

Draft Environmental Assessment

for Fishing on Cokeville Meadows National Wildlife Refuge

March 2020

Prepared by

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Date: March 2020

This Environmental Assessment (EA) is being prepared to evaluate the effects associated with this proposed action and complies with the National Environmental Policy Act (NEPA) in accordance with Council on Environmental Quality regulations (40 Code of Federal Regulations [CFR] 1500-1509) and Department of the Interior (43 CFR 46; 516 DM 8) and United States [U.S.] Fish and Wildlife Service (Service) (550 FW 3) regulations and policies. NEPA requires examination of the effects of proposed actions on the natural and human environment.

1.0 Introduction

1.1 Proposed Action

The Service is proposing to open fishing opportunities for sport fishing on fee-title lands on Cokeville Meadows National Wildlife Refuge (NWR) (Figure 1) in accordance with Wyoming Game and Fish Department (WGFD) regulations, the refuge's draft Fishing Plan (USFWS 2020a), and the refuge's comprehensive conservation plan (CCP) (USFWS 2014).

This proposed action is often iterative and evolves over time during the process as the agency refines its proposal and learns more from the public, tribes, and other agencies. Therefore, the final proposed action may be different from the original. The final decision on the proposed action will be made at the conclusion of the public comment period for the draft EA and the 2020 Refuge-Specific Hunting and Sport Fishing Regulations. The Service cannot open a refuge to hunting and/or fishing until a final rule has been published in the Federal Register formally opening the refuge to hunting and/or fishing.

1.2 Background

National wildlife refuges are guided by the mission and goals of the National Wildlife Refuge System (Refuge System), the purposes of an individual refuge, Service policy, and laws and international treaties. Relevant guidance includes the National Wildlife Refuge System Administration Act of 1966 (NWRSA), as amended by the National Wildlife Refuge System Improvement Act of 1997 (Improvement Act), Refuge Recreation Act of 1962, and selected portions of the Code of Federal Regulations and Fish and Wildlife Service Manual.

The refuge was established in 1993 “to preserve and protect wetland riparian habitat for its migratory waterfowl and other migratory bird values; for resident big game, small game, furbearers and upland game birds; for public educational and interpretive values; and for public recreational values.”



U.S. Fish & Wildlife Service

Cokeville Meadows National Wildlife Refuge

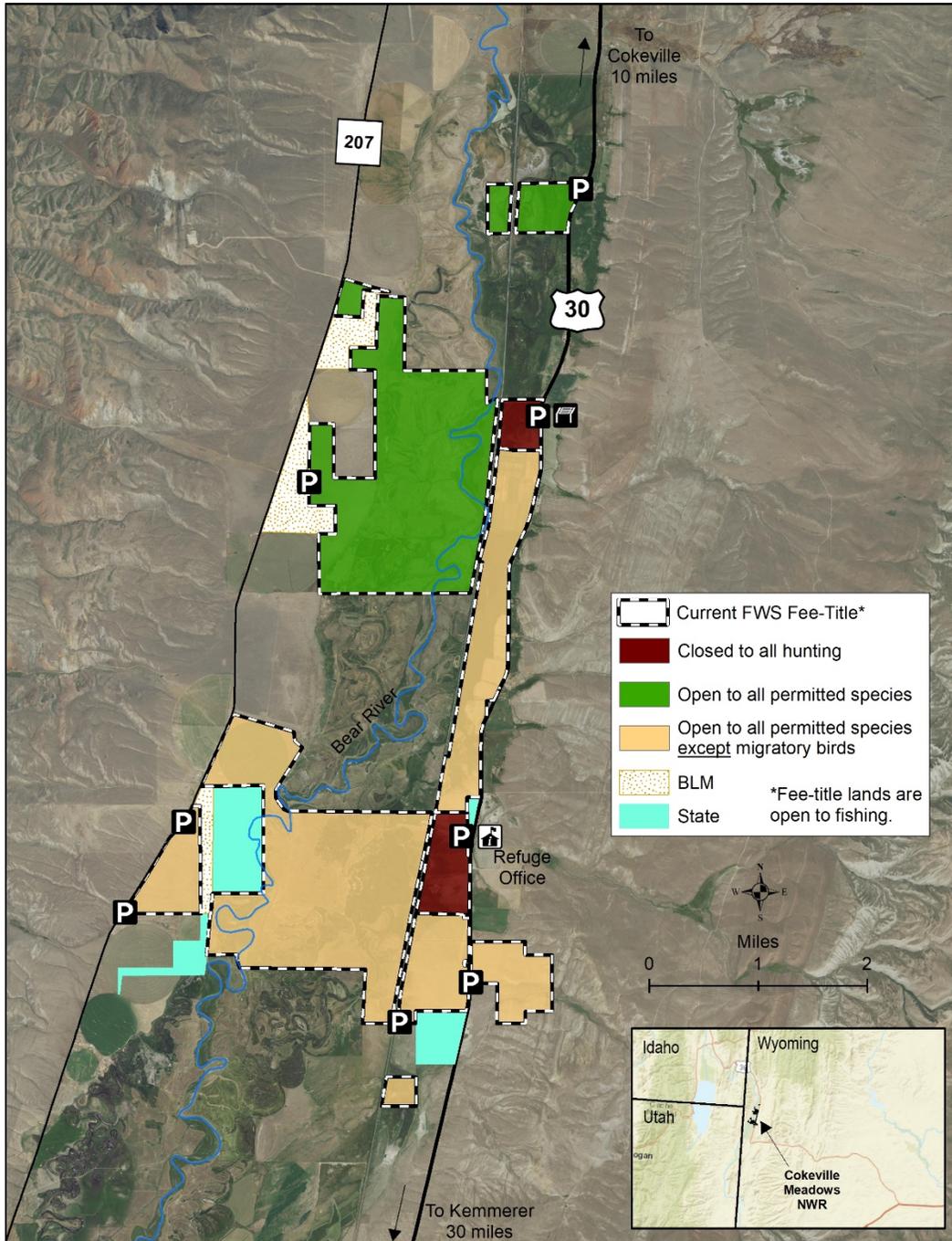


Figure 1. Hunting and Fishing Opportunities on Cokeville Meadows National Wildlife Refuge

The establishing and acquisition authorities set out the purposes for the refuge, as described below:

- “. . . for the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions . . .” 16 U.S. Code Section 3901(b) (Emergency Wetlands Resources Act of 1986)
- “. . . for conservation purposes ” 7 U.S. Code Section 2002 (Consolidated Farm and Rural Development Act)
- “. . . for use as an inviolate sanctuary, or for any other management purpose, for migratory birds.” 16 U.S. Code Section 715d (Migratory Bird Conservation Act)

The mission of the Refuge System, as outlined by the NWRSA, as amended by the Improvement Act (16 U.S. Code 668dd et seq.), is

“. . . to administer a national network of lands and waters for the conservation, management and, where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.”

