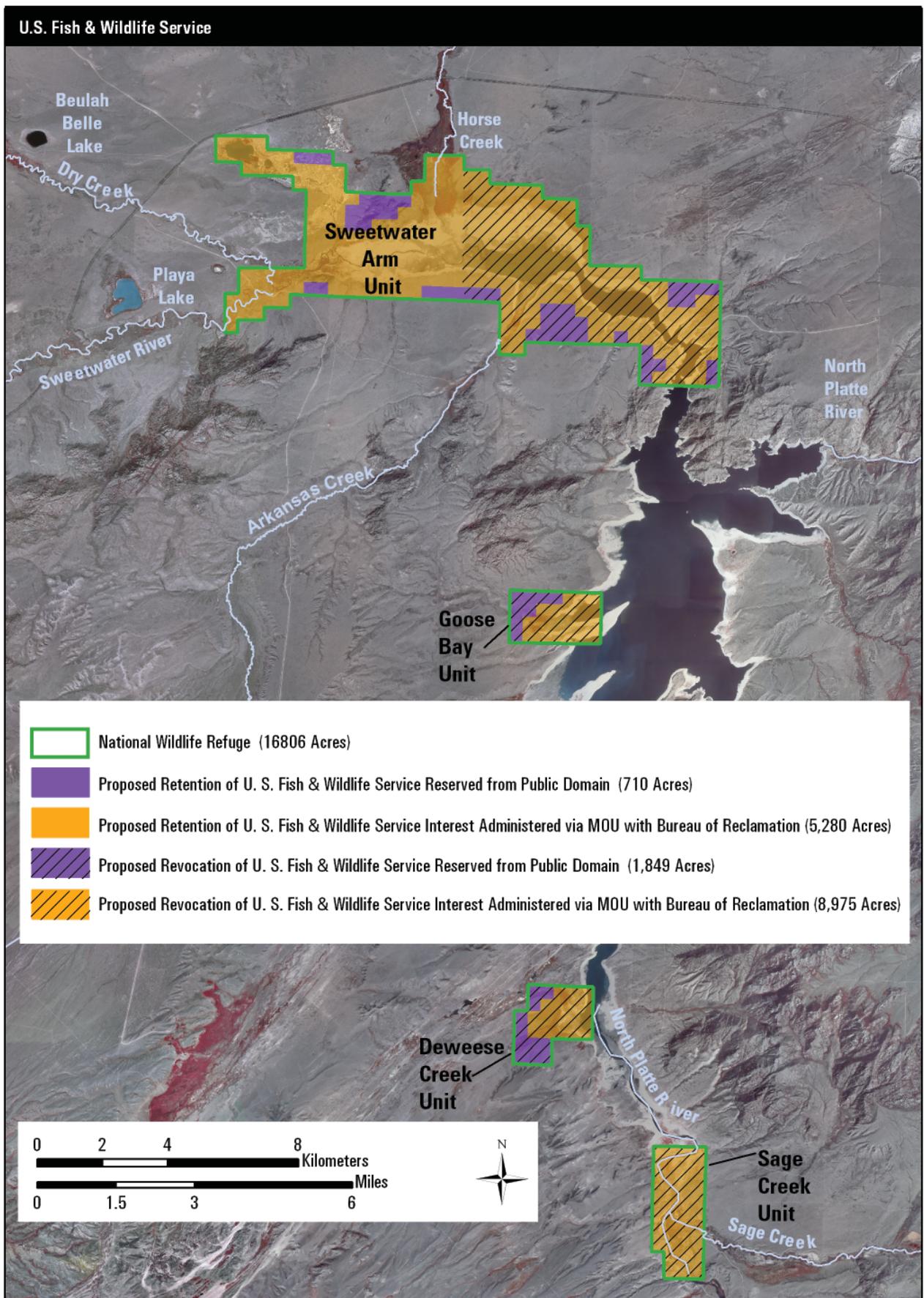


Figure 6. Areas to Be Removed from Pathfinder NWR, Wyoming.

