

Trumpeter Swan

Cygnus buccinator

Class: Aves
Order: Anseriformes
Family: Anatidae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: No status

Region 4: Sensitive

BLM: Type 2

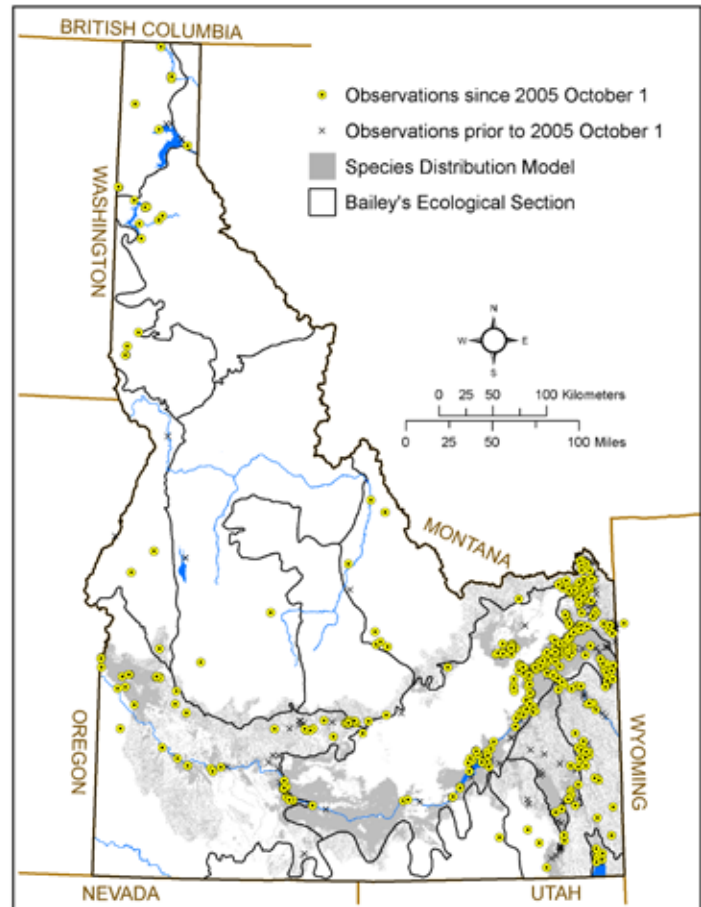
IDAPA: Migratory Game Birds

G-rank: G4

S-rank: S1B, S4N

SGCN TIER: 2

Rationale: Population declines, low breeding population size, multiple threats, nearly half of the Rocky Mountain Population (RMP) winters in Idaho



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 118,900 km² (~45,900 mi²)

Key Ecological Sections: Bear Lake, Overthrust Mountains, Snake River Basalts, Yellowstone Highlands

Population Size in Idaho: 100 in breeding season; 3,000-5,000 overwintering

Description: Trumpeter Swans are native only to North America and breed from western Canada southward to Nevada and Wyoming. Over the last 10 years about 100 adult birds occur regularly in east Idaho during the breeding season, but only about 15-25 pairs nest annually. Swans in east Idaho are part of the Greater Yellowstone breeding flock and currently nest at Market Lake and Sand Creek WMAs, Grays Lake and Bear Lake NWRs, and the Fort Hall Bottoms. The population swells to 3,000-5,000 birds during the winter months after birds arrive from their Canadian breeding grounds. The largest concentrations of wintering birds are found on the Henrys and South Forks of the Snake River, the Teton River, and American Falls Reservoir.

HABITAT & ECOLOGY

Environmental Specificity: Moderate: Generalist—some key requirements are scarce

Description: Trumpeter Swans nest on lakes and wetlands with slow, shallow water. They are primarily herbivores and consume both submerged and emergent vegetation, although aquatic invertebrates are important to cygnets. Swans nest on islands, muskrat and beaver houses, or exposed hummocks. The nest itself is a mound of emergent vegetation that can reach 3-4 m (9-12 ft) in diameter. Average clutch size varies from 3-6 eggs. Cygnet survival is low throughout the Greater Yellowstone breeding area. Many wintering swans have adapted to field feeding; grain,

potatoes, and corn can be a significant source of forage in some years. Crucial winter habitats are riverine systems that remain ice free and provide adequate forage.

POPULATION TREND

Short-term Trend: Relatively Stable (<=10% change)

Long-term Trend: Relatively Stable (<=10% change)

Description: Although no historical abundance estimates are available, the continental population that once ranged from the Atlantic to the Pacific was reduced to near extinction by 1900, remaining only in small flocks in Alaska and the Rocky Mountains. The population has significantly increased in response to hunting restrictions and conservation efforts. Since the 1960s, there has been no measurable increase in breeding bird abundance. Productivity has remained stable, but variable since the 1990s; about 15-40 young fledge annually. The mid-winter population has steadily increased since the 1990s, primarily from production in Canada.

THREATS

Overall Threat Impact: Medium

Intrinsic Vulnerability: Moderately vulnerable

Description: The primary threat to Trumpeter Swan populations is the loss and/or degradation of wetland habitat due to residential and agricultural development. Disturbance from fishing, hiking, and off road vehicles indirectly impacts swan productivity. Drought can decrease productivity and the suitability of wintering habitat. Power lines over nesting and wintering habitat kills an unknown number of swans each year. To date, the incidence of lead poisoning in Idaho has been low, but Trumpeter Swans are susceptible as they forage for tubers in sediment layers and ingest lead shot and fishing tackle. Poaching is also a concern in most wintering areas. Large concentrations of birds that winter in relatively small areas are vulnerable to local habitat changes and stochastic events such as severe winter weather.

CONSERVATION ACTIONS

Conservation actions are described in the appropriate section plans. Recommended actions include maintaining or improving suitable habitat at breeding sites on both public and private lands (through incentives and assistance programs), reducing disturbance at breeding sites, maintaining suitable roost and feeding sites at wintering locations, installing bird diverters on power lines to limit collisions, and examining broad-scale landscape stressors (e.g., drought and anthropogenic changes) that influence rangewide demographic patterns in the RMP. In addition, work with stakeholders to address concerns on the Henrys Fork related to the winter concentration of swans and other waterfowl using aquatic vegetation, particularly submerged macrophytes (i.e., fish habitat), during the winter.

ADDITIONAL COMMENTS

Concentrations of wintering swans provide watchable wildlife opportunities to Idaho citizens.

Information Sources: Banko, WE. 1960. The trumpeter swan: Its history, habits, and population in the United States. North American Fauna, No. 63. Washington (DC): US Fish and Wildlife Service; US Fish and Wildlife Service. 2015. Trumpeter swan survey of the Rocky Mountain Population, Winter 2015. Denver (CO): USFWS Division of Migratory Birds and State Programs; Mitchell, Carl D. and Michael W. Eichholz. 2010. Trumpeter Swan (*Cygnus buccinator*), The Birds of North America Online (A. Poole, Ed.). Ithaca (NY): Cornell Lab of Ornithology; Shea, RE, HK Nelson, LN Gillette, JG King, and DK Weaver. 2002. Restoration of Trumpeter Swans in North America: A Century of Progress and Challenges. Waterbirds: The International Journal of Waterbird Biology 25: 296–300.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted year-round distribution model modified by IDFG experts.

Harlequin Duck

Histrionicus histrionicus

Class: Aves
Order: Anseriformes
Family: Anatidae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: Sensitive

Region 4: Sensitive

BLM: Type 2

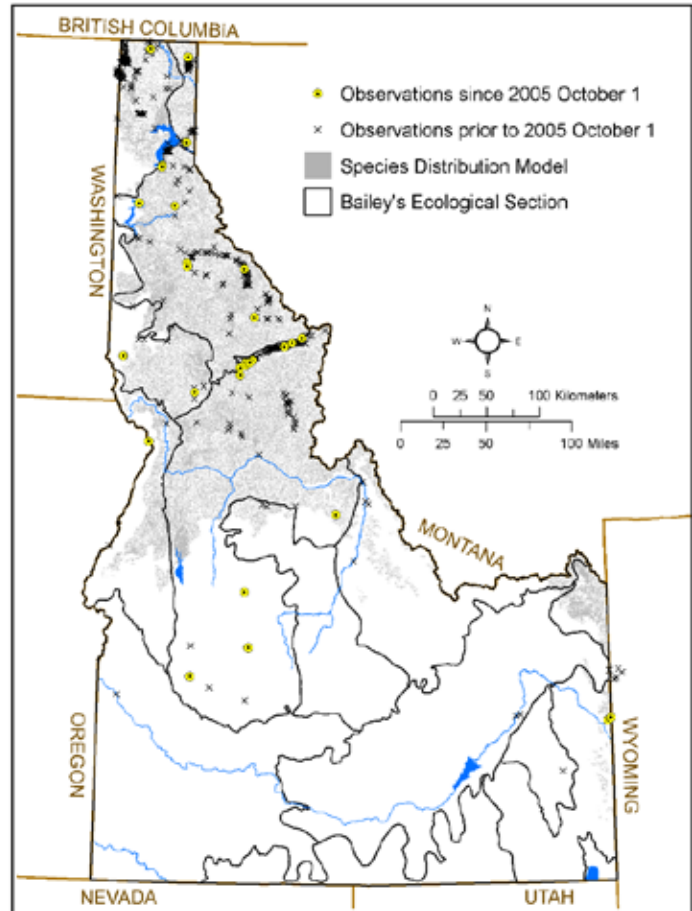
IDAPA: Migratory Game Birds

G-rank: G4

S-rank: S1B

SGCN TIER: 2

Rationale: Range restricted, low population size, local declines, multiple threats



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 71,500 km² (~27,600 mi²)

Key Ecological Sections: Beaverhead Mountains, Bitterroot Mountains, Challis Volcanics, Flathead Valley, Idaho Batholith, Okanogan Highlands, Overthrust Mountains

Population Size in Idaho: 100–250

Description: This species occurs in disjunct populations associated with the Pacific and Atlantic coastlines of North America and Asia. In Idaho, approximately 50 pairs breed along a limited number of high quality streams within the Priest River, Kootenai River, Clark Fork, Lake Pend Oreille, St. Joe River, Clearwater River, and the South Fork Snake River watersheds. Individuals marked in Idaho have been observed along the coasts of Washington and southern British Columbia.