The NWRSA mandates the Secretary of the Interior in administering the System to (16 U.S. Code 668dd(a)(4):

- provide for the conservation of fish, wildlife, and plants, and their habitats within the Refuge System;
- ensure that the biological integrity, diversity, and environmental health of the Refuge System are maintained for the benefit of present and future generations of Americans;
- ensure that the mission of the Refuge System described at 16 U.S. Code 668dd(a)(2) and the purposes of each refuge are carried out;
- ensure effective coordination, interaction, and cooperation with owners of land adjoining refuges and the fish and wildlife agency of the states in which the units of the Refuge System are located;
- assist in the maintenance of adequate water quantity and water quality to fulfill the mission of the Refuge System and the purposes of each refuge;
- recognize compatible wildlife-dependent recreational uses as the priority general public uses of the Refuge System through which the American public can develop an appreciation for fish and wildlife;
- ensure that opportunities are provided within the Refuge System for compatible wildlife-dependent recreational uses;
- monitor the status and trends of fish, wildlife, and plants in each refuge.

Therefore, it is a priority of the Service to provide for wildlife-dependent recreation opportunities, including hunting and fishing, when those opportunities are compatible with the purposes for which the refuge was established and the mission of the Refuge System.

Since the establishment of refuge, the public, the WGFD, and other partners have asked that the refuge be opened to compatible public uses. A hunting plan and EA were completed in 2013 that

allowed opportunities for compatible hunting and allowed for public access for the first time (USFWS 2013). Fishing is the next compatible, wildlife-dependent public use that is being proposed to be opened.

1.3 Purpose and Need for the Proposed Action

The purpose of this proposed action is to provide compatible wildlife-dependent recreational opportunities on Cokeville Meadows NWR. The need of the proposed action is to meet the Service's priorities and mandates as outlined by the NWRSA to "recognize compatible wildlife-dependent recreational uses as the priority general uses of the NWR" and "ensure that opportunities are provided within the Refuge System for compatible wildlife-dependent recreational uses" (16 U.S. Code 668dd[a][4]). The CCP for the refuge was completed in 2014 (USFWS 2014). The proposed action would help meet several of the goals and objectives listed in the CCP:

Visitor Services and Cultural Resources Goal: Provide appropriate public access to refuge lands where visitors can safely enjoy compatible, wildlife-dependent recreation, such as hunting, fishing, wildlife observation, photography, environmental education, and interpretation. The refuge will seek partnerships to help protect onsite cultural resources.

Fishing Objective 1: Within 10 years, determine the feasibility of restoring native sport fisheries.

Partnerships Goal: Engage in mutually beneficial partnerships to promote wildlife and habitat conservation, and public enjoyment of wildlife resources in the upper Bear River watershed that are consistent with historic land uses, refuge purposes, and goals.

Partnerships Objective: Work with local, state, and federal agencies, as well as with private organizations and individuals, to achieve refuge goals and objectives and to help these groups with management activities that promote habitat health and wildlife productivity across the Bear River watershed.

The objectives of a fishing program on the refuge are to:

- provide wildlife-dependent recreation opportunities in accordance with federal laws and Service policy and in alignment with state regulations;
- provide increased opportunities for a fishing experience on refuge lands;
- provide nearby fishing access for local communities;
- work with the WGFD and private landowners to increase fishing access on the Bear River.

The Service recognizes fishing as a traditional outdoor pastime that is deeply rooted in America's natural heritage. As long as the resources can support it, fishing is considered a legitimate and appropriate public use on national wildlife refuges. Fishing can foster understanding and instill appreciation of wetlands and rivers, fish species, and the habitat that supports them, while promoting support for their restoration and conservation and support of the refuge, the Refuge System, and the Service.

The first fee title properties at the refuge were purchased from willing sellers shortly after the refuge was established. To date, there are 6,134 acres owned in fee title. Since the establishment of the refuge, the public, the WGFD, and other partners have asked that the refuge be opened to

compatible public uses. A hunting plan and EA were completed in 2013 that allowed opportunities for compatible hunting and public access for the first time (USFWS 2013). Fishing is the next compatible, wildlife-dependent public use that is being proposed to be opened.

2.0 Alternatives

2.1 Alternatives Considered

Alternative A – Allow Public Fishing – Proposed Action Alternative

The refuge has prepared a fishing plan (USFWS 2020a), which is presented in this document as the Proposed Action Alternative. The fishing plan presents a more detailed description of how the proposed public fishing program would be administered.

Under the Proposed Action Alternative, we, the Service, would open all fee title land (6,134 acres) to public sport fishing, including bowfishing (Figure 1). All WGFD regulations would apply to fishing on the refuge, and all state licenses, tags, permits, and stamps required to participate in fishing would apply. Walk-in access would be allowed from established parking lots.

Under the Proposed Action Alternative, public fishing would be conducted according to WGFD regulations concerning fishing. The seasonal nature of the resources would determine when these fishing opportunities exist. For example, fishing and bowfishing opportunities would only exist in shallowly flooded wetlands next to the river when these wetlands are being actively flooded. When these wetlands dry out, fishing would be limited to the Bear River. This alternative provides a recreational experience to the general public while supporting sustainable populations of fish. The estimated cost to run a public fishing program is estimated to be \$500 annually. Under this alternative, the refuge law enforcement officer and WGFD wardens would check the fishing program, and they would conduct license, possession limits, and access compliance checks. Refuge staff would administer the public fishing program by supporting parking areas, producing and updating the hunting and fishing brochure, answering the public's questions, and other associated activities.

Cokeville Meadows NWR currently consists of 6,134 acres of fee title land owned by the Service. The Service would continue to acquire more land over time, and as each tract is acquired, it would be considered for inclusion in the refuge fishing program. We anticipate that fishing would be allowed on newly acquired fee title lands, unless special or unforeseen circumstances exist.

This alternative offers increased opportunities for public fishing and fulfills the Service's mandate under the Improvement Act. The Service has determined that the fishing plan is compatible with the purposes of the refuge and the mission of the Refuge System (USFWS 2020b).

Alternative B – Current Management No Fishing Allowed – No Action Alternative

The refuge would continue to be closed to the public for all fishing activities. No final fishing plan would be developed and adopted. No opportunities for compatible public fishing would be provided. No continued coordination with the WGFD would be needed to institute a public fishing program on the refuge.

3.0 Affected Environment and Environmental Consequences

3.1 Affected Environment

The refuge consists of approximately 6,134 acres of fee title land to date. The refuge is entirely within Lincoln County, Wyoming.

The refuge is composed of a mix of habitats such as including riverine, wet meadow, temporary, seasonal, and semi-permanent wetland, and sage steppe. The proposed action is on all portions of fee title on the refuge. The fee title portions containing the Bear River would be used year round and flooded portions of wetland habitats used seasonally when common carp are present (see the map of the general area and proposed project site on the refuge in Figure 1).

Tables 1 through 6 provide additional, brief descriptions of each resource affected by the proposed action.

For more information regarding the affected environment, please see Chapter 3 of the refuge's CCP, which can be found here:

<https://ecos.fws.gov/ServCat/DownloadFile/44654?Reference=43968> or at
https://www.fws.gov/mountain-prairie/refuges/planningPDFs/ckv_ccpfinal_080116.pdf

3.2 Environmental Consequences of the Action

This section analyzes the environmental consequences of the action on each affected resource, including direct and indirect effects. This EA only has the written analyses of the environmental consequences on a resource when the effects on that resource could be more than negligible and therefore considered an “affected resource.” Any resources that would not be more than negligibly affected by the action have been dismissed from further analyses.

Tables 1 through 5 provide:

- a brief description of the affected resources in the proposed action area;
- impacts of the proposed action and any alternatives on those resources, including direct and indirect effects.

Table 6 provides a brief description of the cumulative impacts of the proposed action and any alternatives.

