



**US Army Corps
of Engineers®**
Omaha District

DRAFT INTEGRATED LETTER REPORT AND PROGRAMMATIC ENVIRONMENTAL ASSESSMENT

**Federal Participation in Watercraft Inspection Stations
South Platte River Basin**

**Appendix
Federal Natural Resource Law Compliance
and Biological Evaluation**

DRAFT



**US Army Corps
of Engineers**
Omaha District

AQUATIC INVASIVE SPECIES WATERCRAFT INSPECTION STATIONS

**Colorado, Nebraska, and Wyoming
South Platte River Basin**

**Federal Natural Resources Law Compliance
and
Biological Evaluation**

ADMINISTRATIVE RECORD – DO NOT DESTROY

December 2020

Table of Contents

1. Background	1
2. Project Purpose and Need	3
3. Project Description	3
4. Work Schedule	6
5. Federal Natural Resource Laws	6
5.1. Endangered Species Act	6
5.1.1. Black-footed Ferret (<i>Mustela nigripes</i>)	8
5.1.2. Canada Lynx (<i>Lynx canadensis</i>)	8
5.1.3. Least Tern (<i>Sterna antillarum</i>)	9
5.1.4. Mexican Spotted Owl (<i>Strix occidentalis lucida</i>)	9
5.1.5. Piping Plover (<i>Charadrius melodus</i>)	10
5.1.6. Whooping Crane (<i>Grus americana</i>)	10
5.1.7. Yellow-billed Cuckoo (<i>Coccyzus americanus</i>)	11
5.1.8. Greenback Cutthroat Trout (<i>Oncorhynchus clarkii stomias</i>)	12
5.1.9. Pallid Sturgeon (<i>Scaphirhynchus albus</i>)	12
5.1.10. Uncompahgre Fritillary Butterfly (<i>Boloria acrocneema</i>)	13
5.1.11. Blowout Penstemon (<i>Penstemon haydenii</i>)	13
5.1.12. Penland Alpine Fen Mustard (<i>Eutrema penlandii</i>)	14
5.1.13. Ute Ladies'-tresses (<i>Spiranthes diluvialis</i>)	14
5.1.14. Western Prairie Fringed Orchid (<i>Platanthera praeclara</i>)	15
5.1.15. American Burying Beetle (<i>Nicrophorus americanus</i>)	15
5.1.16. North Park Phacelia (<i>Phacelia formosula</i>)	16
5.1.17. Pawnee Montane Skipper (<i>Hesperia leonardus montana</i>)	17
5.1.18. Preble's Meadow Jumping Mouse (<i>Zapus hudsonius preblei</i>)	17
5.1.19. Wyoming Toad (<i>Bufo hemiophrys baxteri</i>)	18
5.2 Summary of Effects to ESA-listed Species	18
5.2.1. Mammals	19
5.2.2. Birds	19
5.2.3. Reptiles	19
5.2.4. Amphibians	19
5.2.5. Fish	19

5.2.6. Insects 19

5.2.7. Plants..... 20

6. Magnuson-Stevens Fishery Conservation and Management Act 20

7. Fish and Wildlife Coordination Act..... 20

8. Migratory Bird Treaty Act 21

9. Bald and Golden Eagle Protection Act 21

10. Required Stipulations 21

11. References 23

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1. Background

The U.S. Army Corps of Engineers (Corps) has received authority through Section 1039(d) of the Water Resources and Reform Development Act of 2014 (Public Law 113-121) to stop the spread of certain aquatic invasive species (AIS) into the South Platte River Basin (SPRB). The Corps will help support each of the states' existing AIS control programs, including the establishment of watercraft inspection stations.

The main AIS of concern at this time are zebra mussels (*Dreissena polymorpha*) and quagga mussels (*Dreissena rostriformis bugensis*), from the family Dreissenidae. These dreissenid mussel species were believed to be accidentally introduced into the U.S. in the 1980s from foreign shipping vessels discharging their ballast water. Since their introduction, they have spread throughout the Great Lakes and major river systems in the U.S. and Canada (Figure 1). The SPRB is among the last large watersheds in the western U.S. with a major metropolitan population center that has not been colonized by these exotic dreissenids and should be protected against any potential infestation. These mussels are notorious for their biofouling capabilities by colonizing water supply pipes of hydroelectric and nuclear power plants, public water supply plants, and industrial facilities. They colonize pipes constricting flow, therefore reducing the intake in heat exchangers, condensers, firefighting equipment, and air conditioning and cooling systems. These small mussels can colonize a waterbody in such large numbers that they change its water quality characteristics and clarity. This can lead to severely detrimental ecological changes to the waterbody in just a few years.

The 2007 discovery of adult quagga mussels at Lake Mead, Nevada led many resource management agencies in the western U.S. to initiate watercraft inspection and decontamination programs (Elwell and Phillips 2016). Now not only have watercraft inspection station programs expanded, but SPRB states, Federal, provincial, Tribal, local, and non-governmental organizations are engaged in a vast network of regionally coordinated efforts in the defense against dreissenids in the SPRB. Regional defense is defined as “using resources in a cost-effective, inter-jurisdictional, coordinated, and collaborative response to prevent mussels from entering uninfested areas, and to contain aquatic invasive species at their source” (PNWER and PSMFC 2015). The SPRB states coordinate efforts and make decisions as part of this regional strategy, while operating within the scope of their specific budgets and statutory authority.