HABITAT & ECOLOGY

Environmental Specificity: Narrow: Specialist—key requirements are common.

Description: This sea duck inhabits shallow, intertidal coastal areas in the winter. In spring, pairs migrate inland to breed on swiftly-flowing mountain streams, usually in the female's natal area. Breeding occurs along relatively undisturbed, 2nd-order or larger streams with high elevation gradients (1-7%), cold and clear water, some areas of shallow water (riffles), gravel to boulder-size substrates, forested bank vegetation, and instream loafing sites (e.g., logs, boulders). Breeding areas are occupied from April to September, but different stream reaches are used during prenesting, nesting, early and late brood-rearing periods. Nests are well-concealed on the ground in dense vegetation, in piles of woody debris, on cliff ledges above the stream, or in hollow trees or snags in the adjacent upland. Males return to the coast to molt once incubation

begins. Eggs hatch in June and July and females and broods migrate in August and September. Breeding pairs reunite each year on the wintering grounds and form long-term monogamous pair bonds. This species is long-lived, exhibits delayed reproduction (at least 3 years old), has low reproductive success (only about one third of Idaho breeding pairs successfully raise a brood to fledging), and exhibits high fidelity to breeding, molting, and wintering areas. Its diet consists of aquatic invertebrates, primarily benthic macroinvertebrates, and fish roe when available.

POPULATION TREND

Short-term Trend: Relatively Stable ($\leq 10\%$ change)

Long-term Trend: Unknown

Description: The Harlequin Duck has been considered rare in Idaho for over 100 years. Population assessments in 1995, 1996 and 2007 showed no statistically significant difference in the number of breeding pairs statewide, but ducks have disappeared from or have declined in areas where they were formerly present but rare and from centrally located areas where they were once relatively common (e.g., Coeur d'Alene River, Moyie River, Granite Creek (Lake Pend Oreille watershed), St Joe River, Lochsa River). Reasons for declines are unknown. Wintering populations have declined slightly in the Puget Sound, Washington from 1994-2013.

THREATS

Overall Threat Impact: Medium

Intrinsic Vulnerability: Moderately vulnerable

Description: Timber harvest, road and pipeline construction and maintenance, mining, improper livestock grazing, shoreline development, water impoundments and diversions, and other instream activities can reduce habitat, disrupt nesting activities, alter stream flows, reduce water quality, and impact benthic macroinvertebrates. Climate change can exacerbate these threats by altering the timing and magnitude of peak and low stream flows and increase stream temperatures, which can impact nest success, brood survival, the invertebrate prey base, and eliminate habitat. Exposure to oil spills, heavy metals from mining, and other pollution in breeding and wintering areas can have immediate and long-term impacts on survival.

CONSERVATION ACTIONS

Conservation issues and management actions are described in the appropriate section plans. In short, they include working with land managers to maintain the integrity (water quality, quantity, vegetation composition and structure) and natural flow regimes of montane riparian habitats, evaluating factors that influence stream occupancy, reproduction, and survival to support land and recreation management decisions, and incorporating the Harlequin Duck into riverine monitoring programs and assess current distribution and abundance.

ADDITIONAL COMMENTS

See Cassirer et al. (1996) for detailed monitoring protocols.

Information Sources: Cassirer EF, JD Reichel, RL Wallen and EC Atkinson. 1996. Harlequin duck (*Histrionicus histrionicus*) conservation assessment and conservation strategy for the US Rocky Mountains. Lewiston (ID): Idaho Department of Fish and Game; Esler D and SA Iverson. 2010. Female harlequin duck winter survival 11 to 14 years after the Exxon Valdez oil spill. J Wildl Manage; Washington Department of Fish and Wildlife. 2013. WDFW Sea Duck Management Strategies: Draft report to the Washington Fish and Wildlife Commission. Olympia(WA); Idaho CWCS 2005.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted summer distribution model.

Mountain Quail

Oreortyx pictus

Class: Aves

Order: Galliformes

Family: Odontophoridae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: Sensitive

Region 4: Sensitive

BLM: Type 2

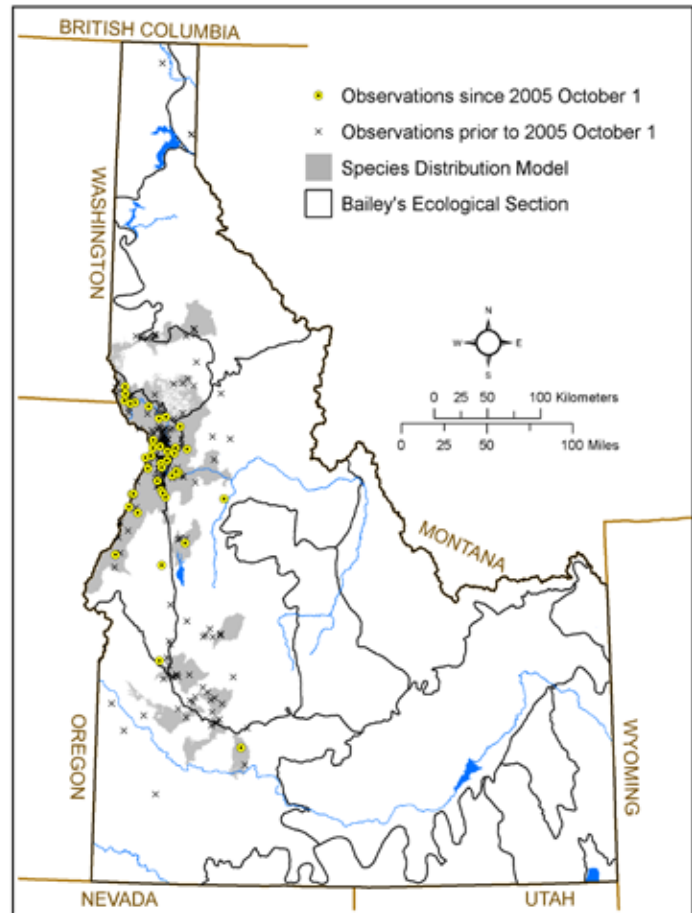
IDAPA: Upland Game Birds

G-rank: G5

S-rank: S2

SGCN TIER: 2

Rationale: Restricted distribution, low population size, declining habitat quantity and quality



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 15,200 km² (~5,900 mi²)

Key Ecological Sections: Blue Mountains, Idaho Batholith

Population Size in Idaho: Unknown

Description: The Mountain Quail is a resident in mountain ranges of western North America from Washington south to Baja California and east to Nevada and Idaho. Mountain Quail remain common along the west of the Sierra Nevada and Cascades ranges, but major declines have occurred in the Intermountain West in the last several decades. Mountain Quail occur in Idaho at the extreme northeastern edge of their range, centered in the lower Salmon River Canyon and Hells Canyon along the Snake River. Small, isolated populations likely occur in the Boise Mountains and Bennett Hills in southwest Idaho, and near Dworshak Reservoir in northern Idaho. The current population size is unknown.

HABITAT & ECOLOGY

Environmental Specificity: Narrow: Specialist—key requirements are common.

Description: Mountain Quail inhabit brushy, early-successional habitats, often within coniferous forests and on steep slopes. In the western part of their range, habitat requirements are largely met in open or recently logged forest and chaparral vegetation. Within the more arid landscapes of their eastern range, Mountain Quail typically occur in dense shrubs in steep riparian draws. In all habitats, Mountain Quail use areas of dense, tall shrubs, within close proximity to water.

POPULATION TREND

Short-term Trend: Unknown

Long-term Trend: Decline 80–90%

Description: Although populations appear stable in much of the West, significant declines have occurred east of the Cascades and Sierra Nevada ranges, including a 95% decline in occupied habitat in Idaho since 1938. Short-term population trends have not been documented.

THREATS

Overall Threat Impact: Very High

Intrinsic Vulnerability: Not intrinsically vulnerable

Description: Population declines are often attributed to deterioration and loss of habitat due to intensive agriculture, improper grazing, and fire suppression. However, there is no direct research or evidence linking declines to specific causes. It is also unknown whether competition for resources with other game birds introduced to Idaho, particularly California Quail and Chukar, is a factor for Mountain Quail. Small, isolated Mountain Quail populations are likely at risk due to extreme environmental events, habitat changes, and genetic isolation.

CONSERVATION ACTIONS

Current information on the status of Mountain Quail populations in Idaho is needed.

ADDITIONAL COMMENTS

The Mountain Quail was petitioned for listing under the ESA in 2000 but the USFWS concluded listing was not warranted. Although still classified as a game bird, the hunting season for Mountain Quail was closed in Idaho in 1984.

Information Sources: Brennan, LA. 1991. Regional tests of a mountain quail habitat model. *Northwestern Naturalist* 72:100-108; Gutiérrez, RJ and DJ Delehanty. 1999. Mountain Quail (*Oreortyx pictus*). *The Birds of North America Online* (A. Poole, Ed.). Ithaca (NY): Cornell Lab of Ornithology; Moser, A. 2004. Statewide survey for Mountain Quail 2003-2004. Boise (ID): Idaho Department of Fish and Game; Ormiston, JH. 1966. The food habitat, habitat and movements of Mountain Quail in Idaho. MS Thesis. Moscow (ID): University of Idaho.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted year-round distribution model.