Impact Types:

- *Direct effects* are those that are caused by the action and occur at the same time and place.
- *Indirect effects* are those that are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable.

- *Cumulative impacts* result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions.

Table 1. Affected Natural Resources and Anticipated Direct and Indirect Impacts of the Proposed Action and Any Alternatives.

<p>Affected Resources</p>	<p><u>Alternative A (Proposed Action)</u> <i>Public fishing on the refuge would be conducted according to Wyoming Game and Fish Department regulations concerning fishing.</i></p>	<p><u>Alternative B (No Action)</u> <i>The refuge would continue to be closed to the public for all fishing activities.</i></p>
<p>Targeted Species</p>		
<p>Fishing would be allowed for all sport fish, defined as game fish, and non- game fish for bowfishing, by the WGFD.</p> <p>Limited information on the fishery resource on the refuge is available; however, the following species were detected through 2009 and 2018 electroshock surveys in the Bear River through the refuge. Game fish species include Bonneville cutthroat trout, brown trout, snake river cutthroat trout, yellow perch, and mountain whitefish. Common carp was the only non-game fish species. Other species include reidside shiner, speckled dace, Utah chub, Utah sucker, mountain sucker, longnose dace, and mottled sculpin.</p> <p>There are a large number of carp in the river. During spring runoff and when the refuge’s shallow wetlands are being flooded, common carp leave the main channel of the Bear River to forage and spawn in the shallow water. Carp can swim in the meadows where there is as little as three to four inches of water. During this time, carp are more available for bowfishing, which has had the most interest from the public.</p>	<p>Recreational fishing could potentially cause negative effects on fish populations if it occurs at unsustainably high levels or is not managed properly. Potential impacts of fishing are direct mortality from harvest and catch and release, injury to fish caught and released, changes in age and size class distribution, changes in reproduction capacity and success, loss of genetic diversity, altered behavior, and changes in ecosystems and food webs (Cline et al. 2007; Lewin et al. 2006).</p> <p>Of the species allowed to be fished in waters on the refuge, common carp, trout, and mountain whitefish are the most likely to be taken. For these species, quantified population estimates do not exist on the refuge because these species are not a focus of conservation or sport fishing priorities for the WGFD. However, general observations reveal that these species are plentiful in the waters of the refuge. In general, anglers tend to target older and larger fish, which often have greater reproductive capacity. Selective removal may reduce the population’s overall reproductive success. Catch and release fishing can also have impacts on individual fish, such as injury and immediate or delayed mortality. The likelihood of mortality depends on the type of fishing gear used, where the fish was hooked, how the fish is handled, angler experience, and environmental conditions. Fish caught and released with nonlethal injuries could be exposed to parasites, or bacterial or fungal infections. Handling fish also increases stress, which may lead to changes in physiology and behavior (Lewin et al. 2006).</p> <p>Because fishing generally removes individuals from a population, at high levels it can lead to reduced population sizes and loss of genetic diversity. The loss of genetic diversity can ultimately reduce a population’s fitness, resilience, and ability to adapt to environmental changes and stressors. The higher the fishing mortality, the greater these types of impacts would be (Lewin et al. 2006).</p>	<p>Under this alternative, all refuge waters would continue to be closed to recreational fishing. One disadvantage of this alternative would be the inability to promote a priority use of the Refuge System. There would be no additional cost or economic benefits associated to surrounding towns. There would be no additional effects on fish species.</p>

Affected Resources	<u>Alternative A (Proposed Action)</u>	<u>Alternative B (No Action)</u>
<p>Carp affect native species of fish and are not desirable on the refuge; however, there are not any well-known ways to control this population.</p> <p>Seasonally, from fall through early spring, water levels and lower water temperatures in the Bear River can support fishable numbers of trout, mountain whitefish, yellow perch, and other game fish species.</p> <p>We estimate that both catch and release and fish take would occur in about equal proportions.</p>	<p><i>Public fishing on the refuge would be conducted according to Wyoming Game and Fish Department regulations concerning fishing.</i></p> <p>While fishing does remove individuals from the population, we do not anticipate that projected fishing pressure would affect the refuge’s fish population as a whole. We also predict that one of the species most affected would be common carp. Furthermore, due to their behavior, carp are known to increase the ammonia content, the turbidity or level of sedimentation in the water, and the biomass of phytoplankton (that is, algae) (Badiou and Goldsborough 2015). Excess levels of algae can deplete oxygen, kill aquatic vegetation, and leach toxins into the waterway (Anderson et al. 2002). It is possible that increased mortality of common carp by fishing could help mitigate some of their effects and improve habitat for other fish species and aquatic vegetation. However, it is unknown whether fishing would decrease carp populations enough to make an impact.</p> <p>The refuge’s fishing pressure is projected to be sustainable. We estimate less than 50 angler use days annually. Although it is difficult to estimate angler success, we anticipate that fewer than 50 common carp, 25 cutthroat trout, 25 brown trout, and 50 mountain whitefish would be removed annually from waters on the refuge. This constitutes a very small percentage of the overall population size for these species. The proposed area to be open for fishing comprises only a small portion of the entire Bear River, and we predict that removed fish would be replaced by the populations throughout the waterway.</p>	<p><i>The refuge would continue to be closed to the public for all fishing activities.</i></p>
Migratory Birds		
<p>The refuge contains the most extensive wetland complex in Wyoming, with the highest density of breeding ducks, geese and sandhill cranes in the state and with very high wildlife species diversity (Wyoming Statewide Comprehensive Outdoor Recreation Plan 2009–2013).</p>	<p>Sport fishing, including bowfishing, would cause some temporary disturbance to migratory birds. However, the disturbance would be negligible because it would be seasonal and temporary. Access to the site would be on foot from established parking areas, limiting activities. Fishing would be of a seasonal nature, because from April until August most years, much of the flow from the river is diverted for flood irrigating the valleys wetlands. Most of the sport fish migrate out at this time with low flows and high water temperatures.</p>	<p>Under this alternative, there would be no additional temporary disturbance to migratory species from fishing activities. There would be no harvest of common carp through bowfishing.</p>