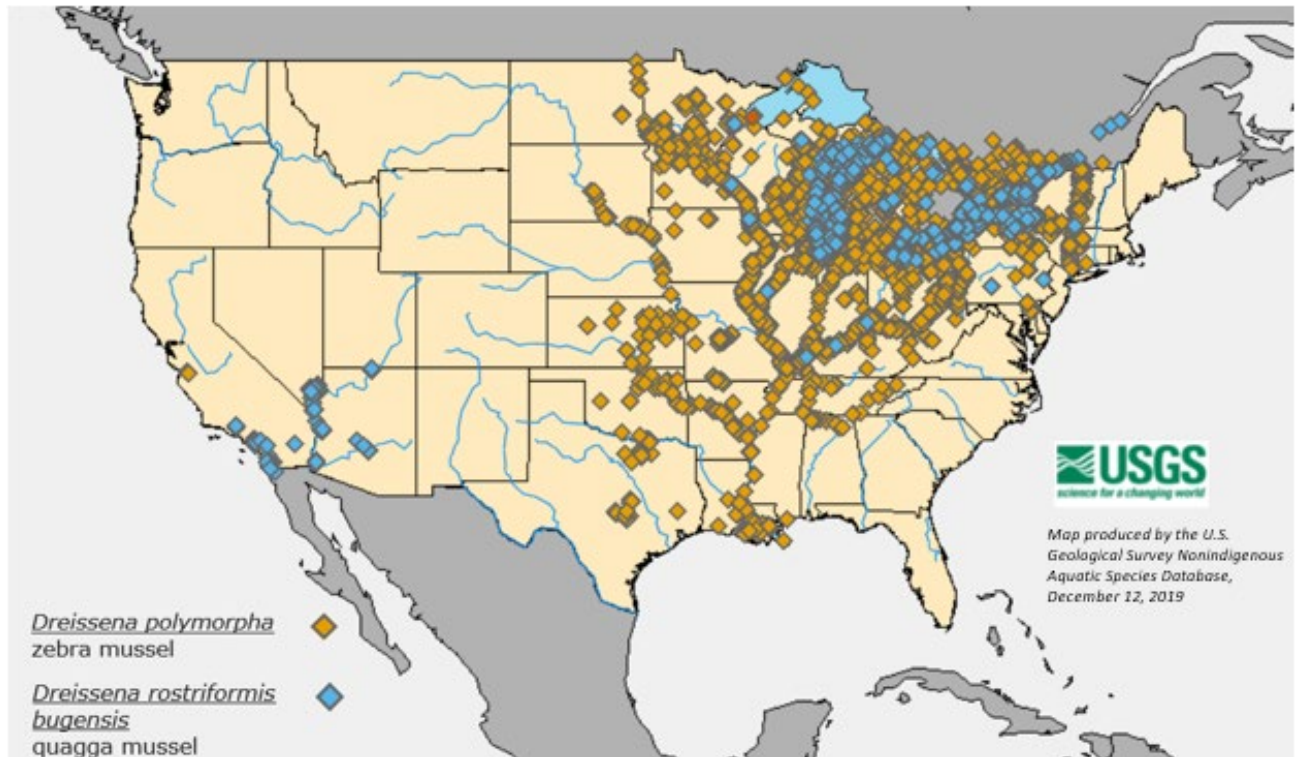


Figure 1. Location of Dreissenid Populations in 2019.

The dreissenid detection rate of the watercraft inspection stations within the SPRB varies, but is very low. In 2019 the State of Colorado inspected over 481,000 watercraft and found dreissenids in less than 0.02% of inspected watercraft. However, it may only take one infected boat to trigger an expansion of the economic and ecological disaster. In 2014, there were an estimated 759,772 boats inspected in the western states, with 187 found to be fouled (PNWER and PSMFC 2015); for an infection rate of 0.025 percent. This rate could be inaccurate due to the fact that stations are not manned 100 percent of the time and not all routes are monitored. There are also a low number of boat haulers who fail to stop at a check station. Thus, risk of infestation could be higher than detections indicate.

In 2012-2013 the Washington State Patrol inspected 54 watercraft that were being hauled commercially. Thirteen of them (24%) were contaminated with zebra or quagga mussels (WDFW 2015). During the same time period 26 watercraft were inspected after voluntary requests from the public and six (23%) were contaminated with zebra/quagga mussels (WDFW 2015).

It is highly probable that some infected boats do not get inspected prior to being launched in now-uninfected waters in the SPRB. It is possible some infected boats will someday be missed. Larval dreissenids are very difficult to detect and can survive anywhere there is water within a boat (e.g., live well, bait box, bilge, undrained engine cooling lines, etc.).

2. Project Purpose and Need

The underlying purpose of this action is to prevent the spread of exotic dreissenids into the SPRB. The proposed action is to implement a coordinated regional effort to enhance inspection, decontamination and related efforts, aiding in preventing potentially infested watercraft and associated equipment from entering waters within the SPRB.

Dreissenids can be transferred between unconnected waterways by trailered boats. Once a waterway is infected, these mussels can reproduce rapidly and spread downstream. The risk of infecting rivers and reservoirs in the SPRB is high, and it is estimated that a dreissenid infestation in the SPRB could incur hundreds of millions of dollars in costs.

3. Project Description

The SPRB States of Colorado, Wyoming, and Nebraska follow similar protocols and standards for watercraft inspections based on *Uniform Minimum Standards and Protocols for Watercraft Inspection and Decontamination Programs for Dreissenid Mussels in the Western United States* (Elwell and Phillips 2016). Watercraft inspection stations are one means to prevent dreissenids and other AIS from spreading. Watercraft inspection stations are strategically located based on several factors (Figure 2): key entry points into states (also referred to as “high-risk gateways” by PNWER and PSMFC [2015]); routes from infected water bodies (e.g., Lake Mead, Lake Powell, and Lake Havasu) to local water bodies; safety of personnel and public; ease of public access; infrastructure availability for setting up facilities (electricity, water, restrooms, etc.); and available space for decontamination, where applicable.

Because key entry points into states and routes between water bodies are a major component of keeping AIS out of the SPRB, the majority of watercraft inspection stations are located along the perimeter of each state, rather than in the central regions of the states. Data collected over several years has indicated that much of the boat traffic in central regions is local, and therefore does not pose as great a threat of AIS contamination. Many stations are established at a determined location for the length of the season, and some states such as Nebraska and Wyoming, also have roving stations assigned to move around certain geographical areas. All watercraft are required to stop at an open inspection station, though a small number do not.

A typical station consists of a shelter/covering, such as a shipping container, a construction trailer, canopy, or tent; a transport vehicle; signage; a pressure washer; outreach materials; and applicable personnel amenities (heaters for cold weather, portable restrooms, etc.). A watercraft inspection typically includes an interview to collect information pertaining to origination, boat usage, cleaning habits, knowledge of AIS, etc.; distribution of information about AIS; and a boat inspection, which could result

in decontamination of the vessel with hot water. Regulations for contaminated or “fouled” boats varies among states. The use of hot water (140°F, 60°C) and drying are highly effective tools to kill dreissenid mussels (Elwell and Phillips 2016).

Based on the screening interview, a watercraft inspector will either inspect the boat, let the boat pass through, perform a hot wash, or perform a full decontamination. Clean water will be hauled to each inspection site in a truck-mounted or trailer-mounted tank. Scientific research on dreissenid mortality indicates that 120°F (49°C) (internal) and 140°F (60°C) (engines/external) is necessary to achieve an effective decontamination (Elwell and Phillips 2016). This temperature is also used for hot washes. Hot water is applied with a high-pressure washer to kill and remove mussels and other AIS. A hot wash is typically performed when a vessel is grimy or contains dead mussels or weeds. It entails spraying hot water all over the surface of the vessel and into the engine to kill anything not seen and takes approximately 20 minutes to complete. A decontamination is performed when live mussels are present. Decontaminations involve the same equipment, but are more detailed, taking hours instead of minutes. Some states perform decontaminations onsite at the inspection station, and other states send the boat to another location, such as shipyard or impound lot.

The temporary establishment of watercraft inspection stations allows them to be easily moved and placed in the most effective locations each year. Each year, the states make a determination on whether a station should be added, relocated, closed, or if hours of operation should be adjusted. The effectiveness of a station is determined by the criteria in the preceding paragraph, as well as the degree of boat traffic and percentage of fouled vessels. A station’s proximity to other stations is another factor that influences its effectiveness because of the importance of maintaining a degree of redundancy in the event boats pass a station without stopping. As stated in the report by PNWER and PSMFC (2015), “It is important to understand that no one station is the key to prevention efforts. There are examples of fouled conveyances passing through stations, or avoiding stations on certain roadways. As a result, a network of perimeter and interior stations, including permanent and roving stations, is integral to preventing a dreissenid introduction.”