Greater Sage-Grouse

Centrocercus urophasianus

Class: Aves
Order: Galliformes
Family: Phasianidae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: No status

Region 4: Sensitive

BLM: Type 2

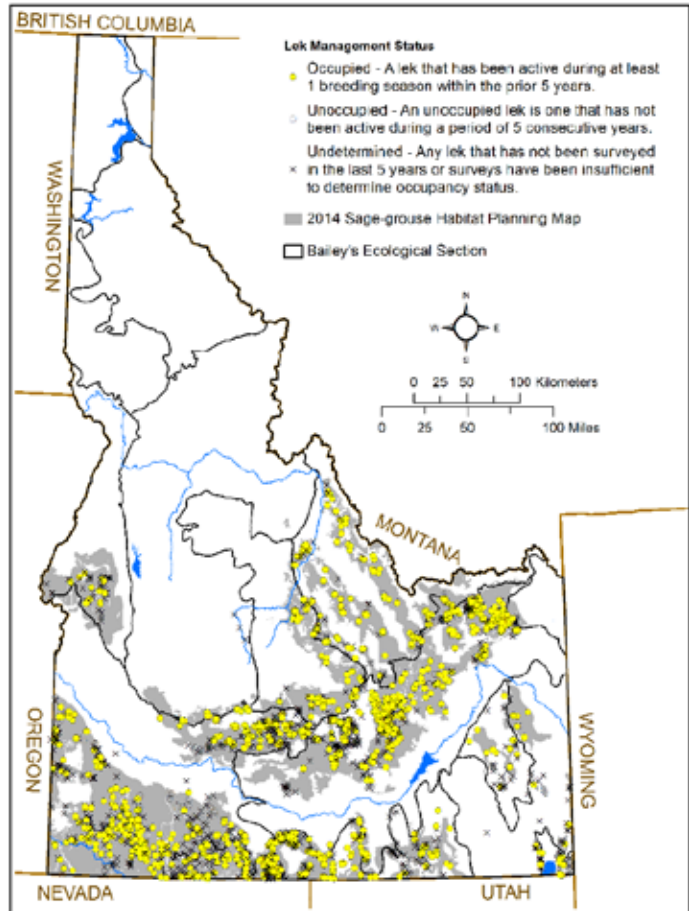
IDAPA: Upland Game Birds

G-rank: G3G4

S-rank: S3

SGCN TIER: 1

Rationale: Multiple threats to habitat



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 112,300 km² (~43,400 mi²)

Key Ecological Sections: Bear Lake, Beaverhead Mountains, Blue Mountains, Challis Volcanics, Northwestern Basin and Range, Owyhee Uplands, Snake River Basalts, Yellowstone Highlands

Population Size in Idaho: 50,000-100,000

Description: Greater Sage-Grouse are found in sagebrush steppe habitats in 11 western states and 2 Canadian provinces. Historically, Sage-Grouse occurred throughout southern Idaho, but are now absent from the Snake River plain and parts of southeastern Idaho. Sage-Grouse population estimation is challenging and populations are known to be somewhat cyclical (8-10 year cycles).

HABITAT & ECOLOGY

Environmental Specificity: Narrow: Specialist—key requirements are common.

Description: Sage-Grouse are considered a landscape-level, sagebrush-obligate species that require large areas of intact, connected sagebrush to meet seasonal habitat requirements. Sage-Grouse populations are often migratory, moving among breeding and nesting habitat, late-brood rearing habitat, and winter areas. Some Sage-Grouse may move among all seasonal areas or between two distinct ranges, while some are non-migratory. In general, breeding and nesting habitat requirements include sufficient nesting cover of sagebrush and a healthy understory of perennial grasses and forbs. As the shrub-steppe vegetation desiccates during summer, hens move their broods higher in elevation or to wet meadows. Because Sage-Grouse almost exclusively eat sagebrush in winter, they require large areas of sagebrush that is free from, or available above, snow.

POPULATION TREND

Short-term Trend: Relatively Stable (<=10% change)

Long-term Trend: Decline 50–70%

Description: Greater Sage-Grouse populations experienced historic declines as large areas throughout the west were converted from shrub-steppe habitats to agriculture and other human development. In Idaho, it was estimated that populations declined at an average rate of 1.47% per year from 1965-2003. Various rangewide analyses indicate that although populations experienced historic declines, they have been relatively stable in the last 10-15 years.

THREATS

Overall Threat Impact: High

Intrinsic Vulnerability: Moderately vulnerable

Description: Governor Otter's Sage-Grouse alternative indicated that the primary threats to Sage-Grouse and their habitat in Idaho are wildfires, invasive plant species (primarily invasive annual grasses), and large scale infrastructure. Secondary threats are improper livestock grazing impacts, recreation, and West Nile virus. Changing climate is exacerbating threats to habitat, particularly drought, invasive species and altered fire regimes.

CONSERVATION ACTIONS

Conservation issues and management actions are provided in numerous documents including the 2006 Conservation Plan for the Greater Sage-Grouse in Idaho, the Federal Alternative of Governor C.L. "Butch" Otter for Greater Sage-Grouse Management in Idaho, the Record of Decision for the BLM and USFS's Idaho and Southwestern Montana Sub-regional Greater Sage-Grouse Proposed Land Use Plan Amendment and Final Environmental Impact Statement, the Idaho State Board of Land Commissioners Greater Sage-Grouse Conservation Plan, and the Natural Resource Conservation Service's Sage-Grouse Initiative plan for Idaho. These federal and state plans provide management direction, regulatory mechanisms, and/or voluntary incentives to avoid and minimize impacts to Sage-Grouse habitat from wildfire and invasive plants, infrastructure development, improper livestock grazing, and other threats.

ADDITIONAL COMMENTS

Greater Sage-Grouse were a candidate for listing under the ESA from 2010-2015. In September 2015, the USFWS determined that listing the Greater Sage-Grouse as an endangered or threatened species was not warranted.

Information Sources: Bureau of Land Management and US Forest Service. 2015. Records of decisions and resource management plan amendments for the Great Basin region, including the greater sage-grouse sub-regions of Idaho and Southwestern Montana. US Department of the Interior, Bureau of Land Management, Washington, DC; Connelly, JW, ST Knick, MA Schroeder, and SJ Stiver. 2004. Conservation assessment of greater sage-grouse and sagebrush habitats. Cheyenne(WY): Western Association of Fish and Wildlife Agencies. Unpublished report; Idaho Sage-grouse Advisory Committee. 2006. Conservation Plan for the Greater Sage-grouse in Idaho. Boise, ID; Idaho Department of Lands. 2015. Idaho State Board of Land Commissioners greater sage-grouse conservation plan. Boise, ID; Idaho Governor's Sage-grouse Task Force. 2012. Federal alternative of Governor C.L. "Butch" Otter for greater sage-grouse management in Idaho. September 5, 2012 version. Boise, ID; 75 FR 13910; 80 FR 59857.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, 2014 Greater Sage-grouse Lek Database, accessed August 14, 2015; BLM Idaho Greater Sage-Grouse Habitat 2014.

Sharp-tailed Grouse

Tympanuchus phasianellus

Class: Aves
Order: Galliformes
Family: Phasianidae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: No status

Region 4: Sensitive

BLM: Type 2

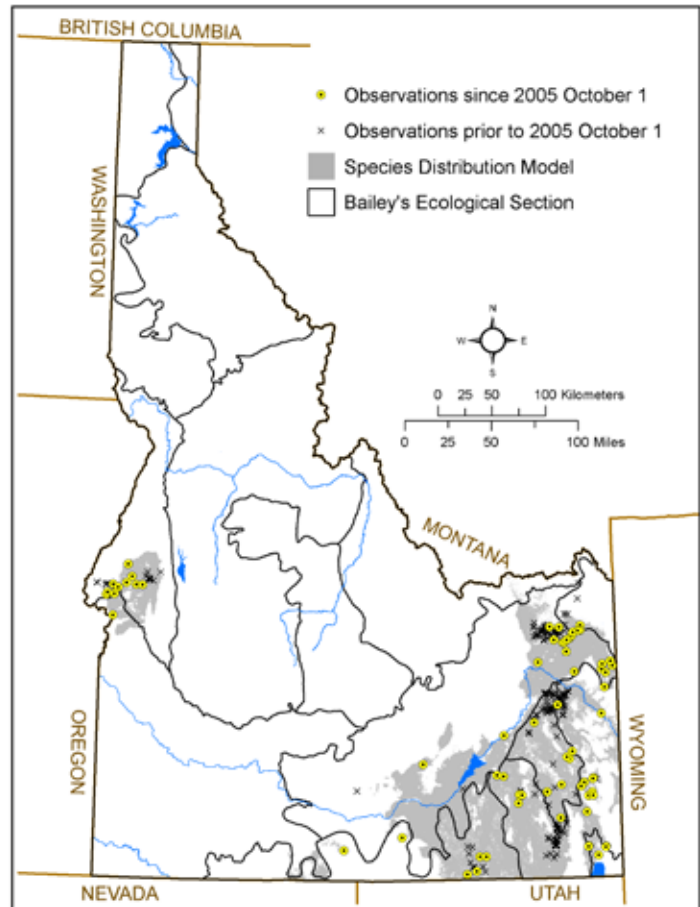
IDAPA: Upland Game Birds

G-rank: G4T3

S-rank: S3

SGCN TIER: 2

Rationale: Multiple threats



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 114,800 km² (~44,300 mi²)

Key Ecological Sections: Bear Lake, Blue Mountains, Northwestern Basin and Range, Overthrust Mountains, Snake River Basalts, Yellowstone Highlands

Population Size in Idaho: 31,000-34,000

Description: The Columbian Sharp-tailed Grouse (CSTG) is 1 of 7 subspecies (1 extinct) of sharp-tailed grouse in North America and was once considered the most abundant and well-known upland game bird in the Pacific Northwest. Of the 6 extant subspecies of sharp-tailed grouse, CSTG has experienced the greatest decline in distribution and abundance. It is reasonably widespread in southeastern Idaho and also occurs in south-central Idaho along the Nevada border and in an isolated portion of western Idaho. Idaho plays a critical role in the continued persistence of populations in the US, as it supports 60-65% of the breeding population.