Affected Resources	<u>Alternative A (Proposed Action)</u> <i>Public fishing on the refuge would be conducted according to Wyoming Game and Fish Department regulations concerning fishing.</i>	<u>Alternative B (No Action)</u> <i>The refuge would continue to be closed to the public for all fishing activities.</i>
<p>Waterfowl (ducks and geese) are present throughout the river, wet meadows, wetlands, and oxbows of the refuge. The waterfowl population levels fluctuate with changes in vegetation and the water levels in the wet meadows and wetlands.</p>	<p>Those fishing with a rod and reel would likely concentrate activities to the river channel after ice-out and before the river drops and then again before freeze-up after flows increase in the river in the fall. Bowfishing also would be seasonal in nature, because common carp become active and visible in shallow wetlands from April through July. Most activity would occur along earthen dikes used to manage water. Removal of common carp through bowfishing would benefit waterfowl, shorebirds, and other wildlife because the common carp are known to stir up sediments as they forage, reducing water clarity and subsequent production of submerged aquatic plants and aquatic invertebrates, which are important food resources.</p>	<p>This would have minor negative effects on waterfowl, shorebirds, and other wildlife because the common carp continue to stir up sediments as they forage, reducing water clarity and subsequent production of submerged aquatic plants and aquatic invertebrates, which are important food resources for migratory birds.</p>
Other Wildlife and Aquatic Species		
<p>White-tailed deer, elk, striped skunks, deer mice, meadow voles, muskrats, northern leopard frogs, and wandering garter snakes are among the more common non-bird wildlife species found on the refuge's wet meadow and wetland habitats.</p> <p>Pronghorn, mule deer, western jumping mice, Wyoming ground squirrels, black-tailed jackrabbit, desert cottontails, coyotes, northern sagebrush lizards, and Great Basin gopher snakes are among the more common non-bird wildlife species found on the refuge's uplands habitat.</p> <p>Raccoons, red foxes, moose, long-tailed weasels, North American porcupines, American beavers, Valley garter snakes, and tiger salamanders are among the more common non-bird wildlife species found on the refuge's riparian habitat.</p>	<p>Fishing would cause some temporary disturbance to resident wildlife, such as elk, moose, mule deer, and other species when they were present. However, the disturbance would be negligible, because wildlife would move out of the line of sight of fishermen and would return once they passed. Nongame fish species may be caught incidentally, but in low numbers. Public fishing is expected to be very light (less than 50 angler use days) based on the seasonal nature of the available resource, limited access that requires foot travel, and the abundance of higher-quality public and private fishing available in the immediate area. High-visibility law enforcement activities and covert operations may be conducted to dissuade the fishing public from affecting wildlife other than the target species.</p>	<p>Under this alternative, fishing would not be opened, and there would be no additional temporary disturbance to resident species from fishing activities. Currently, the refuge is open for public hunting, and for photography, bird watching, and similar activities. Disturbance from these activities is not known to have negative impacts on refuge wildlife.</p>

Affected Resources	<u>Alternative A (Proposed Action)</u>	<u>Alternative B (No Action)</u>
<p>The Thomas Fork and Smith's Fork, tributaries to the Bear River, and the Bear River reach between them provide ideal habitat for the Bonneville cutthroat trout (Baxter and Stone 1995; Behnke 1992). Besides Bonneville cutthroat trout, several native nongame fish of conservation concern also inhabit the Bear River and its tributaries. These are bluehead sucker, western silvery minnow, and the finescale dace.</p>	<p><i>Public fishing on the refuge would be conducted according to Wyoming Game and Fish Department regulations concerning fishing.</i></p>	<p><i>The refuge would continue to be closed to the public for all fishing activities.</i></p>
Threatened and Endangered Species and Other Special Status Species		
<p>Listed species and/or their critical habitat within the action area include the following.</p> <p><i>Black-Footed Ferret, Mustela nigripes (listed endangered)</i></p> <p>The refuge lies within the historical range of this listed species; however, it has never been documented. The refuge has very limited white-tailed prairie dog colonies and it is highly unlikely that a large enough population of prairie dogs exists to support black-footed ferrets.</p> <p><i>Ute Ladies'-Tresses Orchid, Spiranthes diluvialis (listed threatened)</i></p> <p>While the refuge lies in between areas known to have populations of this listed species (Colorado and Montana), there are no known populations of this species on the refuge.</p> <p>An orchid survey, within suitable orchid habitat, performed during the blooming period of this species in the refuge (2000) failed to locate this plant within the refuge.</p>	<p><i>Black-Footed Ferret</i></p> <p>This species is considered endangered and is protected both federally and by the state. It requires occupied burrows of prairie dogs for shelter and prey. Prairie dogs cannot tolerate the seasonal flooding that occurs throughout all the areas where public fishing would occur. Implementation of the proposed action would not have negative effects on the habitats or prey species of this federally listed species.</p> <p><i>Ute Ladies'-Tresses Orchid</i></p> <p>This species has never been found on the refuge despite a relatively recent orchid-specific survey (2000) within suitable habitats. If this species were found in the refuge, the Service would establish and enforce measures to protect this listed plant and its habitats. Mitigation may include protection of sites susceptible to trampling by fishing activities.</p> <p><i>Yellow-Billed Cuckoo</i></p> <p>This species relies on riparian habitats such as stands of cottonwoods with a dense understory of shrubs; the refuge currently has very few such spots. These are away from the riverbank and are not likely to be visited by anglers.</p>	<p>Under this alternative, there would be no impacts on threatened or endangered species because no public fishing would be allowed.</p>

Affected Resources	<u>Alternative A (Proposed Action)</u> <i>Public fishing on the refuge would be conducted according to Wyoming Game and Fish Department regulations concerning fishing.</i>	<u>Alternative B (No Action)</u> <i>The refuge would continue to be closed to the public for all fishing activities.</i>
<p>Refuge staff are also trained in identification of this species and have never detected it while on the refuge during the blooming period.</p> <p><i>Yellow-Billed Cuckoo, <i>Coccyzus americanus</i> (listed threatened)</i></p> <p>The yellow-billed cuckoo has not been documented on the refuge. The refuge lies within the potential historical range of this species; however, it has never been common in southwestern Wyoming as long as records have been kept before refuge establishment. The cuckoo relies on riparian habitat types of mature cottonwoods with an understory of dense shrubs for its life cycle needs. The dense shrubs supply secure nesting cover, and the shrubs and cottonwoods provide foraging sites, where the cuckoos search for primarily caterpillars along with other insects. The refuge has almost none of this habitat type available, although refuge staff have begun working on establishment.</p> <p>There is no federally designated critical habitat on the refuge. There is no proposed species and/or proposed critical habitat within the Cokeville Meadows area.</p>	<p>Although it is believed that the refuge lies within its potential historic range, the yellow-billed cuckoo has never been detected on or near the refuge since records have been kept (well before the refuge was established). The refuge has begun work to improve riparian habitats and conditions for yellow-billed cuckoo nesting in the future. If this species were to be found in the future on the refuge, the Service would establish and enforce measures to protect while it is present during the nesting season. Mitigation may include temporary closure to public use of a buffer area around nesting sites. These temporary public-use closures would not occur where fishing would occur but may require fishermen to use alternate foot travel routes to reach wetlands and the river.</p>	
Vegetation		
<p>The refuge habitats are narrow riparian/riverfront-type forest corridors, robust emergent wetland plants, wet meadow sedge and grass communities, riverine, and upland sagebrush/grassland communities. Early succession riparian species are cottonwood and willow and are present on newly deposited and scoured sand-silt and gravelly soils near the active channel of the Bear River.</p>	<p>Negligible impact is expected to vegetation from trampling by anglers, because of the low number of users and days of use expected (less than 50 angler use days). Although it is possible that anglers could move invasive plant seed from infested areas of the refuge to areas where they currently do not occur, it is unlikely that this would become a significant distribution vector. It is unlikely that additional visitation would increase risk. Submerged aquatic plant communities would benefit where bowfishing occurs.</p>	<p>Under this alternative, fishing would not be opened, and there would be no additional effects on vegetation from anglers. Submerged aquatic plant communities would continue to be negatively affected by common carp.</p>

Affected Resources	<u>Alternative A (Proposed Action)</u> <i>Public fishing on the refuge would be conducted according to Wyoming Game and Fish Department regulations concerning fishing.</i>	<u>Alternative B (No Action)</u> <i>The refuge would continue to be closed to the public for all fishing activities.</i>
<p>Typically, wetlands support hydrophytes (water-loving plants) and hydric soils and hold water for most of the growing season. In predominantly arid southwestern Wyoming, water is a limiting factor for many species, and is highly attractive for most species. For many plants and animals, the availability of unbound water is essential. Open-water plant communities are rooted, submerged aquatic plants such as pondweed, and floating plants such as duckweed.</p> <p>The main channel of the Bear River, or riverine habitats, has been significantly altered over the last 100 years. Many diversions on the refuge, and up and down river, move water from the main channel and distribute the water across the valley through ditches and earthen dikes. This shallow water is held into July each year, until diversions stop and water flows back to the river. This allows the shallow wetlands to dry enough to support haying equipment and aftermath grazing. The river channel can be nearly dry when water is diverted. This historical and ongoing management limits the fisheries resource.</p>	Benefits would be localized and temporary as common carp move back in from adjacent areas.	
Water Resources		
Surface water quality in the Bear River and floodplain wetlands varies because of human activities and natural processes and is affected by the water's source and drainage.	Under this alternative, we would not open the refuge to fishing, including bowfishing for carp. We would expect this to have a minor negative impact on water clarity due to common carp.	Water clarity would improve around areas where bowfishing occurs. Benefits would be localized and temporary as common carp move back in from adjacent areas.