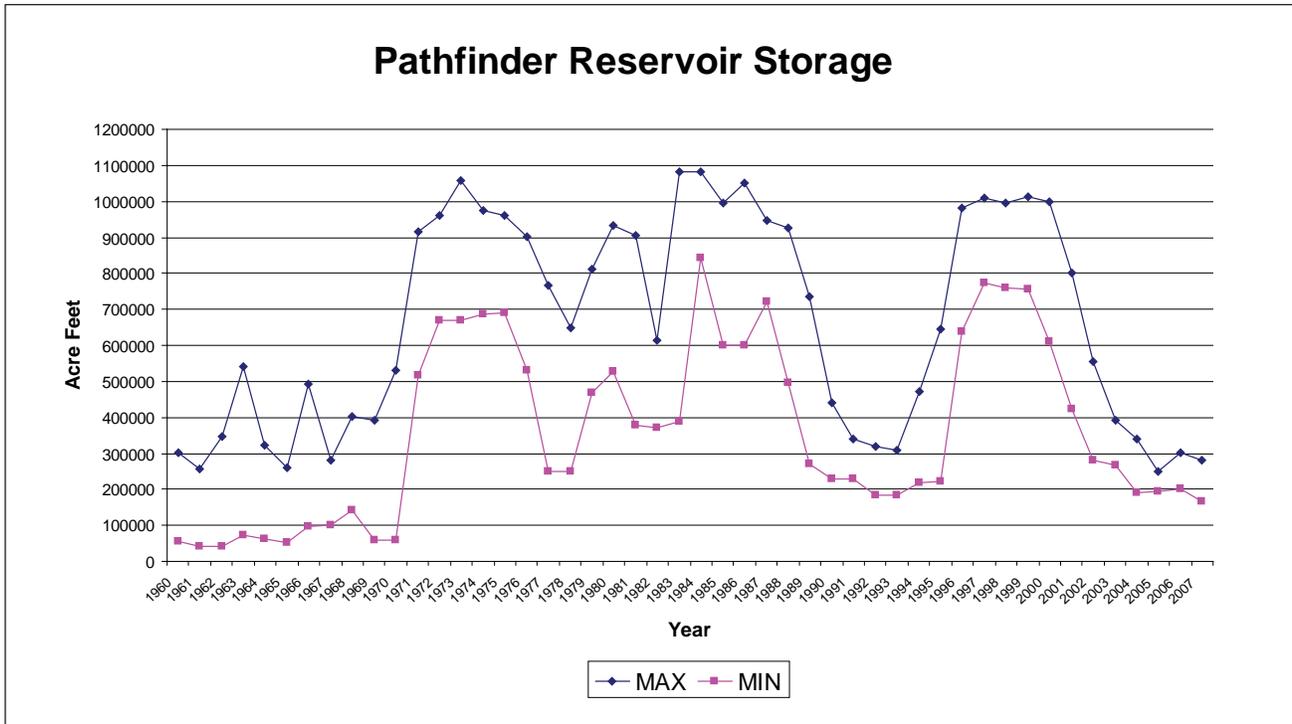


Figure 7. Pathfinder Reservoir storage.

(Source: Bureau of Reclamation.)

Reservoir. These tracts are 1,120 acres, 1,120 acres, and 1,520 acres, respectively. They consist primarily of sagebrush, with this habitat type occurring on 838 acres, 665 acres, and 1,207 acres, respectively. Adjacent lands consist primarily of similar sagebrush upland habitat managed by the BLM.

The Goose Bay unit has 3–4 wetland areas that appear to be spring fed. The Deweese Creek Unit is adjacent to a number of alkaline wetlands. The North Platte River and Sage Creek bisect the Sage Creek Unit.

All four units are heavily influenced by reservoir operations. Reservoir water-level fluctuations can be such that refuge lands are rendered dry, with a stretch of sandy shoreline abutting greasewood, rock, and sage uplands.

Refuge Administration

Areas that remain within the refuge boundary would continue to be managed by the Service in accordance with the MOU between Reclamation and the Service that established roles and responsibilities for each agency (appendix D).

Refuge lands would be roughly defined by the area west of Horse Creek to the current west refuge boundary including the Steamboat Lake area, reservoir backwater areas, and the Sweetwater River section currently within the boundary of the Sweetwater Arm Unit. Areas east of this region are highly influenced by reservoir operations, thereby decreasing habitat quality for migratory birds.

Areas west of Horse Creek are less influenced by fluctuating reservoir levels and do not contain steep cutbanks with blowing sand.

The area of contiguous lands would be posted and managed as a national wildlife refuge, which would help promote the Service’s mission and rectify the situation of intermingled agency lands with little signage or fencing to delineate federal land ownership and allowed public uses.

Management agreements would be reviewed and updated or terminated as appropriate to address management of remaining refuge lands.

Refuge staff would investigate potential land exchanges with other agencies to round out the refuge boundary.