Watercraft inspection stations are typically set up in existing paved or gravel areas. Any runoff from cleaning a vessel will either percolate directly into the ground, evaporate, or go into a retention basin where it will percolate into the ground. No new ground disturbance will occur to establish watercraft inspection stations (without first performing an ESA-listed plant evaluation or survey). Also, there will be no possibility of water or debris from a hot wash or other decontamination from entering any waterbody. There are instances where a wash/decontamination will be performed at a watercraft owner’s residence. In such instances, trained staff will evaluate the location, including where any runoff could go. If there is any chance of discharging to an uninfected waterbody, the watercraft will be hauled to an area where no water or debris from the wash/decontamination will be discharged to a waterbody. Wash water will also not be

allowed to flow over land with any type of vegetation (without first performing an ESA-listed plant evaluation or survey).

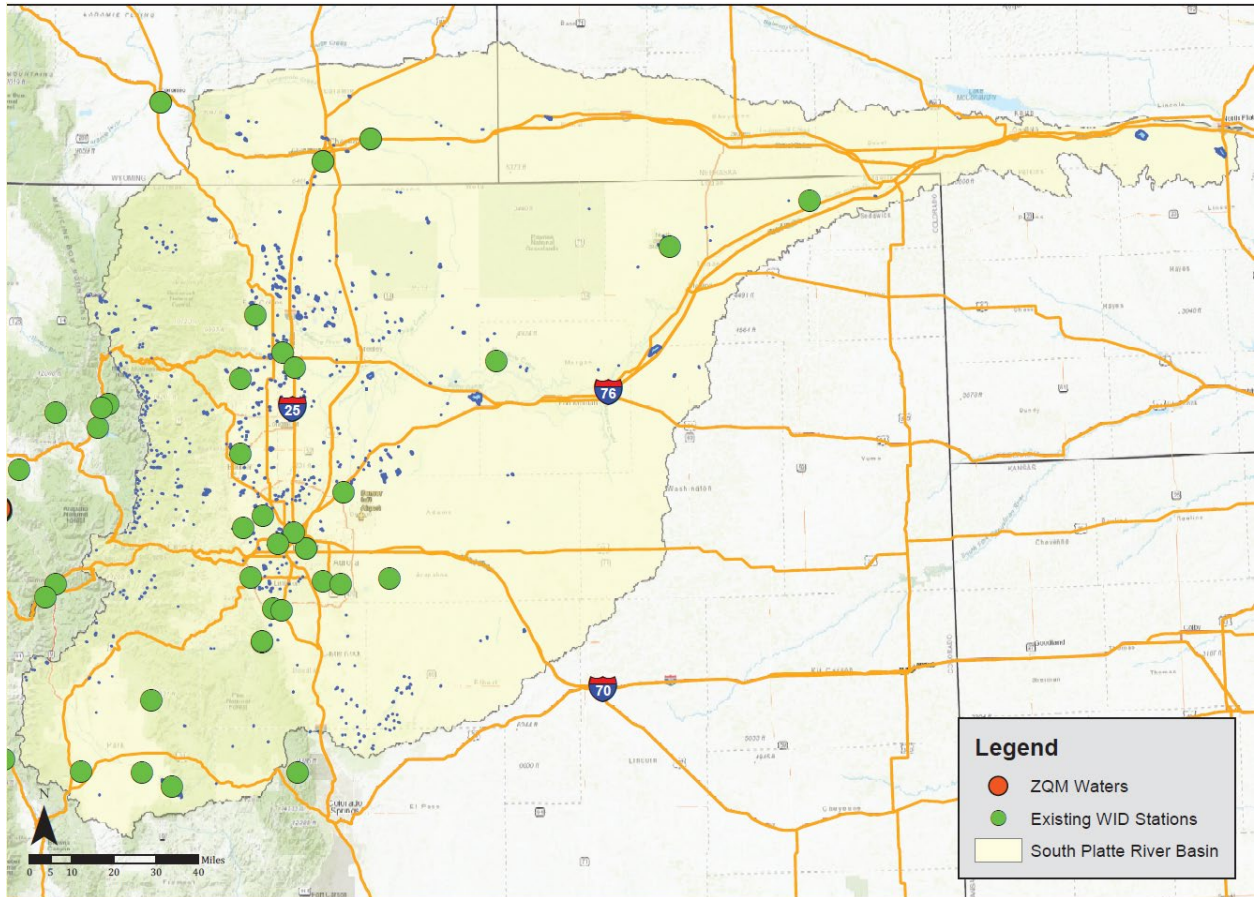


Figure 2. 2019 Watercraft inspection station locations (green circles) and established zebra/quagga mussel populations (red circles) relative to the South Platte River Basin.

4. Work Schedule

All watercraft inspection stations in the three study-area states are temporarily established each year during the recreation season, which typically ranges from sometime in early or late spring to late summer or early fall, depending on the state and specific station. Hours of operation also vary by state and specific station. Operations for most stations begin between 7 a.m. and 10 a.m. and end between 5 p.m. and 7 p.m. (PNWER and PSMFC 2015). Stations are typically operated by two personnel for each shift, with additional personnel for high traffic days, such as on holiday weekends.

In 2015, WDFW implemented several nighttime inspections from 10 p.m. to 6 a.m., through a grant from PSMFC and Bonneville Power Administration. Nighttime checks were conducted in August on six occasions at six locations. During this pilot program 182 boats were inspected. No dreissenids were found during these inspections, though two boats originated from waters infested with dreissenids. A majority of the boats (~70%) were stopped between 3 and 6 a.m. (WDFW and PSMFC 2005). This pilot program proved there can be a significant amount of nighttime watercraft transport.

5. Federal Natural Resource Laws

5.1. Endangered Species Act

Listing and biological information for this evaluation was obtained from Federal Register (FR) notices and various internet sites; mainly <https://www.fws.gov/endangered/>. Some citations in this evaluation were taken directly from the FR notices where complete references were unable to be retrieved in a timely manner. The information presented here is from the best science available at the time of listing, or more recent information. Table 1 summarizes the U.S. Fish and Wildlife Service (USFWS, or Service) Endangered Species Act (ESA)-listed species and the status of their critical habitat. Table 2 lists the National Marine Fisheries Service (NMFS) ESA-listed species.

Only effects from the establishment of watercraft inspection stations are addressed in this evaluation. Effects to an individual species are discussed with the information for each species (e.g. 5.1.14 golden paintbrush). A summary of effects to similar groupings of species (e.g. amphibians, mammals, etc.) are discussed in Section 5.2. Should dreissenids ever become established within the South Platte River Basin, there would likely be significant effects to fish and other aquatic organisms. These potential effects would be complex and far-reaching. They are not addressed in this evaluation.

Table 1. USFWS Threatened and Endangered Species List for Colorado (06E24000-2020-SLI-1991), Western Colorado (06E24000-2020-SLI-0461), Nebraska (06E22000-2020-SLI-0543), and Wyoming (06E13000-2020-SLI-0409).