Note: The effects on refuge soils, geology, air quality, wetlands, and floodplains are all considered to be nonexistent to negligible and have not been analyzed further.

Table 2. Affected Visitor Use and Experience and Anticipated Direct and Indirect Impacts of the Proposed Action and Any Alternatives.

<p>Affected Resources</p>	<p><u>Alternative A (Proposed Action)</u> <i>Public fishing on the refuge would be conducted according to Wyoming Game and Fish Department regulations concerning fishing.</i></p>	<p><u>Alternative B (No Action)</u> <i>The refuge would continue to be closed to the public for all fishing activities.</i></p>
<p>In 2013, designated portions of the refuge were opened to big game, upland game, and migratory bird hunting (USFWS 2013). We are currently proposing to open the refuge to hunting for light and dark geese (USFWS 2020c).</p> <p>Environmental education, interpretation, wildlife observation, and photography are compatible uses that are also allowed on the refuge.</p> <p>In 2006, the refuge constructed a visitor contact station, an information kiosk, and a walking trail at the Netherly Slough along United States Highway 30 for public use. Most of the estimated 5,000 annual visitors use this site to experience the refuge.</p>	<p>Under this alternative, we expect no public-use conflicts of consequence. Minimal conflicts are expected between those participating in fishing and other refuge uses. Public fishing on refuge waters is anticipated to be low (less than 50 angler use days) because sport fishing and bowfishing are seasonal in nature, access is only by foot, and significant additional opportunities exist for fishing on nearby public lands. Bowfishing activities would not overlap with hunting seasons. The current trend of fly fishing for common carp in the United States may be an activity that sees increasing activity; however, conflicts with other users are not anticipated.</p> <p>The demand for non-consumptive wildlife-oriented use on the refuge is seeing increasing interest by the public, although it is still very light. Conflicts between those fishing and non-consumptive users may occur; however, we anticipate that this would be a rare occurrence. Should serious conflicts arise, considerations would be given to changes in time and space scheduling and/or zoning. Decisions would be based on minimizing effects on various user groups, and best management practices.</p>	<p>Under this alternative, because no fishing would be allowed, no additional public-use conflicts would occur as a result.</p>

Table 3. Affected Cultural Resources and Anticipated Direct and Indirect Impacts of the Proposed Action and Any Alternatives.

<p>Affected Resources</p>	<p><u>Alternative A (Proposed Action)</u> <i>Public fishing on the refuge would be conducted according to Wyoming Game and Fish Department regulations concerning fishing.</i></p>	<p><u>Alternative B (No Action)</u> <i>The refuge would continue to be closed to the public for all fishing activities.</i></p>
<p>Although many cultural resource sites have been recorded near Cokeville, Wyoming, few have been documented on the refuge. This lack of information reflects the relatively low potential for resources on most of the refuge because of its extensive wetlands and the lack of cultural resource surveys. Based on the United States Geological Survey topographic map, several unrecorded ditches, water control structures, transportation-related features, and ranch structures are located on the refuge. Prehistoric sites, if present, are likely located in the upland areas of the refuge.</p>	<p>Because of the temporary and superficial use of refuge habitats during fishing activities, there should be no direct impacts on cultural resources under this alternative from visitors engaged in fishing activities as delineated in the fishing plan.</p>	<p>Under this alternative, the refuge would remain closed to fishing and there would be no change to existing environmental conditions; subsequently, we anticipate that there would be no direct or indirect impacts on cultural resources under this alternative.</p>

Table 4. Affected Refuge Management and Operations and Anticipated Direct and Indirect Impacts of the Proposed Action and Any Alternatives.

Affected Resources	<u>Alternative A (Proposed Action)</u> <i>Public fishing on the refuge would be conducted according to Wyoming Game and Fish Department regulations concerning fishing.</i>	<u>Alternative B (No Action)</u> <i>The refuge would continue to be closed to the public for all fishing activities.</i>
Land Use and Management		
Through cooperators, haying and rotational grazing of refuge habitats is conducted in the summer and fall every year.	Under this alternative, refuge management and operations would not be affected. Planning, public notification, and coordination with refuge haying, grazing, and farming cooperators would reduce foreseen issues such as the public leaving gates open and closures during prescribed burning. We would deal with unanticipated effects on operations through communication with the public with signage as well as through communication with our partners and making any needed adjustments.	Under this alternative, there would be no effect on refuge management and operations.
Administration		
<p>The Cokeville Meadows NWR is not currently staffed. Since 1993, our staff headquartered at the Seedskaadee NWR in Sweetwater County, Wyoming, has managed Cokeville Meadows NWR. The Seedskaadee NWR Complex staff of five full-time equivalent positions and two to three seasonal employees are responsible for management activities at Seedskaadee NWR and Cokeville Meadows NWR. The two refuges total 36,489 acres. Staff from Seedskaadee NWR Complex travel approximately 83 miles to work at the refuge.</p> <p>The Cokeville Meadows and Seedskaadee NWRs are part of the Central Sage-Steppe NWR Complex. The Complex covers the Arapaho, Seedskaadee, Cokeville Meadows, Bamforth, Hutton Lake, Mortensen Lake and Pathfinder NWRs. Law enforcement would be provided by an officer stationed at Seedskaadee NWR.</p>	<p>The estimated annual cost to run a fishing opportunity is approximately \$500 annually, with an additional one-time cost of \$500 to develop a new brochure. Refuge staff would prepare and update the hunting and fishing regulations brochure, make changes to the fishing plan and regulations as needed, edit the hunting and fishing leaflet as needed, post and replace appropriate signage, respond to public inquiries about the fishing program, and conduct fishing use surveys.</p> <p>The proposed fishing program would not have additional costs for infrastructure such as new parking lots, signs, or fencing.</p> <p>Existing refuge staff would be used to administer the fishing program. The refuge manager would set station priorities to assure that required support staff is adequate. The proposed action would require 5 percent of the refuge’s law enforcement officer’s time to enforce fishing regulations on the refuge, as well as less than 5 percent of the refuge manager’s time for overseeing and implementing the fishing program. The refuge may occasionally request Service law enforcement staff to be brought in from other field stations. As this fishing program evolves over the years, refuge-specific regulations and systems of control to limit number of users may occur or change at the refuge manager’s discretion.</p>	Under this alternative, the refuge would remain closed to fishing and, subsequently, there would be no direct or indirect impacts on refuge administration of the Seedskaadee NWR or the other units in the Central Sage-Steppe NWR Complex.