HABITAT & ECOLOGY

Environmental Specificity: Moderate: Generalist—some key requirements are scarce.

Description: Columbian Sharp-tailed Grouse are habitat generalists and inhabit a mosaic of agricultural and rangeland communities. Native habitat is characterized by bunchgrass prairie and shrub-bunchgrass rangelands in good to excellent ecological condition for nesting and brood-rearing habitat and tall, deciduous shrub thickets in shrubby riparian zones, mountain-shrub patches, and aspen stands for overwintering. CSTG will also use, and can benefit from, artificially created habitats, such as agricultural fields, seeded rangelands, and Conservation Reserve Program (CRP) or State Acres For wildlife Enhancement (SAFE) fields. During spring, males gather at traditional lek sites that are typically located on low knolls, benches, and ridge

tops slightly higher than surrounding terrain. Usually within 2 km (1.2 mi) of the breeding lek, the female constructs a rudimentary nest on the ground in dense vegetation and lays 10-12 eggs. Seasonal diets include insects, herbaceous forbs, berries, buds of deciduous shrubs and trees, and cultivated plants where available.

POPULATION TREND

Short-term Trend: Relatively Stable (<=10% change)

Long-term Trend: Decline 70–80%

Description: Columbian Sharp-tailed Grouse were once widely distributed in Idaho (in >35 of 44 counties). Idaho population declines were first noted during the early 1900s, but major range reduction and declines occurred between 1950 and 1970. Occupied range currently encompasses approximately 35,900 km² (13,861 mi²), or 23% of the historical range estimate of 155,200 km² (59,923 mi²). Since inception in 1985, CRP has provided many thousands of acres of nesting and brood-rearing habitat on private lands in Idaho, resulting in an apparent increase in CSTG populations.

THREATS

Overall Threat Impact: High

Intrinsic Vulnerability: Moderately vulnerable

Description: Habitat loss and fragmentation are responsible for extirpation of CSTG across most of their historical range. Furthermore, habitat loss and degradation continue to be the 2 most unequivocal threats to CSTG throughout their range. Historically, the primary cause of habitat loss was conversion to intensive agriculture; however, in recent years, the primary causes of habitat loss have been residential and commercial development. Modern, large-scale farming and intensive farming practices (e.g., clean farming, autumn plowing, continuous row cropping) have been detrimental to CSTG. The birds may experience nest loss or direct mortality due to cultivation, haying, mowing, and agricultural chemical application. Improper livestock grazing is often considered a primary factor contributing to the decline in CSTG populations.

CONSERVATION ACTIONS

Conservation issues and actions are described in the 2015 Management Plan for the Conservation of Columbian Sharp-tailed Grouse in Idaho 2015-2020 and the appropriate section plans. In short, recommended strategies include protecting the quantity and quality of existing habitat (including CRP and SAFE lands), providing incentives and assistance to landowners to improve habitat on private land, implementing a monitoring program that provides annual estimates of productivity, harvest, population abundance, and trend information, and avoiding disturbance to breeding complexes (lands within a 2 km [1.2 mi] radius of occupied leks).

ADDITIONAL COMMENTS

None.

Information Sources: Idaho Department of Fish and Game. 2015. Management plan for the conservation of Columbian sharp-tailed grouse in Idaho 2015-2025. Boise (ID). 48p; Hoffman, R. W. and A. E. Thomas. 2007. Columbian Sharp-tailed Grouse (*Tympanuchus phasianellus columbianus*): A Technical Conservation Assessment. USDA Forest Service, Rocky Mountain Region. Jeff Knetter, expert opinion.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted year-round distribution model.

Common Loon

Gavia immer

Class: Aves
Order: Gaviiformes
Family: Gaviidae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: Sensitive

Region 4: Sensitive

BLM: No status

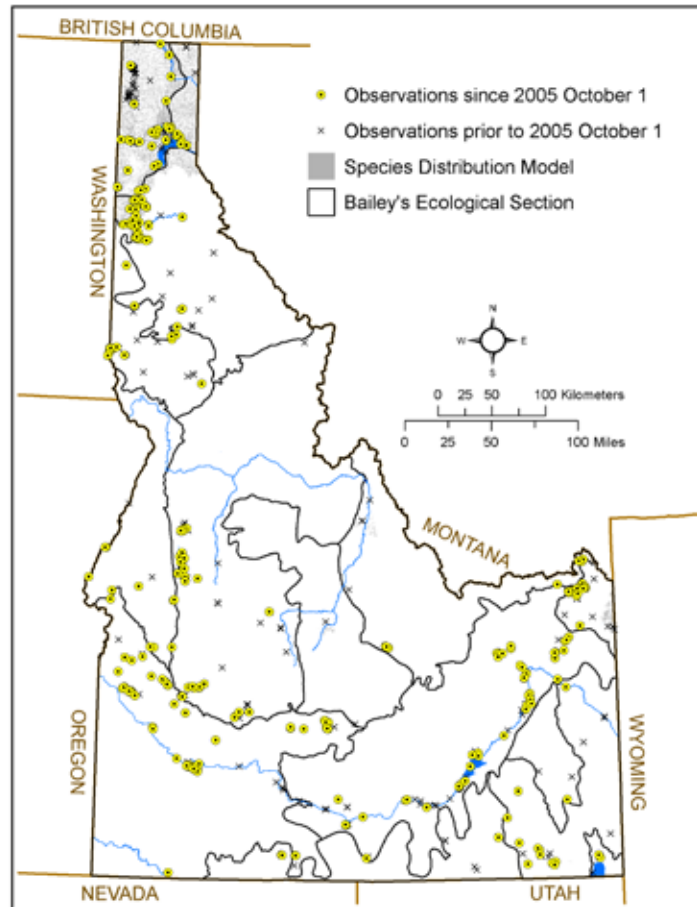
IDAPA: Protected Nongame Species

G-rank: G5

S-rank: S1B, S2N

SGCN TIER: 2

Rationale: Breeding population only, limited distribution, low population size



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 213,700 km² (~82,500 mi²)

Key Ecological Sections: Flathead Valley, Okanogan Highlands, Yellowstone Highlands

Population Size in Idaho: <20

Description: The Common Loon breeds from Alaska south to the northern parts of the conterminous US and winters on the Pacific and Atlantic coasts. While these birds are commonly seen in Idaho during migration, and have been observed in breeding plumage on 13 lakes in northern and southeastern Idaho, very few instances of nesting are confirmed or can be inferred. In the 1990s, non-flying juveniles were observed at Priest Lake, Upper Priest Lake, and the Clark Fork Delta. In recent years, adult pairs have been observed at Island Park Reservoir and nests found at Herman Lake (2012) and Bonner Lake (2014—although this nest was later abandoned). An estimated 1,320 breeding adults are in the Great Basin and Northern Rocky Mountains. Idaho's breeding population size is uncertain, but is likely fewer than 20 individuals.

HABITAT & ECOLOGY

Environmental Specificity: Narrow: Specialist—key requirements are common.

Description: This species is long-lived, exhibits delayed reproduction (7 years of age), and has low lifetime reproductive potential. Loons are piscivorous, visual predators that require clear, oligotrophic lakes with an abundance of small fish. Lakes are usually larger than 9 ha (22 ac) in size and below 1,800 m (5,905 ft) elevation with forested or rocky shorelines. Nesting occurs in wind-sheltered locations on islands, floating bogs, marshes, muskrat houses, logs, and artificial nest platforms. Common Loons prefer nest sites with open views adjacent to the water and near drop-offs steep enough to enable an underwater approach. Females produce 1-2 eggs per

year and may attempt to renest if their first attempt is unsuccessful. Chicks remain with their parents through mid-September to mid-November.

POPULATION TREND

Short-term Trend: Relatively Stable ($\leq 10\%$ change)

Long-term Trend: Unknown

Description: Common Loon numbers declined substantially across their southern range during the early and mid-1900s. Widespread shooting, sparked by public belief that loons were depleting game fish populations, contributed to declines. In Idaho, at least 12 lakes historically had nesting pairs, but were apparently extirpated by the mid-1900s. Numbers appear to be steadily increasing in much of the US and Canada. Although no population trends have been documented in Idaho, nesting does occur intermittently. In Montana, the population north of Missoula and west of the Continental Divide appears to be stable or slightly increasing. Although BBS data are considered poor reflections of Common Loon trends, they do indicate statistically significant increases in the US from 1966-2013 (+1.3% per year) and 2003-2013 (+1.7% per year).

THREATS

Overall Threat Impact: High

Intrinsic Vulnerability: Moderately vulnerable

Description: Human disturbance on nesting lakes can result in nest failure, juvenile mortality, and lake abandonment. Mortality associated with development of solar energy facilities is an emerging threat, particularly for wetland-dependent species. Most solar facilities have no systematic monitoring efforts in place to measure potential impacts on wildlife, yet incidental observations at three facilities in the West from 2012-2014 indicate >1,000 mortalities of at least 160 bird species, including Common Loons. It is suspected that large, flat solar panels resemble water bodies. Birds crash into the panels while attempting to land and either die upon impact or become grounded (loons cannot take off from land) and perish in the heat.