Refuge Uses

Existing uses on remaining refuge lands would be evaluated to determine if the use is appropriate on a refuge (appendix E). If the use is found to be appropriate, a compatibility determination would be made before the use is allowed to occur on the refuge (appendix F). Compatibility determinations for proposed refuge uses are included in this draft plan (appendixes G–J). If an existing use is not appropriate, it would be eliminated or modified as expeditiously as practicable.

Uses occurring on lands that are removed from the refuge boundary would not be subject to Service

laws, regulations, and policies and may continue to occur under management by Reclamation and/or BLM or its respective designee.

Habitat Management

Reservoir (Deepwater)

Deep, open water outside the Service's sphere of management would continue to provide resting habitat for migratory bird species and serve as resting habitat under management by Reclamation or its respective designee (that is, without a Service presence). Areas defined by steep, sandy cutbanks and influenced annually by water manipulations would be removed from the MOU between the Service and Reclamation (appendix D).

Wetlands and Riparian Areas

No management of refuge wetlands would occur due to lack of water rights and infrastructure. Riparian areas and wetlands in the Steamboat Lake area would continue to receive water based on natural runoff and hydrological processes.

Uplands

The existing MOA (contract #14-06-700-4737) between the Service and the BLM, whereby BLM administers grazing, would be reviewed by both agencies and amended as needed or revoked. Fencing and other infrastructure needed to facilitate a grazing program would be evaluated and addressed. Uplands management would continue to use grazing as a habitat management tool under special use permit. The grazing program (stocking rates, duration, and seasons) would be evaluated to determine appropriate grazing methods. Boundary fencing would be installed to permit active management of the grazing program.

The use of additional habitat management tools (e.g., prescribed fire, mechanical, chemical) would be considered where appropriate.

Threatened and Endangered Species and State Species of Concern

Monitoring for the presence of threatened and endangered species and state species of concern on the refuge would be increased.

Invasive Species

Monitoring and management of invasive species on the refuge would be increased.

Visitor Services

Hunting

The refuge would continue to be open to hunting of ducks, coots, mergansers, deer, and pronghorn in accordance with dates and regulations established by

the Wyoming Game and Fish Commission. Hunting programs would be enhanced to provide a higher-quality hunt or expanded where possible.

Fishing

Refuge staff would consider opening the refuge to fishing through the CFR process. A compatibility determination would be performed to ensure compliance with refuge goals and objectives. Boating would be controlled to minimize impacts to migratory bird species. Fishing would be permitted year-round in accordance with dates and regulations established by the Wyoming Game and Fish Commission, except where otherwise posted. Modification of the refuge boundary may result in the loss of some fishing habitat.

Wildlife Observation, Photography, Environmental Education, and Interpretation

Efforts to provide wildlife observation, photography, environmental education, and interpretation opportunities on the refuge would be expanded. The interpretive overlook off Highway 220 in the Sweetwater Arm Unit would be maintained and enhanced. The Service would continue to partner with Audubon Wyoming to expand opportunities for these four uses on the refuge. With appropriate planning, this area could be used to educate the public on the differences between Reclamation, BLM, and Service lands and land management directives.

Nonwildlife-dependent Recreation

Nonwildlife-dependent recreation would not be permitted on the refuge.

Research and Science

Baseline data for habitat and wildlife on the refuge would be acquired. Refuge staff would partner with universities and other entities to collect baseline data to identify refuge resources and obtain a better understanding of the effects of management activities.

Partnerships

Regional office and refuge staff would work with Reclamation, the BLM, Natrona County, and WGFD to accomplish refuge boundary modification. The CCP would identify lands to be eliminated from the refuge boundary, and establish the process and timeline by which to complete the boundary modification.

Greater emphasis would be placed on maintaining existing and developing new partnerships to achieve refuge goals and objectives. Efforts would be increased to focus research-based partnerships on collecting baseline data for the refuge.

Operations

The refuge would be managed by Service staff headquartered at the Arapaho NWR near Walden, Colorado. One additional full-time equivalent (FTE) would be hired to perform increased management activities at Pathfinder NWR and the Laramie Plains refuges.

3.5 COMPARISON OF ALTERNATIVES AND ENVIRONMENTAL CONSEQUENCES

Table 2 provides descriptions of management actions and environmental consequences by resource and use topics for each of the three alternatives.

Table 2. Comparison of management alternatives and environmental consequences for the draft CCP and EA, Pathfinder NWR, Wyoming.