Table 5. Affected Socioeconomics and Anticipated Direct and Indirect Impacts of the Proposed Action and Any Alternatives.

<p>Affected Resources</p>	<p><u>Alternative A (Proposed Action)</u> <i>Public fishing on the refuge would be conducted according to Wyoming Game and Fish Department regulations concerning fishing.</i></p>	<p><u>Alternative B (No Action)</u> <i>The refuge would continue to be closed to the public for all fishing activities.</i></p>
<p>Local and Regional Economics</p>		
<p>The refuge is located in Lincoln County in the southwest corner of Wyoming. Lincoln County has grown by 24 percent since 2000 with an estimated total population of 17,961 persons in 2012 (U.S. Census Bureau 2013). From 2000 to 2010, Lincoln was the fastest growing Wyoming county in the Bear River watershed.</p> <p>Forestry, fishing, hunting, agriculture, and mining accounted for roughly 19 percent of total jobs in Lincoln County (U.S. Census Bureau 2011). Employment in timber is a small fraction of total employment and has decreased since 1999 (U.S. Department of Commerce 2010).</p> <p>Following the national trend, wildlife viewing has become increasingly popular, and hunting and fishing have decreased or remained stable in popularity in and around Lincoln County. Statewide, for residents 16 years of age and older, 84 percent of individuals surveyed watched wildlife, 39 percent fished, and 19 percent hunted in Wyoming (USFWS 2008).</p>	<p>The local economy would benefit from anglers' coming to the area to fish on the refuge. They would spend dollars locally on lodging, food, gas, and miscellaneous purchasing in the Town of Cokeville and the surrounding area. Although estimating an amount is difficult, it is anticipated to be small, because participation would be restricted by foot access and the seasonal nature of opportunities. This alternative has the best opportunity to increase public satisfaction and opportunity to enjoy the refuge.</p>	<p>There would be no economic benefit to the local economy from a continued closure to fishing on the refuge. Anticipated impacts of a continued fishing closure on the refuge, environment, and community were based on scoping, public meetings, and comments completed and received in conjunction with the CCP. The community supports establishing a refuge fishing program. Western Wyoming has a strong outdoor recreation heritage that includes fishing, and many in the community are awaiting opportunities on the refuge. Community support for the refuge would decline with a continued closure to all fishing.</p>

Affected Resources	<u>Alternative A (Proposed Action)</u> <i>Public fishing on the refuge would be conducted according to Wyoming Game and Fish Department regulations concerning fishing.</i>	<u>Alternative B (No Action)</u> <i>The refuge would continue to be closed to the public for all fishing activities.</i>
Environmental Justice		
Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires all federal agencies to incorporate environmental justice into their missions by naming and addressing disproportionately high or adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities.	The Service has not identified any potential high and adverse environmental or human health impacts of this proposed action or any of the alternatives. The Service has identified no minority or low-income communities within the impact area. Minority or low-income communities would not be disproportionately affected by this proposed action or any of the alternatives.	Same as the Proposed Action Alternative.

3.3 Cumulative Impact Analysis

Cumulative impacts are defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions” (40 CFR 1508.7). Cumulative impacts are the overall, net effects on a resource that arise from multiple actions. Impacts can “accumulate” spatially when different actions affect different areas of the same resource. They also can accumulate over time from actions in the past, present, and future. Occasionally, different actions counterbalance one another, partially cancelling out each other’s effects on a resource. But more typically, multiple effects add up, with each additional action contributing incrementally to the total impact on the resource.

Table 6. Anticipated Cumulative Impacts of the Proposed Action and Any Alternatives.

Other Past, Present, and Reasonably Foreseeable Activity Impacting Affected Environment	Descriptions of Anticipated Cumulative Impacts
Fishing	
	<p>The WGFD supports new recreational sport fishing opportunities for resident and nonresident anglers. Opening sport fishing on the refuge would provide anglers, especially local residents, with new fishing opportunities.</p> <p>Opening new recreational sport fishing opportunities on the refuge should have negligible to no impacts on overall fish numbers or distribution in the Bear River. Fishing pressure for common carp, cutthroat trout, brown trout, and mountain whitefish it is expected to be minimal. Requiring entry and exit from designated parking areas would limit vehicle disturbance to parking areas. It would also limit the number of fishermen participating by increasing the physical effort required to hike into and potentially carry legally harvested fish out. The seasonal nature of fishing opportunities combined with abundant opportunities for quality fishing in the area would also limit the amount of participation. Overall, the number of angler use days is expected to be less than 50, and the area proposed to be opened to public fishing is a small fraction of the fishing available in the Bear River Drainage portion of Wyoming. Therefore, the cumulative impact on fish populations in the Bear River and statewide are expected to be minimal.</p>
Other Wildlife-Dependent Recreation	
	<p>Conflicts of a fishing program with hunters are expected to be minimal due to season of use, with nearly all fishing occurring prior to hunting seasons. Trapping would be conducted through a Special-Use Permit system limiting the number of trappers and reducing any potential conflicts with other users through special conditions of the permit. Wildlife observation and photography, and wildlife interpretation and education, would be established to reduce conflicts with hunters, fishermen, and other refuge visitors.</p>

Other Past, Present, and Reasonably Foreseeable Activity Impacting Affected Environment	Descriptions of Anticipated Cumulative Impacts
	Existing designated parking areas are located on the perimeter of the refuge units. No additional roads or trails are proposed to support public fishing or other wildlife-dependent recreation due to land ownership patterns and a high probability of flooding within the extensive floodplain. No additional cumulative impacts would result.
Other Lead Tackle	
	The use of lead sinkers, jigs, and other fishing tackle is currently allowed for fishing in Wyoming. As described previously, anticipated participation with traditional fishing gear is expected to be light. The fly fishing community has begun to self-regulate, and many people use only non-toxic weights and flies. Bowfishing does not require the use of any lead. Under the proposed alternative, the refuge would represent only a small fraction of the Bear River Drainage of Wyoming that is open to fishing. Therefore, the allowance of lead tackle, according to WGFD fishing regulations, is expected to have negligible cumulative impacts on lead in the environment.
Climate Change	
Warming, whether it results from anthropogenic or natural sources, is expected to affect a variety of natural processes and associated resources. However, the complexity of ecological systems means that there is a tremendous amount of uncertainty regarding the impacts that would be caused by climate change. In particular, the localized effects of climate change are still a matter of much debate. That said, the combination of increased frequency and severity of drought in the basin could dramatically reduce the amount water and, therefore, quality of fisheries habitat in the drainage. As a result, available fisheries habitat may decline.	While the impacts of climate change on refuge wildlife and habitats are not certain, allowing fishing on the refuge would not add to the cumulative impacts of climate change. The refuge would use an adaptive management approach for its fishing program. By reviewing the program and revising it annually (if necessary), in coordination with the WGFD, the Service’s fishing program could be adjusted to ensure that it would not contribute further to the cumulative impacts of climate change on the WGFD Fisheries Program in the Bear River Drainage of Wyoming.

Key: WGFD = Wyoming Game and Fish Department

3.4 Monitoring

Continued coordination with WGFD law enforcement and fisheries management staff would continue. Compliance checks would be completed by refuge and WGFD staff. Fisheries surveys would continue in coordination with fisheries biologists from the WGFD. Results from research completed on the refuge would be considered for any future management decisions for fishing in the Bear River drainage of Wyoming by the WGFD.