CONSERVATION ACTIONS

Conservation issues and management actions are detailed in the appropriate section plans. In short, recommended strategies include developing a monitoring and protection program for nesting birds, establishing reporting protocols for injured and dead loons, and working with the US Fish and Wildlife Service and the Pacific Flyway Council's Nongame Technical Committee to research and develop operational guidelines intended to minimize wildlife mortality at solar energy facilities.

ADDITIONAL COMMENTS

None.

Information Sources: Franson JC, SP Hansen, TW Creekmore, CJ Brand, DC Evers, AE Duerr, and S DeStefano. 2003. Lead fishing weights and other fishing tackle in selected waterbirds. *Waterbirds* 26(3): 345-352; Evers, DC, JD Paruk, JW McIntyre, and JF Barr. 2010. Common Loon (*Gavia immer*), *The Birds of North America Online* (A. Poole, Ed.). Ithaca (NY): Cornell Lab of Ornithology; Sauer JR, JE Hines, JE Fallon, KL Pardieck, DJ Ziolkowski, and WA Link. 2014. *The North American Breeding Bird Survey, Results and Analysis 1966 - 2013*. Version 01.30.2015. Laurel (MD): USGS Patuxent Wildlife Research Center; Pacific Flyway Council. 2015. Pacific Flyway Council recommendations, informational notes, and subcommittee reports, March 2015; IDFG unpublished data; Norm Merz, pers. comm.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted summer distribution model modified by IDFG experts.

Western Grebe

Aechmophorus occidentalis

Class: Aves

Order: Podicipediformes

Family: Podicipedidae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: No status

Region 4: No status

BLM: No status

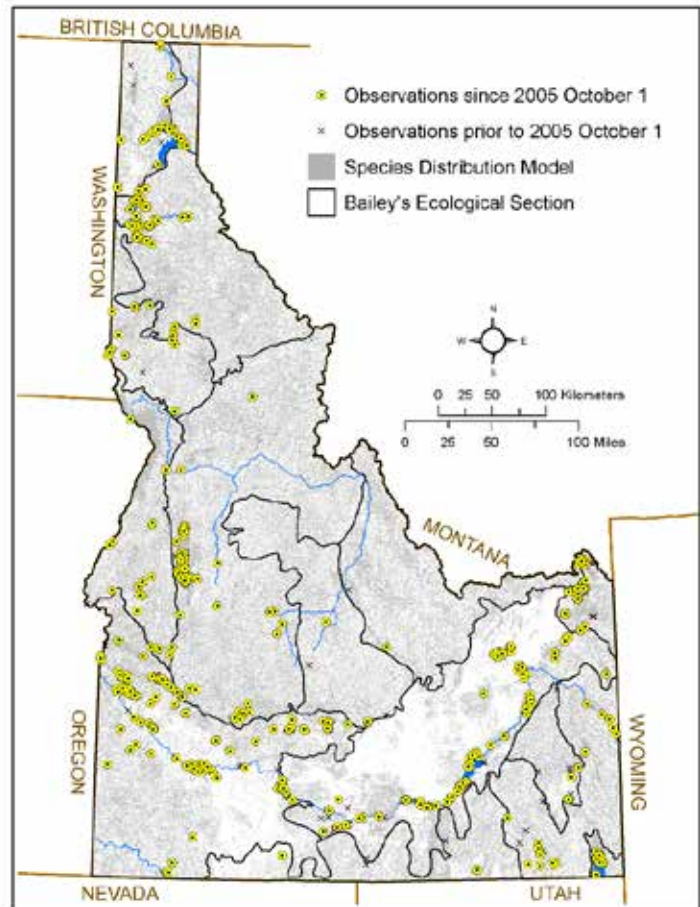
IDAPA: Protected Nongame Species

G-rank: G5

S-rank: S2B

SGCN TIER: 2

Rationale: Declining population, multiple threats



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 216,400 km² (~83,600 mi²)

Key Ecological Sections: Bear Lake, Bitterroot Mountains, Idaho Batholith, Northwestern Basin and Range, Okanogan Highlands, Owyhee Uplands, Snake River Basalts, Yellowstone Highlands

Population Size in Idaho: 3,000-4,500

Description: Western Grebes occur seasonally throughout most of the western half of North America where suitable wetlands occur. Most birds winter along the Pacific coast from British Columbia to Baja California, although some winter records at inland locations of open water have been documented. There are approximately 110,000 individuals in North America, and approximately 4,000 of these breed in Idaho. In Idaho, this species breeds along the Snake River drainage in the southern and southeastern parts of the state, at Lake Cascade, and at several locations in the Panhandle. More than half of the state's population breeds at Lake Cascade.

HABITAT & ECOLOGY

Environmental Specificity: Narrow: Specialist—key requirements are common.

Description: Western Grebes are colonial waterbirds that nest on freshwater lakes or marshes with extensive open water, where they feed primarily on fish. They arrive at Idaho nesting areas in late April to early May. This species is best known for its elaborate courtship displays of running (called "rushing") across the water's surface. They construct a floating platform nest in emergent vegetation protected from wind and waves. Usually nests are in colonies, where the earliest nests establish the core and subsequent nests radiate outward. Some colonies contain hundreds to thousands of nests. Young leave the nest on their parents' backs as soon as they hatch and are raised on the open water. Western Grebes migrate from September through October.

POPULATION TREND**Short-term Trend:** Decline 30–50%**Long-term Trend:** Unknown

Description: Population trend data for Western Grebes are combined with those for Clark's Grebes because the two species are so similar in appearance that observers typically do not distinguish between them. In the US, BBS data indicate 1.6% annual declines from 1966–2013. In Idaho, BBS data indicate declines of 5% per year during that time period, and even steeper declines of 5.7% per year between 2003 and 2013. Productivity has dropped significantly in recent years at all locations that are monitored regularly, including at Lake Cascade, Lake Lowell, and Minidoka NWR.

THREATS**Overall Threat Impact:** Very High**Intrinsic Vulnerability:** Not intrinsically vulnerable

Description: Because Western Grebes build floating nests on the surface of the water, they are particularly vulnerable to droughts, floods, wind-driven waves, and fluctuating water levels. Most nesting colonies in Idaho are located on reservoirs or along rivers susceptible to water fluctuations resulting from dam operations. Rapid increase in water levels results in nest flooding, while rapid releases of water results in nests that are no longer accessible. From nest initiation through brood-rearing, this species is also sensitive to recreational boating activities. Boat wake can inundate or flip nests, causing nest failure, and inattentive boat use too close to Western Grebes carrying young can result in separation of the young from adults, and ultimately mortality of the separated young. Mortality associated with development of solar energy facilities is an emerging threat, particularly for wetland-dependent species. Most solar facilities have no systematic monitoring efforts in place to measure potential impacts on wildlife, yet incidental observations at three facilities in the West from 2012–2014 indicate >1,000 mortalities of at least 160 bird species, including Western Grebes. It is suspected that large, flat solar panels resemble water bodies. Birds crash into the panels while attempting to land and either die upon impact or become grounded (grebes cannot take off from land) and perish in the heat.

CONSERVATION ACTIONS

Conservation issues and management actions are described in the appropriate section plans. In short, they include developing Best Management Practices for managing water level fluctuations around nesting colonies, identifying opportunities for reducing water level fluctuations, determining causes of high nest failure, and managing recreational boating during the nesting season (e.g., creating no-wake zones and installing interpretive signage).

ADDITIONAL COMMENTS

None.

Information Sources: Idaho CWCS 2005; Sauer JR, J. E Hines, JE Fallon, KL Pardieck, DJ Ziolkowski, and WA Link. 2014. The North American Breeding Bird Survey, Results and Analysis 1966–2013. Version 01.30.2015. Laurel (MD): USGS Patuxent Wildlife Research Center; Pacific Flyway Council. 2015. Pacific Flyway Council recommendations, informational notes, and subcommittee reports, March 2015.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted summer distribution model.

Clark's Grebe

Aechmophorus clarkii

Class: Aves

Order: Podicipediformes

Family: Podicipedidae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: No status

Region 4: No status

BLM: No status

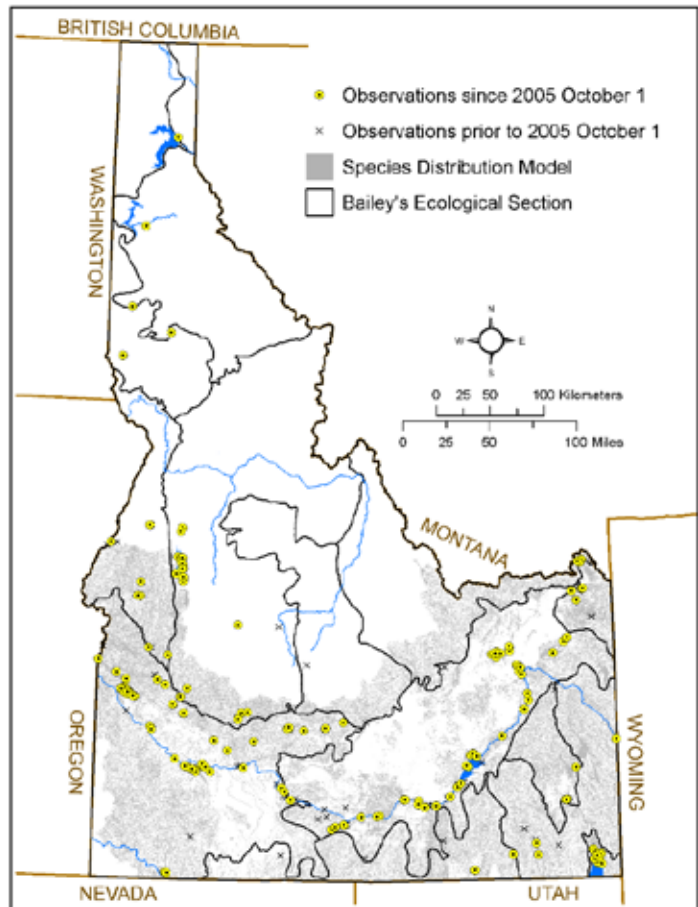
IDAPA: Protected Nongame Species

G-rank: G5

S-rank: S2B

SGCN TIER: 2

Rationale: Population declines, multiple threats to habitat



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 119,600 km² (~46,200 mi²)

Key Ecological Sections: Bear Lake, Bitterroot Mountains, Idaho Batholith, Northwestern Basin and Range, Okanogan Highlands, Owyhee Uplands, Snake River Basalts

Population Size in Idaho: 250-500

Description: Clark's Grebes occur seasonally throughout most of the western half of North America where suitable wetlands occur. Most birds winter along the Pacific coast from British Columbia to Baja California. There are approximately 15,000 individuals in North America, and an estimated 472 of these breed in Idaho. In Idaho, the breeding distribution is primarily associated with the extensive Snake River drainage in the southern and southeastern parts of the state.