Section	Common Name	Scientific Name	Status	Critical Habitat?
5.1.1	Black-footed Ferret	<i>Mustela nigripes</i>	non-essential	no
5.1.2	Canada Lynx	<i>Lynx canadensis</i>	threatened	yes
5.1.3	Least Tern	<i>Sterna antillarum</i>	endangered	no
5.1.4	Mexican Spotted Owl	<i>Strix occidentalis lucida</i>	threatened	yes
5.1.5	Piping Plover	<i>Charadrius melodus</i>	threatened	yes
5.1.6	Whooping Crane	<i>Grus americana</i>	endangered	yes
5.1.7	Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	threatened	proposed
5.1.8	Greenback Cutthroat Trout	<i>Oncorhynchus clarkii stomias</i>	threatened	no
5.1.9	Pallid Sturgeon	<i>Scaphirhynchus albus</i>	endangered	no
5.1.10	Uncompahgre Fritillary Butterfly	<i>Boloria acrocynema</i>	endangered	no
5.1.11	Blowout Penstemon	<i>Penstemon haydenii</i>	endangered	no
5.1.12	Penland Alpine Fen Mustard	<i>Eutrema penlandii</i>	threatened	no
5.1.13	Ute Ladies'-tresses	<i>Spiranthes diluvialis</i>	threatened	no
5.1.14	Western Prairie Fringed Orchid	<i>Platanthera praeclara</i>	threatened	no
5.1.15	American Burying Beetle	<i>Nicrophorus Americanus</i>	endangered	no
5.1.16	North Park Phacelia	<i>Phacelia formosula</i>	endangered	no
5.1.17	Pawnee Montane Skipper	<i>Hesperia leonardus montana</i>	threatened	proposed
5.1.18	Preble's Meadow Jumping Mouse	<i>Zapus hudsonius preblei</i>	threatened	yes
5.1.19	Wyoming Toad	<i>Bufo hemiophrys baxteri</i>	endangered	no

5.1.1. Black-footed Ferret (*Mustela nigripes*)

Since March 11, 1967, the black-footed ferret (*Mustela nigripes*) has been listed as endangered across its entire range, with the exception of several reintroduced populations designated as experimental. In November 2008, the USFWS completed a 5-year review of black-footed ferret recovery efforts. This review found that the species remains one of the most endangered mammals in the United States, and continues to warrant endangered status. Despite the radically-altered environment facing reintroduced ferrets today, scientists believe that the recovery of the species is within reach. The black-footed ferret does not occur in the basin. No Black-footed ferret habitat will be altered. The proposed action will have no effect on Black-footed ferret or their habitat.

5.1.2. Canada Lynx (*Lynx canadensis*)

Canada lynx (*Lynx canadensis*) was listed as threatened in 2000. Critical habitat was designated in 2006 and was revised in 2009 and 2014. Lynx can be found in Idaho, Montana, and Washington. The distribution of lynx in North America is closely associated with the distribution of North American boreal forest. In Canada and Alaska, lynx inhabit the classic boreal forest ecosystem known as the taiga. The range of lynx populations extends south from the classic boreal forest zone into the subalpine forest of the western United States, and the boreal/hardwood forest ecotone in the eastern United States. Forests with boreal features extend south into the contiguous United States along the North Cascade and Rocky Mountain Ranges in the west, the western Great Lakes Region, and northern Maine. Within these general forest types, lynx are most likely to persist in areas that receive deep snow and have high-density populations of snowshoe hares, the principal prey of lynx.

The lynx is a medium-sized cat with long legs, large, well-furred paws, long tufts on the ears, and a short, black-tipped tail. The winter pelage of the lynx is dense and has a grizzled appearance with grayish-brown mixed with buff or pale brown fur on the back, and grayish-white or buff-white fur on the belly, legs and feet. Summer pelage of the lynx is more reddish to gray-brown. Adult males average 10 kg (22 lbs.) in weight and 85 cm (33.5 in) in length (head to tail), and females average 8.5 kg (19 lbs.) and 82 cm (32 in). The lynx's long legs and large feet make it highly adapted for hunting in deep snow.

Factors affecting lynx habitat include human alteration of the distribution and abundance, species composition, successional stages, and connectivity of forests, and the resulting changes in the forest's capacity to sustain lynx populations. Forest fragmentation may eventually become severe enough to isolate habitat into small patches, thereby reducing the viability of wildlife that are dependent on larger areas of forest habitat (Litvaitis and Harrison 1989). Lynx are relatively rare in the contiguous United States because of habitats that are inherently unable to support cyclic, high-

density snowshoe hare populations and are thus unable to sustain cyclic, high-density lynx populations.

All watercraft inspection sites are along existing roadways. Many of these roadways are heavily travelled, though some remote sites are only minimally traveled. Lynx are likely to avoid areas with highways and where humans are active, especially during daylight when most of the check stations operate. No lynx habitat will be altered. The proposed action will have no effect on Canada lynx or their designated critical habitat.

5.1.3. Least Tern (*Sterna antillarum*)

The Interior Least Tern (*Sternula antillarum*) is the smallest of the terns found in North America. Meriwether Lewis and William Clark recorded their first observation of an Interior Least Tern on August 5, 1804 along the Missouri River, near present day Omaha, Nebraska while on their 1803—1805 “Voyage of Discovery” across North America (2013 Tern and Plover Conservation Partnership Annual Report). Historically, terns nested on sparsely-vegetated sandbars along major rivers in the Central United States. Much of their natural habitat has been lost because of broad-scale changes to our natural river systems that include invasive plants, dams and reservoirs, river channelization, bank stabilization, hydropower generation, and water diversion.

The Interior Least Tern does not occur in the basin, and no habitat will be altered. The proposed action will have no effect on Interior Least Tern or their habitat.

5.1.4. Mexican Spotted Owl (*Strix occidentalis lucida*)

The Mexican Spotted Owl (*Strix occidentalis lucida*; spotted owl) is a medium-sized owl with large dark eyes and no ear tufts. Plumage is brown with numerous white spots and posterior underparts have short, horizontal bars or spots. Length is about 0.4 m (17 in) and wingspan is 1.0 m (3.3 ft).

Spotted Owls occur in varied habitat, consisting of mature montane forest and woodland, shady wooded canyons, and steep canyons. In forested habitat, uneven-aged stands with a high canopy closure, high tree density, and a sloped terrain appear to be key habitat components. They can also be found in mixed conifer and pine-oak vegetation types. Generally, they nest in older forests of mixed conifer or ponderosa pine/ Gambel oak. Nests are found in live trees in natural platforms (e.g., dwarf mistletoe brooms), snags, and on canyon walls. Elevation ranges from 1,249 to 2,743 m (4,100 to 9,000 ft). The primary threat is believed to be destruction and modification of nesting habitat from unnatural fuel loadings and the resultant threat of high-severity, stand replacing wildfire.

Current range is the Colorado Plateau and southern Rocky mountains in Colorado, Utah, Arizona, New Mexico, and far western Texas, south through the Sierra Madre Occidental and Oriental to the southern end of the Mexican Plateau. The majority of the

owls are found on National Forests, National Park Service, and Bureau of Land Management lands.

Habitats along highways lack the structural, vegetational, and prey base characteristics of Mexican Spotted Owl habitat. No trees will be impacted by the proposed action.

Watercraft inspections will occur along existing highways or otherwise developed areas. No spotted owl habitat will be altered. The proposed action will have no effect on Mexican Spotted Owl or their designated critical habitat.