<i>Alternative A (No Action)</i>	<i>Alternative B</i>	<i>Alternative C (Proposed Action)</i>
REFUGE ADMINISTRATION—Management Actions		
Reclamation administers all lands within the Pathfinder Project boundary for project purposes (irrigation, flood control, hydroelectric power generation).	<i>Same as alternative A, plus review, update, and/or terminate management agreements where appropriate.</i>	<i>Same as alternative B, except lands eliminated from refuge boundary (the Goose Bay, Deweese Creek, and Sage Creek units and portions of the Sweetwater Arm Unit) revert to prerefuge administrative status (i.e., Reclamation, BLM).</i>
The Service manages refuge lands for wildlife purposes.	Investigate potential land exchanges with other agencies to round out the refuge boundary.	
REFUGE ADMINISTRATION—Environmental Consequences		
Differing missions and overlaying responsibilities of managing agencies (Reclamation, BLM, Service) can hinder agencies' individual and combined effectiveness at managing lands and contribute to habitat degradation.	Agency coordination would be improved and roles would be clarified, resulting in improvement of habitat conditions to support migratory bird species.	<i>Same as alternative B, except concentrating resources on manageable lands would allow limited funds to be spent on a smaller area that meets the Service mission (quality migratory and resident bird habitat).</i>
RESERVOIR (DEEPWATER) HABITAT—Management Actions		
No management of reservoir water levels for migratory bird species and other wildlife.	<i>Same as alternative A.</i>	<i>Same as alternative A.</i>
RESERVOIR (DEEPWATER) HABITAT—Environmental Consequences		
The reservoir would continue to provide resting areas for waterfowl and other migratory bird species during spring and fall migration. Emergent vegetation along the shoreline of the reservoir, which provides a food source for migratory birds and other wildlife, would be minimally present due to fluctuations in water levels (20 ft/yr) and resulting steep, sandy cutbanks that prohibit vegetation growth.	<i>Same as alternative A.</i>	<i>Same as alternative A.</i>

Table 2. Comparison of management alternatives and environmental consequences for the draft CCP and EA, Pathfinder NWR, Wyoming.

<i>Alternative A</i> (No Action)	<i>Alternative B</i>	<i>Alternative C</i> (Proposed Action)
WETLANDS AND RIPARIAN HABITAT—Management Actions		
Provide playas and wetlands for the benefit of waterfowl, shorebirds, and other migratory bird species. The Service has no water rights on the refuge, and North Platte River depletion issues preclude the acquisition of water rights and/or development of impoundments on the refuge.	Increase efforts to monitor and manage refuge wetlands and riparian areas through partnerships and other means.	<i>Same as alternative B.</i>
WETLANDS AND RIPARIAN HABITAT—Environmental Consequences		
Playas and impoundments would continue to fill and dry as natural processes dictate, with no management actions to influence them. Management actions for habitats below the reservoir high water line would be subject to the impacts of inundation if the reservoir water level rises. Few options would exist for effective habitat management on wetland areas.	<i>Same as alternative A, except</i> by studying the wetland characteristics, refuge staff and partners could develop potential management actions that may improve wetlands for the benefit of waterfowl and waterbirds.	<i>Same as alternative B, except</i> Goose Bay, Deweese Creek, and Sage Creek units would no longer be part of the refuge.
UPLANDS HABITAT—Management Actions		
Graze uplands in conjunction with BLM allotments. BLM administers grazing program through MOA.	Evaluate effectiveness of grazing program, and alter where necessary, to achieve refuge objectives. Consider other upland management techniques (chemical, mechanical, prescribed fire).	<i>Same as alternative B.</i>

Table 2. Comparison of management alternatives and environmental consequences for the draft CCP and EA, Pathfinder NWR, Wyoming.