HABITAT & ECOLOGY

Environmental Specificity: Narrow: Specialist—key requirements are common.

Description: Clark's Grebes are colonial waterbirds that nest on freshwater lakes or marshes with extensive open water, where they feed primarily on fish. They arrive at Idaho nesting areas in late April to early May, and are generally found in mixed species flocks with Western Grebes. This species is best known for its elaborate courtship displays of running (called "rushing") across the water's surface. They construct a floating platform nest in emergent vegetation protected from wind and waves. Usually nests are in colonies, where the earliest nests establish the core and subsequent nests radiate outward. Young leave the nest on their parents' backs as soon as they hatch and are raised on the open water. Clark's Grebes depart Idaho nesting sites September through October.

POPULATION TREND**Short-term Trend:** Decline 30–50%**Long-term Trend:** Unknown

Description: Population trend data for Clark's Grebes are combined with those for Western Grebes because the two species are so similar in appearance that observers typically do not distinguish between them. In the US, BBS data indicate 1.6% annual declines from 1966–2013. In Idaho, BBS data indicate declines of 5% per year during that time period, and even steeper declines of 5.7% per year between 2003 and 2013. Productivity has dropped significantly in recent years at all locations that are monitored regularly, including at Lake Cascade, Lake Lowell, and Minidoka NWR.

THREATS**Overall Threat Impact:** High**Intrinsic Vulnerability:** Not intrinsically vulnerable

Description: Because Clark's Grebes build floating nests on the surface of the water, they are particularly vulnerable to droughts, floods, wind-driven waves, and fluctuating water levels. Most nesting colonies in Idaho are located on reservoirs, or along rivers susceptible to water fluctuations resulting from dam operations. Rapid increase in water levels results in nest flooding, while rapid releases of water results in nests that are no longer accessible. From nest initiation through brood-rearing, this species is also sensitive to recreational boating activities. Boat wake can inundate or flip nests, causing nest failure, and inattentive boat use too close to grebes carrying young can result in separation of the young from adults, and ultimately mortality of the separated young. Mortality associated with development of solar energy facilities is an emerging threat, particularly for wetland-dependent species. Most solar facilities have no systematic monitoring efforts in place to measure potential impacts on wildlife, yet incidental observations at three facilities in the West from 2012-2014 indicate >1,000 mortalities of at least 160 bird species, including Clark's Grebes. It is suspected that large, flat solar panels resemble water bodies. Birds crash into the panels while attempting to land and either die upon impact or become grounded (grebes cannot take off from land) and perish in the heat.

CONSERVATION ACTIONS

Conservation issues and management actions are described in the appropriate section plans. In short, they include developing Best Management Practices for managing water level fluctuations around nesting colonies, identifying opportunities for reducing water level fluctuations, determining causes of high nest failure, and managing recreational boating during the nesting season (e.g., creating no-wake zones and installing interpretive signage).

ADDITIONAL COMMENTS

None.

Information Sources: Idaho CWCS 2005; Sauer JR, J. E Hines, JE Fallon, KL Pardieck, DJ Ziolkowski, and WA Link. 2014. The North American Breeding Bird Survey, Results and Analysis 1966–2013. Version 01.30.2015. Laurel (MD): USGS Patuxent Wildlife Research Center; Pacific Flyway Council. 2015. Pacific Flyway Council recommendations, informational notes, and subcommittee reports, March 2015.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted summer distribution model modified by IDFG experts.

American White Pelican

Pelecanus erythrorhynchos

Class: Aves
Order: Pelecaniformes
Family: Pelecanidae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: No status

Region 4: No status

BLM: No status

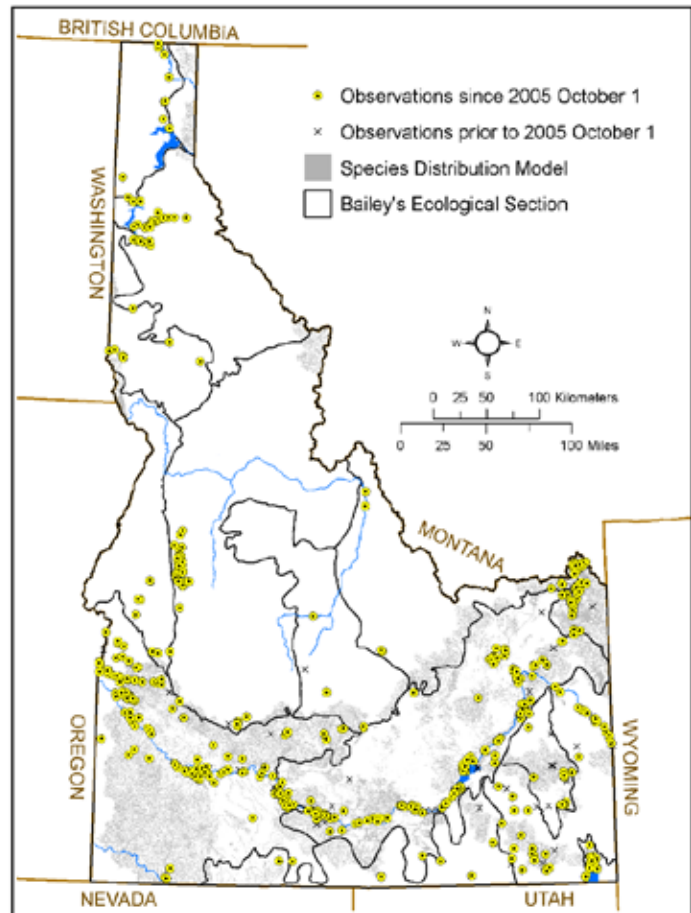
IDAPA: Protected Nongame Species

G-rank: G4

S-rank: S3B

SGCN TIER: 2

Rationale: Significant proportion of the western US population breeds in Idaho, multiple threats



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 100,800 km² (~38,900 mi²)

Key Ecological Sections: Northwestern Basin and Range, Owyhee Uplands, Snake River Basalts, Yellowstone Highlands

Population Size in Idaho: 3,000-8,000

Description: The American White Pelican breeds in two distinct populations, east and west of the Continental Divide. Winter range includes the Pacific coast from California south to Mexico and along the Gulf of Mexico. The western population is distributed among 17-19 colonies and was estimated at 43,000 birds in 2014. Idaho supports approximately 16% of the western breeding population and is the third largest relative contributor to this population segment. In 2015, 2,151 breeding pairs nested at three locations in Idaho: Minidoka NWR (1,102 pairs), Blackfoot Reservoir (733 pairs), and Island Park Reservoir (316 pairs).

HABITAT & ECOLOGY

Environmental Specificity: Moderate: Generalist—some key requirements are scarce.

Description: This fish-eating species nests in colonies predominantly on isolated, permanent islands in freshwater lakes and managed reservoirs. It typically winters on shallow coastal bays, inlets, and estuaries in areas where the minimum January temperature stays above 4° C (40° F). Pelicans marked in Idaho winter on reservoirs and large rivers that remain ice-free. This species is long-lived (average 12-14 years, longevity records > 26 years) and begins breeding at 4+ years. Productivity in the western US averaged 0.38 and 0.30 young fledged per nest from 2000-2009 and 2010-2013, respectively.

POPULATION TREND**Short-term Trend:** Increase >25%**Long-term Trend:** Relatively Stable (<=10% change)

Description: In the early 1900s, there were approximately 60,000 breeding birds and 24 nesting colonies (4 in Idaho) in the western population segment. By the late 1970s, this population declined to 16,000 breeding birds and 8 nesting colonies (none in Idaho). The subsequent ban of organochlorine pesticide use and an increase in federal and state protections were likely key factors to recovery that began in the 1980s. The population peaked at 46,000 breeding birds in 1992 and has since remained relatively stable. However, average annual productivity declined 67% from 0.96 young fledged per nest in the 1960s to 0.30 young per nest from 2010-2013. In Idaho, this species recolonized in the early 1990s and quickly grew to almost 8,000 breeding birds by 2007. From 2010-2015, the breeding population fluctuated between 3,040 and 7,740 individuals (average 5,680).

THREATS**Overall Threat Impact:** Very High**Intrinsic Vulnerability:** Moderately vulnerable

Description: The primary threats to Pelicans include human disturbance of nesting colonies and climate change. There are indications that the western population is shifting northward, latitudinally, perhaps in response to climate change-related drought conditions in the southern extent of their breeding range. In addition, pelican migration has advanced by more than 2 weeks at the largest known pelican colony in Chase Lake, North Dakota, possibly in response to warmer spring temperatures. This has increased exposure to late winter storms and cold temperatures and negatively impacted productivity (0-4% productivity rate in 4 of 5 years studied). This is a potential concern in Idaho, though arrival dates have not been tracked.