5.1.5. Piping Plover (*Charadrius melodus*)

The Northern Great Plains population of Piping Plover (*Charadrius melodus*) is one of three that comprise the species range across North America. Piping plovers breed and raise young mainly on sparsely vegetated beaches, cobble pans, and sand spits of glacially formed sand dune ecosystems. On the wintering grounds, piping plovers forage and roost along barrier and mainland beaches, sand, mud, and algal flats, washover passes, salt marshes, and coastal lagoons. Threats to populations and habitat are similar on the breeding and wintering ranges. Habitat destruction and degradation are pervasive and have reduced physically suitable habitat. Human disturbance and predators further reduce breeding and wintering habitat quality and affect survival.

Watercraft inspections will occur along existing highways or otherwise developed areas. No Piping Plover habitat will be altered. The proposed action will have no effect on Piping Plover or their designated critical habitat.

5.1.6. Whooping Crane (*Grus americana*)

Whooping crane was listed as endangered in 1970. Critical habitat has been designated. Within the states included in this action, this large bird can be found in Montana. The whooping crane is a bi-annual migrant, traveling between its summer habitat in central Canada, and its wintering grounds on the Texas coast, across the Great Plains of the U.S. in the spring and fall of each year. The migratory corridor runs in an approximately straight line from the Canadian Prairie Provinces of Alberta and Saskatchewan through the Great Plains states of eastern Montana, North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, and Texas. The complete corridor is approximately 3,862 km (2,400 miles) long by 354 km (220 miles) wide, a zone that encompasses 95% of known sightings of whooping cranes. Autumn migration normally begins in mid-September, with most birds arriving on the Texas wintering grounds between late October and mid-November.

The whooping crane is the largest wading bird in North America, standing 1.5 m (4-5 feet) tall. Its wingspan is 2.3 m (7.5 feet). The adult has a snow white body with contrasting black legs, black wing tips and black markings below the eyes. The top and sides of the adult's head lack feathers and are bright red. Immature birds have a white underside, white secondary feathers and black wingtips. These cranes will occasionally

extend their huge wings and jump a few feet into the air. It has a vibrant trumpet-like call from which it gets its name.

Historic habitat loss and hunting drastically reduced the whooping crane population. Before human interference, there were believed to be 15,000-20,000 whooping cranes, which fell to about 1,400 in 1860 and then plummeted to an all-time low of 15 birds in 1941. Whooping cranes are now generally safe from hunting and egg collection, which hastened their decline. However, their biggest threat, loss of wetlands, persists. Though the areas that the birds frequent are protected, they are isolated and make the entire population vulnerable to any disastrous ecological event or change. With assistance, the whooping crane population is slowly rebounding.

Whooping cranes prefer wetlands and do not use habitat along highways where watercraft inspection stations are or will be established. The proposed action will have no effect on whooping cranes or their designated critical habitat.

5.1.7. Yellow-billed Cuckoo (*Coccyzus americanus*)

Western Yellow-billed Cuckoo was listed as threatened in 2014. Critical habitat was also proposed in 2014. Oregon and Washington are not included in the proposal. This bird is listed within all four states in the project area. Yellow-billed cuckoos use wooded habitat with dense cover and water nearby, including woodlands with low, scrubby, vegetation, overgrown orchards, abandoned farmland, and dense thickets along streams and marshes. In the Midwest, cuckoos prefer shrublands of mixed willow and dogwood, and dense stands of small trees such as American elm. In the central and eastern U.S., Yellow-billed Cuckoos nest in oaks, beech, hawthorn, and ash. In the West, nests are often placed in willows along streams and rivers, with nearby cottonwoods serving as foraging sites.

Yellow-billed Cuckoos are fairly large, long, and slim birds. The mostly yellow bill is almost as long as the head, thick, and slightly down curved. They have a flat head, thin body, and very long tail. Wings appear pointed and swept back in flight. Yellow-billed cuckoos are warm brown above and clean whitish below. Their blackish face mask is accompanied by a yellow eye ring. In flight, the outer part of the wings flash rufous. From below, the tail has wide white bands and narrower black ones.

Caterpillars top the list of yellow-billed cuckoo prey: individual cuckoos eat thousands of caterpillars per season. On the East coast, periodic outbreaks of tent caterpillars draw cuckoos to eat as many as 100 caterpillars in one sitting. Fall webworms and the larvae of gypsy, brown-tailed, and white-marked tussock moths are also part of the cuckoos lepidopteran diet, often supplemented with beetles, ants, and spiders. They take advantage of the annual outbreaks of cicadas, katydids and crickets, and will hop to the ground to chase frogs and lizards. In summer and fall, cuckoos forage on small wild fruits, including elderberries, blackberries, and wild grapes. In winter, fruit and seeds become a larger part of their diet.

In the West, much of the yellow-billed cuckoos riparian habitat has been converted to farmland and housing, leading to population declines and the possible extirpation of cuckoos from British Columbia, Washington, Oregon, and Nevada.

No trees or suitable Yellow-billed Cuckoo habitat will be affected by the proposed establishment of watercraft inspection stations. Birds will easily avoid the inspection sites. The proposed action will have no effect on yellow-billed cuckoo or their proposed critical habitat.

5.1.8. Greenback Cutthroat Trout (*Oncorhynchus clarkii stomias*)

The Greenback Cutthroat Trout, (*Oncorhynchus clarki stomias*), is a rare subspecies of cutthroat trout. Only two small historic populations of greenback cutthroat trout were initially known to exist - Como Creek and South Fork, Cache La Poudre River. These two small headwater streams of the South Platte River drainage collectively represented 4.6 kilometers of stream habitat and supported less than 2,000 greenbacks. Since then, seven additional historic populations have been identified, five populations in the South Platte River drainage and two populations in the Arkansas River drainage.

The Greenback Cutthroat Trout currently occurs in 61 sites that total 166 hectares of lakes and 165 kilometers of stream habitat in the upper tributaries of the South Platte and Arkansas River drainages. Nine "historic" populations remain that have been identified through recovery efforts conducted since 1973. Pure greenbacks have been introduced into 52 additional streams and lakes within the species historic range. The extant populations in the Arkansas River drainage are believed to be stable and self-sustaining.

Watercraft inspections will occur along existing highways or otherwise developed areas. No Greenback Cutthroat Trout habitat will be altered. The proposed action will have no effect on Greenback Cutthroat Trout or their habitat.

5.1.9. Pallid Sturgeon (*Scaphirhynchus albus*)

The Pallid Sturgeon (*Scaphirhynchus albus*) is native to the Missouri and Mississippi Rivers and, therefore, adapted to the pre-development habitat conditions that existed in these large rivers. These conditions generally can be described as large, free flowing, warmwater, turbid habitat with a diverse assemblage of physical habitats that were in a constant state of change. Modification of the pallid sturgeon's habitat by human activities has blocked fish movement, destroyed or altered spawning areas, reduced food sources or ability to obtain food, altered water temperatures, reduced turbidity, and changed the hydrograph of the river system. Overfishing, pollution, and hybridization that occurs due to habitat alterations also have probably contributed to the species' population decline.

The Pallid Sturgeon does not occur in the Upper Colorado Basin. The proposed action will have no effect on Pallid Sturgeon or their designated critical habitat.