<i>Alternative A (No Action)</i>	<i>Alternative B</i>	<i>Alternative C (Proposed Action)</i>
UPLANDS HABITAT—Environmental Consequences		
<p>Grazing would continue to occur on adjacent BLM lands.</p> <p>A lack of Service coordination with BLM would result in grazing on the refuge that may not be compliant with refuge policy. Updating the grazing program may affect BLM permittees.</p> <p>Continued unanalyzed impacts from grazing could result in criticism that the Service is not appropriately managing lands in the Refuge System.</p>	<p>Increased monitoring and evaluation of grazing effects would assist with management decisions.</p> <p>Some fencing would likely be constructed in the Sweetwater Arm Unit of the refuge. The Goose Bay, Dewesse Creek and Sage Creek Units would likely remain unfenced due to the fact that fencing small units may be detrimental to wildlife. Small, fenced parcels impede migration and animal movement.</p> <p>Grazing operations for BLM permittees may be affected.</p> <p>Small, isolated parcels and areas with steep, sandy cutbanks would remain difficult to manage for grazing purposes.</p>	<p>Increased monitoring and evaluation of grazing impacts would assist with management decisions.</p> <p>A smaller area (less refuge uplands) would need to be managed.</p> <p>Better ability to control and implement grazing program per refuge policy due to a smaller geographical area and removal of isolated parcels from the refuge.</p> <p>Better ability to fence refuge areas (gentle slopes of backwater and riparian areas are better suited to fencing and posting).</p>
THREATENED AND ENDANGERED SPECIES AND STATE SPECIES OF CONCERN— Management Actions		
<p>Manage for threatened and endangered species as discovered on the refuge.</p>	<p><i>Same as alternative A, plus increase monitoring for presence of threatened and endangered species and state species of concern.</i></p>	<p><i>Same as alternative B.</i></p>
THREATENED AND ENDANGERED SPECIES AND STATE SPECIES OF CONCERN— Environmental Consequences		
<p>Federally listed species would be protected from intentional or unintended impacts by banning or modifying activities where these species occur.</p> <p>Threatened and endangered species and state species of concern may be present on refuge lands but would go undetected.</p>	<p><i>Same as alternative A, except threatened and endangered species and state species of concern would be detected sooner.</i></p>	<p><i>Same as alternative B.</i></p>
INVASIVE SPECIES—Management Actions		
<p>As funding is available, attempt to control invasive species in accordance with federal and state laws, policies, and guidelines.</p>	<p>Increase efforts to monitor and control invasive species through partnerships and other means.</p> <p>Consider additional management techniques (chemical, mechanical, prescribed fire).</p>	<p><i>Same as alternative B.</i></p>

Table 2. Comparison of management alternatives and environmental consequences for the draft CCP and EA, Pathfinder NWR, Wyoming.

<i>Alternative A (No Action)</i>	<i>Alternative B</i>	<i>Alternative C (Proposed Action)</i>
INVASIVE SPECIES—Environmental Consequences		
Management of invasive species would continue to be reactionary (addressed when problems are identified and as resources permit). Some invasive species may become established or expand.	Proactive approach by refuge staff and partners to monitor for infestations and obtain the necessary resources would eradicate some invasive species from the units and prevent ones from becoming established.	<i>Same as alternative B, except eradication efforts would be condensed, improving the Service’s ability to eliminate or control invasive species.</i>
VISITOR SERVICES, <i>Hunting</i>—Management Actions		
Continue hunting program but review for compatibility.	<i>Same as alternative A, plus work with WGFD to evaluate and enhance hunting program.</i>	<i>Same as alternative B.</i>
VISITOR SERVICES, <i>Hunting</i>—Environmental Consequences		
Unlimited vehicle access would negatively impact vegetation and wildlife. Limited law enforcement would increase potential for illegal hunting activities to occur.	<i>Same as alternative A, except WGFD would be an active partner in addressing issues and effecting solutions.</i>	<i>Same as alternative B, except refuge areas would be easier to patrol for law enforcement purposes.</i>
VISITOR SERVICES, <i>Fishing</i>—Management Actions		
Fishing is not permitted within the refuge boundary.	Consider opening the refuge to fishing through the CFR process. Partner with WGFD to evaluate and develop compatible fishing program.	<i>Same as alternative B.</i>
VISITOR SERVICES, <i>Fishing</i>—Environmental Consequences		
Loss of public fishing opportunity within refuge boundary. Lack of enforcement of refuge regulations.	Public opportunity for fishing within refuge boundary. Fishing program would be developed to be compatible with refuge purpose, goals, and objectives. WGFD would be an active partner in creating fishing program on the refuge, addressing issues, and effecting solutions.	<i>Same as alternative B, except boundary modification may result in some loss of fishing habitat on refuge lands. Fishing opportunity for visitors to Pathfinder Reservoir would continue outside refuge boundary. Service regulations would not apply to reservoir areas outside the refuge boundary.</i>
VISITOR SERVICES, <i>Wildlife Observation, Photography, Environmental Education, and Interpretation</i>—Management Actions		
Continue recreational wildlife observation and photography and limited opportunities for environmental education, and interpretation; review these uses for compatibility.	<i>Same as alternative A, plus work with partners to formalize and enhance opportunities for wildlife observation and photography and to expand environmental education and interpretive programs.</i>	<i>Same as alternative B.</i>

Table 2. Comparison of management alternatives and environmental consequences for the draft CCP and EA, Pathfinder NWR, Wyoming.