CONSERVATION ACTIONS

Conservation actions for this species are described in more detail in the appropriate section plans. These include working with the Pacific Flyway Council's Nongame Technical Committee to develop and implement a wetland connectivity assessment to address impacts of drought, analyzing trends in population size and productivity, and determining current survivorship rates. The Idaho Pelican Management Plan and Pelican Conservation Strategy provide detailed guidance on maintaining viable breeding populations of pelicans while reducing impacts to native trout and key recreational fisheries.

ADDITIONAL COMMENTS

Following the decline in pelican abundance in the western population, the USFWS drafted the "Guidelines for the Management of the American White Pelican, Western Population" in 1984 to proactively manage recovery and preclude listing under the ESA.

Information Sources: Idaho CWCS 2005; Sovada MA, LD Igl, PJ Pietz and AJ Bartos. 2014. Influence of climate change on productivity of American white pelicans, *Pelecanus erythrorhynchos*. PLoS ONE 9(1): e83430; Idaho Department of Fish and Game. 2014. Bird conservation strategy: reducing American White Pelican/Yellowstone cutthroat trout conflicts. Boise, ID; Pacific Flyway Council. 2015. Pacific Flyway Council recommendations, informational notes, and subcommittee reports, July 2015; Moulton CE and M Wackenhut. In Review. Changes in population size, productivity, and distribution of western American White Pelicans (*Pelecanus erythrorhynchos*), 1960-2013. Boise, ID; Idaho Department of Fish and Game. In Revision. Management plan for the conservation of American White Pelicans in Idaho. Boise, ID.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted summer distribution model modified by IDFG experts.

American Bittern

Botaurus lentiginosus

Class: Aves
Order: Pelecaniformes
Family: Ardeidae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: No status

Region 4: No status

BLM: No status

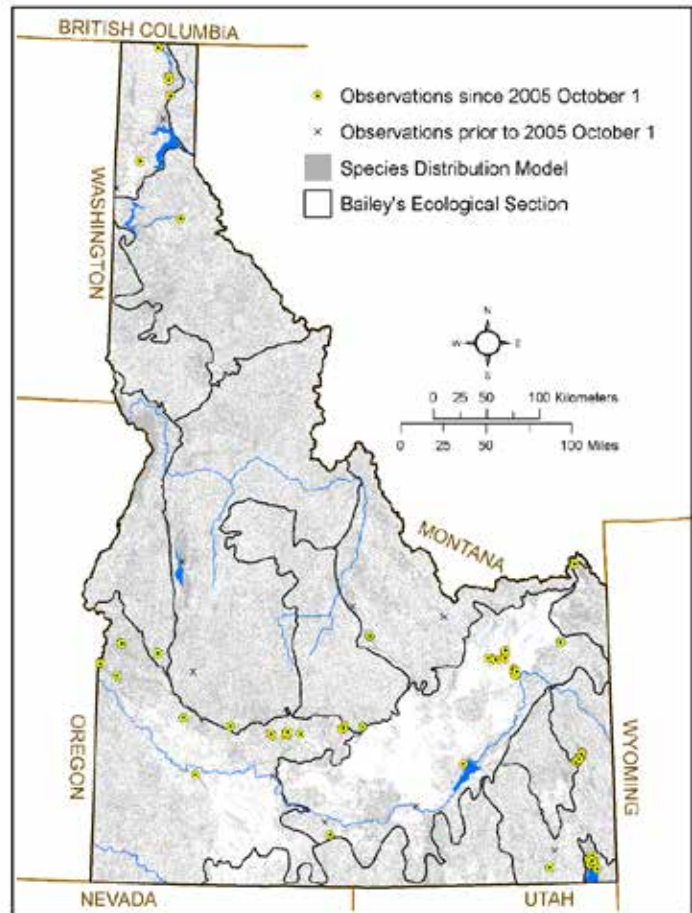
IDAPA: Protected Nongame Species

G-rank: G4

S-rank: S1B

SGCN TIER: 2

Rationale: Population declines, threats to wetland habitats



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 216,400 km² (~83,600 mi²)

Key Ecological Sections: Bear Lake, Bitterroot Mountains, Okanogan Highlands, Overthrust Mountains, Owyhee Uplands, Snake River Basalts

Population Size in Idaho: 4,000-12,000

Description: American Bitterns breed in freshwater marshes throughout the northern half of the US north to approximately 55° latitude in Canada. Winters along southern coastal plain where temperatures remain above freezing. Breeding population is patchily distributed throughout southern Idaho and a couple isolated locations north of Lake Pend Oreille. Population size rangewide is uncertain. Surveys conducted in Idaho in 2009 and 2010 indicate an annually fluctuating population size between 4,000 and 12,000 individuals.

HABITAT & ECOLOGY

Environmental Specificity: Moderate: Generalist—some key requirements are scarce.

Description: American Bitterns require large (>10 ha) marshes with tall emergent vegetation (primarily hardstem bulrush and common cattail) for breeding. In Idaho, this habitat is limited mostly to NWRs and IDFG WMAs. Marshes that become decadent are not typically suitable for this species, and birds using a decadent marsh can quickly dwindle. American Bitterns are strictly carnivorous, feeding primarily on insects, amphibians, crayfish, and small fish and mammals. They mainly forage along shorelines and edges of emergent vegetation, but may also hunt for prey in open, flooded fields. Females typically build nests in dense emergent vegetation over water that is 5-20cm (2-8 in) deep. This species is believed to produce a single brood per year.

POPULATION TREND

Short-term Trend: Decline 80–90%

Long-term Trend: Unknown

Description: North American Breeding Bird Survey data indicate long-term (1966-2013) population declines in the US and the western BBS region of -1.5% and -3.4% per year, respectively. BBS data also indicate both long-term (1966-2013) and short-term (2003-2013) declines in Idaho of greater than -15% per year, however, these trends are based upon extremely small sample sizes and should be interpreted cautiously. There is concern at Bear Lake NWR that the once dense population of bitterns, as documented by surveys in 2005-2007, has declined dramatically in recent years.

THREATS

Overall Threat Impact: Unknown

Intrinsic Vulnerability: Not intrinsically vulnerable

Description: Loss of suitable wetland habitat is of primary concern for American Bitterns. In Idaho, suitable habitat is limited mostly to protected lands (NWRs and WMAs) and managing these wetlands for the structural characteristics needed by American Bitterns is a challenge. For example, some sites may require prescribed burns to open decadent stands of bulrush and cattail, which can be logistically and financially difficult to accomplish. Impacts of climate change, particularly from drought, are also of concern for this species. Declines in US may indicate a northern population shift, in part because of habitat destruction and drought at southern extent of this species' range.

CONSERVATION ACTIONS

Conservation issues and management actions are detailed in the appropriate section plans. In short, recommended strategies include working with the Pacific Flyway Council's Nongame Technical Committee on a wetland connectivity assessment, working with land managers to identify opportunities for increasing the availability of natural wetlands and developing wetland management actions that would benefit this species, and determining current distribution and abundance.

ADDITIONAL COMMENTS

None.

Information Sources: Lowther P, AF Poole, JP Gibbs, S Melvin and FA Reid. 2009. American Bittern (*Botaurus lentiginosus*), The Birds of North America Online (A. Poole, Ed.). Ithaca (NY): Cornell Lab of Ornithology; Sauer JR, JE Hines, JE Fallon, KL Pardieck, DJ Ziolkowski, and WA Link. 2014. The North American Breeding Bird Survey, Results and Analysis 1966–2013. Version 01.30.2015. Laurel (MD): USGS Patuxent Wildlife Research Center; M Seamans personal communication; IDFG unpublished data.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted summer distribution model.

White-faced Ibis

Plegadis chihi

Class: Aves

Order: Pelecaniformes

Family: Threskiornithidae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: No status

Region 4: No status

BLM: No status

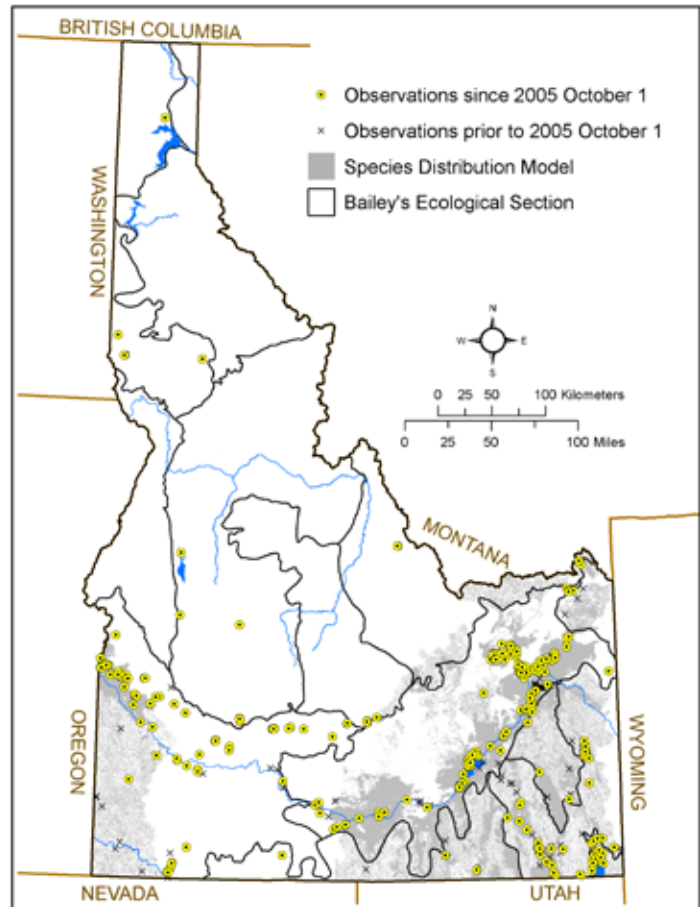
IDAPA: Protected Nongame Species

G-rank: G5

S-rank: S2B

SGCN TIER: 2

Rationale: Significant threats to habitat and productivity



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 110,100 km² (~42,500 mi²)

Key Ecological Sections: Bear Lake, Overthrust Mountains, Owyhee Uplands, Snake River Basalts, Yellowstone Highlands

Population Size in Idaho: >85,000

Description: Over 85,000 breeding birds nest at 6 known locations in Idaho, representing over half of the western states' breeding population: Bear Lake NWR, Duck Valley Indian Reservation, Grays Lake NWR, Market Lake WMA, Mud Lake WMA, and Oxford Slough Waterfowl Production Area. Market Lake and Mud Lake WMAs are the most critical areas for White-faced Ibis in the West, supporting approximately 40% of the Idaho breeding population and 20% of the western breeding population.