5.1.10. Uncompahgre Fritillary Butterfly (*Boloria acrocne*)

The Uncompahgre fritillary butterfly (*Boloria acrocne*) was discovered on Mount Uncompahgre in Colorado in 1978. The Uncompahgre fritillary butterfly is a small butterfly with a 2 – 3 centimeter (1 inch) wingspan. Males have rusty brown wings criss-crossed with black bars; females' wing are somewhat lighter. Underneath, the forewing is light ochre and the hind wing has a bold, white jagged bar dividing the crimson brown inner half from the purple-grey scaling on the outerwing surface. The body has rusty brown thorax and a brownish black abdomen.

The Uncompahgre fritillary butterfly has one of the smallest ranges of North American butterflies. Its habitat is limited to 11 verified sites in the San Juan Mountains. All known populations are associated with large patches of snow willow (*Salix nivalis*) above 3,658 meters (12,000 feet), which provide food and cover. The species is found primarily on northeast-facing slopes, which are the coolest and wettest microhabitat available in the San Juan Mountains. Females lay their eggs on snow willow, which is also the larval food plant, while adults take nectar from a wide range of flowering alpine plants.

At the time of listing, threats to the species include, collection, trampling by humans or livestock, small population size, low genetic variability, lack of protective regulations, and adverse climate conditions. The Service was petitioned to list the species in 1979. Subsequently, the Service included the Uncompahgre fritillary butterfly in a notice of petition findings in 1984 (49 FR 2485), which stated that listing butterfly was warranted but precluded. The butterfly was then listed as endangered in 1991 (56 FR 28712), because of its small geographic range and the declining population. The recovery plan was published in 1994.

Watercraft inspections will occur along existing highways or otherwise developed areas. No Uncompahgre fritillary butterfly habitat will be altered. The proposed action will have no effect on Uncompahgre fritillary butterfly or their habitat.

5.1.11. Blowout Penstemon (*Penstemon haydenii*)

Species information: Blowout penstemon (*Penstemon haydenii*) is a perennial herb, typically 12 inches or less in height, with 6-10 groups of milky-blue to pale lavender flowers. The plant's current known range in Wyoming consists of the Ferris Dunes area in northwest Carbon County, where the plant is restricted to two habitat types: steep, northwest facing slopes of active sand dunes with less than 5 percent vegetative cover; and north-facing sandy slopes on the lee side of active blowouts with 25-40 percent vegetative cover. Known populations in Wyoming are found between 6,680-7,440 feet. Systematic surveys are recommended in areas with sand blowout features at lower elevations (below 6,700 feet).

Blowouts are formed as strong winds deposit sands from the windward side of a dune to the leeward side and create a sparsely vegetated crater-like depression. Threats to blowout penstemon occur when sand dunes are removed or disturbed by vehicles. Surveys should be conducted from mid-June to early-July when flowering occurs. Surveys should be conducted by knowledgeable botanists trained in conducting rare plant surveys. The Service does not maintain a list of "qualified" surveyors, but we can refer those wishing to become familiar with blowout penstemon to experts who can provide training/services.

Watercraft inspections will occur along existing highways or otherwise developed areas. No Blowout penstemon habitat will be altered. The proposed action will have no effect on Blowout penstemon or their habitat.

5.1.12. Penland Alpine Fen Mustard (*Eutrema penlandii*)

The Penland Alpine Fen Mustard (*Eutrema penlandii*, Fen Mustard) occurs in alpine meadows at elevations above 11,800 feet in the Mosquito Range of the Rocky Mountains in central Colorado. Plants are most often found along east facing, gentle slopes and basins that are fed moisture by slow-melting snowfields above. They are often rooted in tufts of mosses or hidden among short-bladed grasses.

Fen Mustard is threatened by activities that damage its sensitive habitat or alter local hydrology. Recreation activities such as off-road vehicle use (including winter travel), camping, hiking, and roads pose a great threat to Fen Mustard and its habitat. Land development, including mining, also have an impact on the species. In addition, the effects of climate change are likely to endanger the survival of Fen Mustard, as well as many other plant and animal species adapted to alpine ecosystems.

The Penland Alpine Fen Mustard occurs at high elevation. Watercraft inspections will occur along existing highways or otherwise developed areas. No Penland Alpine Fen Mustard habitat will be altered. The proposed action will have no effect on Penland Alpine Fen Mustard or their habitat.

5.1.13. Ute Ladies'-tresses (*Spiranthes diluvialis*)

Ute ladies'-tresses was listed as threatened in 1992. Critical habitat has not been designated. This flowering plant can be found in Idaho and Washington. The species occurs primarily in riparian areas where the vegetation is relatively open and not overly dense, overgrown, or overgrazed (Coyner 1989; Jennings 1989).

Ute ladies'-tresses is a perennial herb with erect, glandular-pubescent stems 12-60 cm tall arising from tuberous-thickened roots. Basal leaves are narrowly linear, up to 1 cm wide and 28 cm long, and persist at the time of flowering. Leaves become progressively smaller up the stem and are alternate. The inflorescence is a sparsely pubescent 3-15 cm long spike of numerous small white or ivory-colored flowers arranged in a gradual spiral. Individual flowers are 7.5-15 mm long and faintly fragrant

(with a vanilla-like scent). The lip petal is oval to lance-shaped, narrowed at the middle, and has crispy-wavy margins. Sepals are separate or fused only at the base (not fused into a hood-like structure) and are often spreading at their tips. Fruits are cylindrical capsules with numerous seeds. *Spiranthes diluvialis* has been adversely affected by modification of its riparian habitat. It may also be threatened by livestock grazing.

Watercraft inspection stations will be located in existing developed areas, not near riparian habitat. The proposed action will not affect any riparian habitat where this plant could be located. This action will have no effect on Ute ladies'-tresses.

5.1.14. Western Prairie Fringed Orchid (*Platanthera praeclara*)

The western prairie fringed orchid occurs in moist tallgrass prairies and sedge meadows. It is commonly found with sedges, reedgrass, and rushes or where those plants meet big bluestem, little bluestem, and switchgrass. The western prairie fringed orchid is well adapted to survive fires. Light grazing does not appear to negatively affect the western prairie fringed orchid, although researchers are still studying the relationship.

Vegetative shoots of the western prairie fringed orchid emerge in late May. Flowers do not emerge until mid-June to late July. The entire plant can display flowers for about 21 days, with individual flowers lasting up to 10 days. Flowers must be pollinated for seed production. Pollination of the western prairie fringed orchid appears to be accomplished only by hawkmoths. The western prairie fringed orchid is a perennial and the microscopic seeds are dispersed by wind and flooding in early fall.

The western prairie fringed orchid is distinguished by large, white flowers that come from a single stem. Up to 20 flowers may occur on a single plant. The flower is fringed on the margins, giving it a feathery appearance. The western prairie fringed orchid grows up to 3 feet high. The 2 to 5 leaves are narrow and hug the stem. The Western prairie fringed orchid does not occur in the Upper Colorado Basin.

Watercraft inspections will occur along existing highways or otherwise developed areas. No Western prairie fringed orchid habitat will be altered. The proposed action will have no effect on Western prairie fringed orchid or their designated critical habitat.