<i>Alternative A (No Action)</i>	<i>Alternative B</i>	<i>Alternative C (Proposed Action)</i>
VISITOR SERVICES, <i>Wildlife Observation, Photography, Environmental Education, and Interpretation</i>—Environmental Consequences		
<p>With no formal tour routes or walking trails on the refuge, visitors likely walk into refuge habitats to observe and photograph wildlife, which may damage vegetation and disturb wildlife.</p> <p>Environmental education would likely occur without refuge staff's knowledge or management of it.</p> <p>Interpretation would continue to be limited to the overlook at Steamboat Lake.</p>	<p>Opportunities for wildlife observation and photography would be enhanced.</p> <p>Greater public awareness of the principles of ecology and refuge management would result.</p>	<p><i>Same as alternative B.</i></p>
VISITOR SERVICES, <i>Nonwildlife-dependent Recreation</i>—Management Actions		
<p>Existing nonwildlife-dependent recreational uses such as those at Bishops Point (boat ramp, campground, day use area, boating, jet skiing, ATV use, vehicle use, picnicking, biking, rock climbing, camping) would be evaluated under current Service policy. Inappropriate uses would be eliminated or modified.</p>	<p><i>Same as alternative A.</i></p>	<p><i>Same as alternative A, except recreational uses occurring outside the refuge boundary would not be subject to compliance with Service policy.</i></p>
VISITOR SERVICES, <i>Nonwildlife-dependent Recreation</i>—Environmental Consequences		
<p>Changes to public use of refuge areas may negatively impact recreation opportunities at Bishops Point (waterskiing, jet skiing, wind surfing, sailing, motorboating, ATV use, overnight camping, and campfires would be prohibited).</p> <p>The Service may experience a negative public image, as it would be restricting public uses that have been permitted for over 40 years.</p>	<p><i>Same as alternative A.</i></p>	<p>Off-refuge effects: existing recreational uses may continue to be permitted under management by Reclamation or its designee (Natrona County).</p>
RESEARCH AND SCIENCE—Management Actions		
<p>Continue opportunistic data collection by others under special use permit.</p>	<p>Increase data collection to enhance baseline data to guide management decisions.</p>	<p><i>Same as alternative B.</i></p>
RESEARCH AND SCIENCE—Environmental Consequences		
<p>Little more would be learned about habitat and wildlife use on the refuge's four units to help guide management decisions.</p>	<p>Acquiring baseline data would assist in management efforts to maintain or improve the units for the benefit of wildlife.</p>	<p><i>Same as alternative B.</i></p>

Table 2. Comparison of management alternatives and environmental consequences for the draft CCP and EA, Pathfinder NWR, Wyoming.

<i>Alternative A (No Action)</i>	<i>Alternative B</i>	<i>Alternative C (Proposed Action)</i>
PARTNERSHIPS—Management Actions		
Continue to work with Audubon Wyoming and other groups as opportunities arise to manage refuge lands more efficiently.	<i>Same as alternative A, plus expand efforts to develop and manage new partnerships to benefit the refuge.</i>	<i>Same as alternative B.</i>
PARTNERSHIPS—Environmental Consequences		
Little improvement or repair to infrastructure would occur.	With assistance from partners, infrastructure improvements and an increase in active management may be seen.	<i>Same as alternative B.</i>
OPERATIONS—Management Actions		
Continue refuge administration by Arapaho NWR Complex staff located in Walden, CO.	<i>Same as alternative A, plus hire one additional FTE to perform increased management activities on the refuge.</i>	<i>Same as alternative B.</i>
Retain current complex staffing of 4 FTEs.	Increase funding to support enhanced management efforts.	
Continue the current level of funding to support refuge operations and maintenance.		
Monthly (April–October) visit(s) to refuge to assess refuge conditions and conduct wildlife surveys would occur.		
OPERATIONS—Environmental Consequences		
Distance from the complex headquarters to the refuge would continue to impede proper management of the refuge.	Improved on-the-ground accomplishments in refuge habitat conditions.	<i>Same as alternative B, except isolated areas would be removed from refuge boundary.</i>
No specific annual funding would be earmarked for Pathfinder NWR, but special projects may arise through SAMMS.	Better ability to compete for limited funding.	
Continued minimal on-the-ground accomplishments and management of refuge units.	Isolated areas would see minimal improvements due to difficulty in managing them.	