3.5 Summary of Analysis

The purpose of this EA is to briefly provide sufficient evidence and analysis for determining whether to prepare an Environmental Impact Statement or a Finding of No Significant Impact.

Alternative A – Proposed Action Alternative

Under the Proposed Action Alternative, public fishing would be allowed according to WGFD regulations concerning fishing. The reasonably foreseeable future actions would cover acquisition of additional lands within the approved refuge boundary and implementation of other wildlife-dependent recreational activities such as trapping, wildlife observation and photography, and wildlife interpretation and education. As additional lands were acquired, they would be in areas open to public fishing. Conflicts of a fishing program with hunters are expected to be minimal due to season of use, with nearly all fishing occurring prior to hunting seasons. Trapping would be conducted through a Special Use Permit system limiting the number of trappers and reducing any potential conflicts with other users through special conditions of the permit. Wildlife observation and photography, and wildlife interpretation and education, would be established to reduce conflicts with hunters, fishermen and women, and other refuge visitors. Combining fishing with other public uses and refuge management activities, and the reasonably foreseeable future actions, cumulative impacts would not rise to the level of materially detracting from or interfering with refuge purposes and the Refuge System mission, and would not be considered significant for this EA. Under this alternative, we would allow the general public access for fishing, allowing for outdoor recreation benefitting health and providing healthy food. The refuge would meet one of the goals of the Refuge System of providing compatible wildlife-dependent recreation. The refuge would meet several of the goals outlined in the refuge's CCP to provide public fishing access.

Alternative B – No Action Alternative

Under this alternative, no public fishing would be allowed. The general public would not be allowed public access for fishing, eliminating potential for outdoor recreation benefitting health and providing healthy food. Potential disturbance from anglers to wildlife would not occur. The refuge would not meet one of the goals of the Refuge System of providing compatible wildlife-dependent recreation. The refuge would not meet several of the goals outlined in the CCP.

3.6 List of Sources, Agencies and Persons Consulted

Those listed below were consulted during preparation of the Cokeville Meadows NWR CCP, which included opening the refuge to public fishing (Proposed Action Alternative):

Federal Officials

- U.S. Representative Cynthia Lummis, Washington, DC
- U.S. Senator John Barrasso, Washington, DC
- U.S. Senator Mike Enzi, Washington, DC

Federal Agencies

- Bureau of Land Management, Kemmerer, Wyoming BLM, Rock Springs, Wyoming
- National Park Service, Fossil Butte National Monument, Kemmerer, Wyoming

- USDA National Resources Conservation Service, Cokeville, Wyoming
- USDA Forest Service, Kemmerer, Wyoming USGS, Bozeman, Montana

Tribes

- Assiniboine and Sioux Tribes of Fort Peck, Poplar, Montana
- Cheyenne River Sioux Tribe, Eagle Butte, South Dakota
- Crow Creek Sioux Tribal Council, Fort Thompson, South Dakota
- Eastern Shoshone Business Council, Fort Washakie, South Dakota
- Lower Brule Sioux Tribal Council, Lower Brule, South Dakota
- Northern Arapaho Business Committee, Fort Washakie, Wyoming
- Northern Cheyenne Tribal Council, Lame Deer, Montana
- Northwestern Band of Shoshoni Nation of Utah, Brigham City, Utah
- Oglala Sioux Tribal Council, Pine Ridge, South Dakota
- Rosebud Sioux Tribal Council, Rosebud, South Dakota
- Santee Sioux Tribal Council, Niobrara, Nebraska
- Standing Rock Sioux Tribal Council, Fort Yates, North Dakota

State Officials

- Governor Dave Freudenthal, Cheyenne, Wyoming
- Representative Kathy Davison, Kemmerer, Wyoming
- Representative Allen M. Jaggi, Lyman, Wyoming
- Representative Robert M. McKim, Afton, Wyoming
- Representative Owen Petersen, Mountain View, Wyoming
- Representative Jim Roscoe, Wilson, Wyoming
- Wyoming State Senator Stan Cooper, Kemmerer, Wyoming
- Wyoming State Senator Dan Dockstader, Afton, Wyoming

State Agencies

- Idaho Department of Fish and Game, Boise, Idaho
- State Historic Preservation Office, Cheyenne, Wyoming
- State Historic Preservation Office, Laramie, Wyoming
- Utah Division of Wildlife Resources, Ogden, Utah
- WGFD, Cheyenne, Wyoming WGFD, Cokeville, Wyoming WGFD, Green River, Wyoming WGFD, Jackson, Wyoming WGFD, Lander, Wyoming WGFD, Pinedale, Wyoming

Local Governments

- Board of County Commissioners, Lincoln County, Kemmerer, Wyoming
- City of Afton, Wyoming
- City of Cokeville, Wyoming
- City of Evanston, Wyoming
- City of Kemmerer, Wyoming
- City of Montpelier, Idaho
- Green River Chamber of Commerce, Green River, Wyoming
- Lincoln County Planning Office, Kemmerer, Wyoming
- Lincoln County Weed and Pest District, Afton, Wyoming
- Randolph City Office, Randolph, Utah

Local Businesses

- Hideout Motel, Cokeville, Wyoming

Organizations

- American Bird Conservancy, Mountain Green, Utah
- Audubon Public Policy Office, Washington, DC
- Audubon Wyoming, Laramie, Wyoming
- The Conservation Fund, Jackson, Wyoming
- Defenders of Wildlife, Washington, DC
- Ducks Unlimited, Fort Collins, Colorado
- Hawkwatch International, Salt Lake City, Utah
- International Crane Foundation, Baraboo, Wisconsin
- Mule Deer Foundation, Salt Lake City,
- Utah National Trappers Association, Bedford, Indiana
- National Wildlife Refuge Association, Washington, DC
- The Nature Conservancy, Evanston, Wyoming
- North American Pronghorn Foundation, Rawlins, Wyoming
- Rocky Mountain Elk Foundation, Missoula, Montana
- Trout Unlimited, Logan, Utah
- Water for Wildlife Foundation, Lander, Wyoming
- The Wildlife Society, Bethesda, Maryland

- Wyoming Native Plant Society, Laramie, Wyoming
- Wyoming Outdoor Council, Lander, Wyoming
- Wyoming Stock Growers Association, Cheyenne, Wyoming
- Wyoming Wildlife Federation, Cheyenne, Wyoming
- Wyoming Wildlife Federation, Lander, Wyoming

Contacting Either by Phone or in Person

- Wyoming Game and Fish Department Personnel from Cokeville, Pinedale, Green River, and Cheyenne, Wyoming
- Wyoming Game and Fish Department fisheries files
- Wyoming Game and Fish Department fisheries regulations

3.7 List of Preparers

Name	Position	Work Unit
Tom Koerner	Project Leader	Central Sage-Steppe National Wildlife Refuge Complex (Green River, WY)
Katie Thule	Refuge Manager	Seedskadee/Cokeville Meadows NWRs
Vanessa Fields	Wildlife Biologist	Mountain-Prairie Regional Office (Lakewood, CO)
Kelly Hogan	Program Chief	Mountain-Prairie Regional Office (Lakewood, CO)

3.8 State Coordination

Numerous conversations concerning public hunting and fishing at the refuge have been held with the WGFD, and have included local, regional, and state leadership; these conversations began with planning to establish the refuge more than three decades ago. The WGFD has consistently supported opening the refuge to public fishing according to applicable state regulations applying to fishing. In October and November of 2019, conversations with both the Green River Regional Office and the state office of the WGFD occurred, where support for opening the refuge to public fishing according to the WGFD regulations was expressed.