5.1.15. American Burying Beetle (*Nicrophorus americanus*)

The American burying beetle is an important component of the decomposing loop of ecosystems. Predators and scavengers such as American crow, raccoon, fox, opossum and skunk compete with this species for carrion. The American burying beetle is considered a generalist in terms of the vegetation types where it is found. Vegetation communities in which *N. americanus* occurs range from large grasslands to open understory oak hickory forests. Habitats vary from deciduous oak-hickory and coniferous forests atop ridges or hillsides to deciduous riparian corridors and pasturelands on valley floors. Soils characteristics that support burying carrion are important for the species. *N. americanus* seek moist soils where individual survival is influenced by air and soil temperature, moisture, or a combination of the two. The

species is recorded from grassland, old field shrubland, and hardwood forests, and reproduction occurs from late April through mid-August.

The American burying beetle is historically widespread (approximately 3 million square kilometers) in the Eastern US and three provinces in southeastern Canada, but now confined to the western edge of its former range from Nebraska to northeastern Texas and three localities in Massachusetts and Rhode Island (GBIF 2019, Szalanski et al. 2000). Total current range extent is approximately 1.5 million square kilometers, although the range extent of the eastern and western populations only, excluding the disjunction, is approximately 10% of this (GBIF 2019). Surveys in at least eight states included in its historical range have failed to discover remnant populations.

Watercraft inspections will occur along existing highways or otherwise developed areas. No American Burying Beetle habitat will be altered. The proposed action will have no effect on American Burying Beetle or their habitat.

5.1.16. North Park Phacelia (*Phacelia formosula*)

North park phacelia is a non-woody (herbaceous) plant species in the borage family. It grows on average 6 to 12 inches tall and its bright purple flowers are arranged in coils at the ends of stems. Leaves are dark green, deeply lobed, and covered with short, coarse stiff hairs. You can find North Park phacelia blooming in July and August. However, the species is a biennial surviving for one year as a rosette of leaves before flowering and dying the following year. North Park phacelia was first collected in 1918 by George Osterhout, a famed botanist from Colorado. North park phacelia is found only in North Park of northern Colorado's Jackson County.

The North Park Phacelia is limited to eroded soil outcrops composed of barren exposures of the Coalmont Formation, a coal-bearing substrate. The species is found at about 8,000 to 8,300 feet in elevation. Roughly 16,000 individuals are known from six separate populations and the entire species is known only to an area measuring roughly 10 miles in either direction (north to south, east to west). The primary threats to North Park phacelia are concentrated livestock use (trampling), off-highway vehicle recreation, land use changes including energy development, commercial and residential development, and range improvements. Because of its extremely limited distribution, the species is vulnerable to habitat modification and changes in the environment. North Park phacelia also relies on insect pollinators to maintain genetic diversity. The loss of pollinators and pollinator habitat is considered a threat to the species.

Watercraft inspections will occur along existing highways or otherwise developed areas. No North park phacelia habitat will be altered. The proposed action will have no effect on North park phacelia or their habitat.

5.1.17. Pawnee Montane Skipper (*Hesperia leonardus montana*)

The Pawnee Montane Skipper is a member of the Hesperidae butterfly family, and was first described in 1911 as *Pamphila* (*Hesperia*) *pawnee montana*. In 1982, two species (*Hesperia pawnee* and *Hesperia leonardus*) were combined, retaining the specific name *leonardus*, and treating the Pawnee montane skipper as *Hesperia leonardus montana*. The subspecies occurs only in the South Platte Canyon River drainage system in Colorado, in portions of Jefferson, Douglas, Teller, and Park Counties. The Pawnee montane skipper is a small, brownish-yellow butterfly with a wing span slightly over 1 inch. Small, fulvous (dull brownish-yellow), usually distinct spots occur near the outer margins of the upper surface of the wings, while one to four distinct brownish to off-white spots occur on the lower (ventral) surface of the wings. The ventral spots are larger on the hind wing and are generally whiter on the female butterfly.

Skippers occur in dry, open, ponderosa pine woodlands on moderately steep slopes with soils derived from Pikes Peak granite. The understory is very sparse in the pine woodlands. Blue grama grass, the larval food plant, and prairie gayfeather, the primary nectar plant, are two necessary components of the groundcover strata. Small clumps of blue grama occur throughout the hot, open slopes inhabited by skippers. Prairie gayfeather occurs throughout the ponderosa pine woodlands. Skippers are very uncommon in pine woodlands with a tall shrub understory or where young conifers dominate the understory. A quantitative estimate of optimum skipper habitat characteristics includes: tree canopy cover of 30 percent with ponderosa pine cover of 25 percent and Douglas-fir of 5 percent; tree density of less than 120 trees/acre in the smallest size class (0-5 inches diameter breast high) and overall tree density of less than 200 trees/acre; shrub and grass cover generally less than 10 percent; prairie gayfeather flowering stem density ranging from 50 to 500 flowering stems/acre; and blue grama canopy cover of 1 to 5 percent. The limiting habitat endpoints for the skipper seem to be treeless areas of 5 acres or more at one extreme to woodlands with understory shrub cover of 25 percent or more at the other extreme. The skipper is largely absent from steep, north-facing Douglas-fir stands where neither prairie gayfeather nor blue grama are plentiful. Prairie gayfeather seems to require openings from single event disturbance such as logging or fire-created habitat, but does not tolerate continuous disturbance. However, it appears that the skipper does not colonize such areas for at least several years after disturbance and regeneration.

Watercraft inspections will occur along existing highways or otherwise developed areas. No Pawnee Montane Skipper habitat will be altered. The proposed action will have no effect on Pawnee Montane Skipper or their proposed critical habitat.

5.1.18. Preble's Meadow Jumping Mouse (*Zapus hudsonius preblei*)

The Preble's meadow jumping mouse (Preble's or PMJM) is a small mammal approximately 9 inches in length with large hind feet adapted for jumping, a long

bicolored tail (which accounts for 60% of its length), and a distinct dark stripe down the middle of its back which is bordered on either side by gray to orange-brown fur. To evade predators, the mouse can jump up to three feet.

Preble's meadow jumping mouse inhabits well developed riparian habitat with adjacent, relatively undisturbed grassland communities, and a nearby water source. Well developed riparian habitat includes a dense combination of grasses, forbs and shrubs; a taller shrub and tree canopy may be present. PMJM has been found to regularly use uplands at least as far out as 100 meters beyond the 100-year flood plain. The PMJM constructs day nests composed of grasses, forbs, sedges, rushes, and other available plant material. They may be globular in shape or simply raised mats of litter and are most commonly above ground but also can be below ground. Nests are typically found under debris at the base of shrubs and trees or in open grasslands. An individual mouse can have multiple day nests in both riparian and grassland communities and may abandon a nest after approximately a week of use. Hibernation nests occur underground both within and outside of the 100-year floodplain. Hibernacula have been located under willow, chokecherry, snowberry, skunkbrush, sumac, clematis, cottonwoods, Gamble's oak, thistle, and alyssum. PMJM typically enter hibernation nests between September and October and emerge the following May.

Watercraft inspections will occur along existing highways or otherwise developed areas. No Preble's meadow jumping mouse habitat will be altered. The proposed action will have no effect on Preble's meadow jumping mouse or their designated critical habitat.

5.1.19. Wyoming Toad (*Bufo hemiophrys baxteri*)

The Wyoming toad is two inches long at its full size. The body is covered with warts and its head has a humped ridge, giving the toad a lumpy appearance. The skin coloration comprises various shades of brown providing camouflage for blending in to its surroundings and escaping predators. Little is known about the habitat of Wyoming toad. Historically it was associated with floodplain ponds along the Big and Little Laramie Rivers. Its use of lakes there may have been limited due to saline conditions; irrigation may have flushed out the lakes and made them more suitable for toads. Currently occurs in the vicinity of lakes and adjacent meadows, and may use rodent burrows for shelter.

Watercraft inspections will occur along existing highways or otherwise developed areas. No Wyoming toad habitat will be altered. The proposed action will have no effect on Wyoming toad or their habitat.

5.2 Summary of Effects to ESA-listed Species

5.2.1. Mammals

There are three mammals in this evaluation. All watercraft inspection sites will be sited in previously disturbed areas that are heavily frequented by humans. Wild mammals would avoid these areas. If there is any ground disturbance associated with the establishment of watercraft inspection stations, surveys for small mammals may need to be conducted and the mammals avoided. The small mammal and its states are listed in Table 3.

5.2.2. Birds

There are five birds in this evaluation. No vegetation which could provide nesting, feeding, or resting habitat will be disturbed by any action associated with the proposed project. If a watercraft inspection station is planned to be developed or modified with ground-disturbing activities, surveys for these species will be conducted by a trained state biologist (Table 3). If any individuals are located, no ground-disturbing actions will occur at the site. ESA-listed birds will not be affected in any way by the proposed action. There will be no effect on ESA-listed birds.

5.2.3. Reptiles

There are no reptiles in this evaluation, and there will be no impact to ponds, streams, or other reptile habitat from any part of the proposed action.

5.2.4. Amphibians

There is one amphibian in this evaluation (Wyoming toad). There will be no impact to pond shoreline or meadow habitat from any part of the proposed action. There will be no effect on Wyoming toad or their habitat.

5.2.5. Fish

There are two fish in this evaluation. There will be no impact on any waterways from establishment or operation of watercraft inspection stations. There will be no discharge of wash water into any waterbody. All wash water from cleaning/decontaminating watercraft will evaporate, percolate into the ground, or be transferred to a location away from any waterbody. There will be no effect to any ESA-listed fish from the proposed action.

5.2.6. Insects

There are three insects in this evaluation. Inspection stations will be operated in developed areas frequented by human and subject frequent previous disturbance. The proposed action will have no effect on these insects or their habitat.

5.2.7. Plants

There are five plant species in this evaluation. Several ESA-listed plants may be found along roadways. These plants are listed in Table 3 with the states they occur in. The measures presented in section 10 of this evaluation will be followed so there will be no effect on any ESA-listed plant species.

Table 3. ESA-listed species potentially requiring site specific survey for any projects with ground disturbing or vegetation disturbing activities.

Additional Survey/Habitat Assessment Required for Ground Disturbance	
Location	Species
Northern Colorado	North Park Phacelia
Colorado	Mexican Spotted Owl
Colorado	Yellow-billed Cuckoo
Colorado, Wyoming	Preble's Meadow Jumping Mouse
Southern Wyoming	Wyoming Toad
Colorado, Wyoming, Nebraska	Ute Ladies'-tresses

6. Magnuson-Stevens Fishery Conservation and Management Act

The consultation requirement of section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) directs Federal agencies to consult with NMFS on all actions, or proposed actions that may adversely affect Essential Fish Habitat (EFH). Adverse effects include the direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce the quality or quantity of EFH. Adverse effects to EFH may result from actions occurring within EFH or outside EFH, and may include site-specific or EFH-wide impacts, including individual, cumulative, or synergistic consequences of actions (50 CFR 600.810). Section 305(b) also requires NMFS to recommend measures that may be taken by the action agency to conserve EFH.

There will be no impacts to any waterbody from the proposed action. Therefore, there will be no adverse effect to EFH and no further consultation is required.

7. Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (FWCA) authorizes the USFWS to evaluate the impacts to fish and wildlife species from proposed Federal water resource development projects that could result in the control or modification of a natural stream or body of water that might have effects on the fish and wildlife resources that depend on that body of water or its associated habitats.

There will be no impacts to any waterbody from the proposed action. Therefore, this act does not apply to the proposed action.

8. Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 U.S.C. §§ 703-712, as amended) prohibits the taking of and commerce in migratory birds (live or dead), any parts of migratory birds, their feathers, or nests. Take is defined in the MBTA to include by any means or in any manner, any attempt at hunting, pursuing, wounding, killing, possessing or transporting any migratory bird, nest, egg, or part thereof.

Watercraft inspection station sites will be assessed/surveyed to determine presence/absence of suitable habitat/location of ground nesting or shrub nesting birds. No trees, shrubs, or other bird habitat is proposed to be cut or damaged by the establishment of watercraft inspection stations. Birds will not be affected. There will be no take of migratory birds.

9. Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA) prohibits the taking or possession of and commerce in bald and golden eagles, with limited exceptions, primarily for Native American Tribes. Take under the BGEPA includes both direct taking of individuals and take due to disturbance. Disturbance is further defined on 50 CFR 22.3.

Watercraft inspection stations are located along existing highways or at launching sites. If eagles are located near an inspection station, they would be accustomed to vehicle traffic on the adjacent roadways. The National Bald Eagle Management Guidelines (USFWS 2007) will be followed if an inspection station is located within 330 feet of an eagle nest. The proposed action will not disturb or take any bald or golden eagles.

10. Required Stipulations

Most ESA-listed species are not located in close proximity to watercraft inspection stations or other sites where hot washes could be conducted. There will be no effect on any of these species. Some plant or small mammal species could be located along roadways in some counties or locals where watercraft inspection stations could be established. The following stipulations will be followed to eliminate any impacts to ESA-listed and other protected species.

1. No new ground disturbance will occur to establish watercraft inspection stations without performing a survey of the area for ESA-listed species or migratory bird nests if they might be present in the area (see Table 3).
2. Water or debris from a hot wash or other decontamination will be prevented from entering any waterbody.

3. Wash water will not be allowed to flow over land covered by any type of vegetation without performing a survey of the area for ESA-listed plants in specific areas (see Table 3).
4. Any runoff from washing/decontaminating a vessel will either evaporate, percolate directly into the ground, be collected in a retention basin with no possibility of reaching waterbodies or wetlands, or be transferred to a location away from any waterbody.
5. There could be instances where a wash/decontamination will be performed at a watercraft owner's residence. In such instances, trained staff will evaluate the location, including where any runoff could go. If there is any chance of discharging to an uninfected waterbody, the watercraft will be hauled to an area where no water or debris from the wash/decontamination will be discharged to a waterbody.
6. There will be no wetland disturbances or other negative effects to wetlands.
7. Watercraft inspection station sites will be assessed/surveyed to determine presence/absence of suitable habitat/location of ground nesting or shrub nesting birds. No trees, shrubs, or other bird habitat is proposed to be cut or damaged by the establishment of watercraft inspection stations.

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