3.9 Tribal Coordination

The Service mailed an invitation for comments to all tribes potentially affected by initiating an EA to open the refuge to fishing. The Service extended an invitation to engage in government-to-government consultation in accordance with Executive Order 13175.

3.10 Public Outreach

Public outreach was conducted during the preparation and completion of the Cokeville Meadows CCP, in which public fishing was considered. Scoping meetings, public meetings, and a public comment period were held.

In addition, the refuge will make the public aware of the availability of the draft EA and draft Fishing Plan via public notices on the Cokeville Meadows NWR's website, through local newspapers, and in Seedskafee NWR's headquarters office. During a 30-day public comment period, the Service will accept comments in writing, in person, electronically, or in any other form the public wishes to present comments or information. Upon close of the comment period, all comments and information will be reviewed and considered. The final EA will address the comments submitted.

3.11 Determination

This section will be filled out upon completion of any public comment period and at the time of finalization of the Environmental Assessment.

- The Service's action will not result in a significant impact on the quality of the human environment. See the attached "**Finding of No Significant Impact.**"
- The Service's action **may significantly affect** the quality of the human environment and the Service will prepare an Environmental Impact Statement.

Preparer Signature: _____ Date: _____

Name/Title/Organization: _____

Reviewer Signature: _____ Date: _____

Name/Title: _____

3.12 References

- Anderson, D.; Glibert, P.; Burkholder, J. (2002). Harmful algal blooms and eutrophication: Nutrient sources, composition, and consequences. *Estuaries* 25:704–726.
- Badiou, P.; Goldsborough, L. (2015). Ecological impacts of an exotic benthivorous fish, the common carp (*cyprinus carpio* l.), on water quality, sedimentation, and submerged macrophyte biomass in wetland mesocosms. *Hydrobiologia: The International Journal of Aquatic Sciences*. 755(1), 107–121. doi:10.1007/s10750-015-2220-6
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- Lewin, W.C.; Arlinghaus, R.; and Mehner, T. (2006). Documented and potential biological impacts of recreational fishing: Insights for management and conservation. *Reviews in Fisheries Science*, 14, 305–367.
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- National Wildlife Refuge, Wyoming. Lakewood, CO: U.S. Department of the Interior, Fish and Wildlife Service. 162 pp.

———. 2020a. Draft Fishing Plan, Cokeville Meadows National Wildlife Refuge. Green River, Wyoming. 16 pp. <<https://www.fws.gov/mountain-prairie/huntfish.php#>>

———. 2020b. Draft Compatibility Determination for Fishing on Cokeville Meadows National Wildlife Refuge. Green River, Wyoming. 6 pp. <<https://www.fws.gov/mountain-prairie/huntfish.php#>>

———. 2020c. Draft Environmental Assessment for Hunting Light Geese (Ross and Snow Geese) at Cokeville Meadows National Wildlife Refuge. Green River, WY. 26 pp. <<https://www.fws.gov/mountain-prairie/huntfish.php#>>

Wyoming Department of State Parks and Cultural Resources. 2009. Wyoming Statewide Comprehensive Outdoor Recreation Plan 2009–2013. 150 pp. <https://www.recpro.org/assets/Library/SCORPs/wy_scorp_2009.pdf>

Wyoming Game and Fish Department. 2005. A Comprehensive Wildlife Conservation Strategy for Wyoming. Wyoming Game and Fish Department, Cheyenne, Wyoming. <<http://gf.state.wy.us/SWAP2010/Plan/index.asp>>

APPENDIX A OTHER APPLICABLE STATUTES, EXECUTIVE ORDERS, AND REGULATIONS

Statutes, Executive Order, and Regulations
Cultural Resources
<p>American Indian Religious Freedom Act, as amended, 42 U.S.C. 1996 – 1996a; 43 CFR Part 7</p> <p>Antiquities Act of 1906, 16 U.S.C. 431-433; 43 CFR Part 3</p> <p>Archaeological Resources Protection Act of 1979, 16 U.S.C. 470aa – 470mm; 18 CFR Part 1312; 32 CFR Part 229; 36 CFR Part 296; 43 CFR Part 7</p> <p>National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470–470x-6; 36 CFR Parts 60, 63, 78, 79, 800, 801, and 810</p> <p>Paleontological Resources Protection Act, 16 U.S.C. 470aaa – 470aaa-11</p> <p>Native American Graves Protection and Repatriation Act, 25 U.S.C. 3001–3013; 43 CFR Part 10</p> <p>Executive Order 11593 – Protection and Enhancement of the Cultural Environment, 36 Fed. Reg. 8921 (1971)</p> <p>Executive Order 13007 – Indian Sacred Sites, 61 Fed. Reg. 26771 (1996)</p>
Fish and Wildlife
<p>Bald and Golden Eagle Protection Act, as amended, 16 U.S.C. 668-668c, 50 CFR 22</p> <p>Endangered Species Act of 1973, as amended, 16 U.S.C. 1531-1544; 36 CFR Part 13; 50 CFR Parts 10, 17, 23, 81, 217, 222, 225, 402, and 450</p> <p>Fish and Wildlife Act of 1956, 16 U.S.C. 742 a–m</p> <p>Lacey Act, as amended, 16 U.S.C. 3371 et seq.; 15 CFR Parts 10, 11, 12, 14, 300, and 904</p> <p>Migratory Bird Treaty Act, as amended, 16 U.S.C. 703–712; 50 CFR Parts 10, 12, 20, and 21</p> <p>Executive Order 13186 – Responsibilities of Federal Agencies to Protect Migratory Birds, 66 Fed. Reg. 3853 (2001)</p>
Natural Resources
<p>Clean Air Act, as amended, 42 U.S.C. 7401–7671q; 40 CFR Parts 23, 50, 51, 52, 58, 60, 61, 82, and 93; 48 CFR Part 23</p> <p>Wilderness Act, 16 U.S.C. 1131 et seq.</p> <p>Wild and Scenic Rivers Act, 16 U.S.C. 1271 et seq.</p> <p>Executive Order 13112 – Invasive Species, 64 Fed. Reg. 6183 (1999)</p>
Water Resources
<p>Coastal Zone Management Act of 1972, 16 U.S.C. 1451 et seq.; 15 CFR Parts 923, 930, 933</p> <p>Federal Water Pollution Control Act of 1972 (commonly referred to as Clean Water Act), 33 U.S.C. 1251 et seq.; 33 CFR Parts 320–330; 40 CFR Parts 110, 112, 116, 117, 230-232, 323, and 328</p> <p>Rivers and Harbors Act of 1899, as amended, 33 U.S.C. 401 et seq.; 33 CFR Parts 114, 115, 116, 321, 322, and 333</p> <p>Safe Drinking Water Act of 1974, 42 U.S.C. 300f et seq.; 40 CFR Parts 141–148</p> <p>Executive Order 11988 – Floodplain Management, 42 Fed. Reg. 26951 (1977)</p> <p>Executive Order 11990 – Protection of Wetlands, 42 Fed. Reg. 26961 (1977)</p>

Key: CFR = Code of Federal Regulations; U.S.C. = U.S. Code