HABITAT & ECOLOGY

Environmental Specificity: Moderate: Generalist—some key requirements are scarce.

Description: White-faced Ibis are colonial breeders, generally choosing to nest in shallow marshes with dense emergent vegetation. In Idaho, most colonies are found in hardstem bulrush/cattail marshes. Nest platforms are constructed within the bulrush, using bent-over bulrush stalks and adjacent upright stalks. This type of nest construction lends itself to collapse or flooding and nest failure if water levels drop or rise dramatically during the incubation/early nestling period. This species forages for aquatic and moist soil invertebrates in shallowly-flooded wetlands and flood-irrigated croplands. Alfalfa, barley, and native hay meadows are particularly important foraging areas in Idaho and the Intermountain West. After the nesting

season, this species congregates by the thousands to feed on the extensive mudflats of American Falls Reservoir.

POPULATION TREND

Short-term Trend: Relatively Stable ($\leq 10\%$ change)

Long-term Trend: Unknown

Description: After a decline in the 1960s and 1970s, White-faced Ibis populations have increased in recent years, likely a result of improved nesting and foraging habitat management, a ban on DDT, and increased productivity at large breeding colonies. From 1966–2004, BBS data indicate statistically significant increases in the US (+8.6% per year) and western BBS region (+9.9% per year). The Great Basin population has experienced a four-fold increase since 1985 and, although BBS data do not indicate statistically significant changes in Idaho, Taylor et al. (1989) reported marked increases in the Idaho nesting population.

THREATS

Overall Threat Impact: Very High

Intrinsic Vulnerability: Not intrinsically vulnerable

Description: Agricultural conversion to center-pivot from flood irrigation is the biggest threat to this species in Idaho. 40% of Idaho's breeding population resides at Market Lake and Mud Lake WMAs. The surrounding landscape is rapidly losing flood-irrigated habitats that are used extensively by ibis for foraging. Research indicates that ibis nesting at Market Lake WMA are traveling further to forage than previously documented. The ibis colony at Mud Lake WMA is also threatened by rapid water level fluctuations that result in nest flooding and almost complete colony failure in some years. Decreased water levels in some locations, like Oxford Slough Waterfowl Production Area, result in increased access to nesting colonies by predators and significant nesting failure.

CONSERVATION ACTIONS

Conservation issues and management actions are described in the appropriate section plans. Recommended actions include working with the Natural Resource Conservation Service, private landowners and land managers to identify opportunities to restore natural wetlands suitable for foraging, maintaining flood-irrigated agricultural fields within 20km (12.4 mi) of ibis colonies, and working with water managers to develop and implement water level management recommendations that reduce nest loss while meeting irrigation needs.

ADDITIONAL COMMENTS

None.

Information Sources: Cavitt, JF, SL Jones, NM Wilson, JS Dieni, TS Zimmerman, RH Doster, and WH Howe. 2014. Atlas of breeding colonial waterbirds in the interior western United States. Denver(CO): US Fish and Wildlife Service; Moulton, C, J Carlisle, K Brenner, and R Cavallaro. 2013. Assessment of foraging habitats of White-faced Ibis near two important breeding colonies in eastern Idaho. Boise(ID): Idaho Department of Fish and Game; Ryder, RR, and DE Manry. 1994. White-faced Ibis (*Plegadis chihi*). The Birds of North America Online. (A Poole, editor). Ithaca(NY): Cornell Laboratory of Ornithology. [accessed 2015 Jun 01]; Sauer, JR, JE Hines, and J Fallon. 2005. The North American Breeding Bird Survey, results and analysis 1966–2004. Version 2005.2. Laurel(MD): USGS Patuxent Wildlife Research Center; Ivey, GL and CP Herziger, coordinators. 2005. Intermountain West Waterbird Conservation Plan—A plan associated with the Waterbird Conservation for the Americas initiative. Version 1.0. Portland(OR): US Fish and Wildlife Service Pacific Region; Yee, DG, BE Deuel, and SF Bailey. 1990. Middle Pacific coast region. American Birds 44:491–494; Idaho CWCS 2005; Stephanie Jones, expert opinion; Taylor et al. (1989)

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted summer distribution model modified by IDFG experts.

Ferruginous Hawk

Buteo regalis

Class: Aves
Order: Accipitriformes
Family: Accipitridae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: No status

Region 4: No status

BLM: Type 2

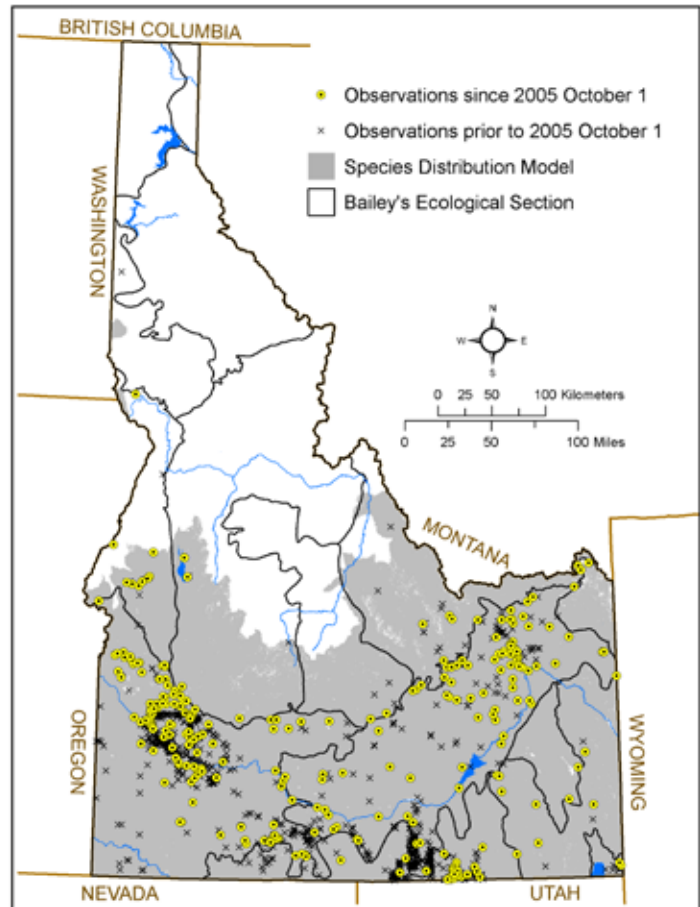
IDAPA: Protected Nongame Species

G-rank: G4

S-rank: S3B

SGCN TIER: 2

Rationale: Multiple threats



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 142,100 km² (~54,900 mi²)

Key Ecological Sections: Bear Lake, Beaverhead Mountains, Challis Volcanics, Northwestern Basin and Range, Owyhee Uplands, Snake River Basalts

Population Size in Idaho: 500–1,000

Description: Ferruginous Hawks breed throughout western North America from southern Canada between the Great Plains and Rocky Mountains south to northern Arizona and New Mexico. They are distributed throughout southern Idaho, primarily in the shrubsteppe communities of the Snake River plain and are relatively uncommon with approximately 625 breeding individuals in the state. Ferruginous Hawks winter in the southern US and Mexico, but a limited number of birds reside year-round in the extreme southern part of Idaho.

HABITAT & ECOLOGY

Environmental Specificity: Broad: Generalist—all key requirements are common.

Description: The Ferruginous Hawk inhabits flat and rolling terrain in grassland or shrub steppe regions, typically avoiding high elevation, forest interior, and narrow canyons. It occurs in grasslands, sagebrush and saltbush-greasewood shrublands, and the edges of pinyon-juniper forests. In Idaho, this species is locally abundant at the interface between pinyon-juniper and shrub steppe environments, and it hunts from the air or perch, most frequently near sunrise or sunset. Nests are constructed in trees (primarily junipers), tall shrubs, and on cliffs with up to 8–10 nests per 100 km² (39 mi²) if conditions are favorable. Breeding males in Idaho were estimated to have an average home range of 7–8 km² (2.7–3.0 mi²). Ferruginous Hawk nests are often located within 0.8km (0.5 mi) of a Swainson's Hawk nest.

POPULATION TREND

Short-term Trend: Increase >25%

Long-term Trend: Unknown

Description: North American Breeding Bird Survey data do not indicate any significant long-term (1966-2013) or short-term (2003-2013) trends in the US. BBS data do suggest increases in Idaho of 2.1% per year during the period 1966-2013 and 1.9% per year during the period 2003-2013. However, these trends are not statistically significant.

THREATS

Overall Threat Impact: High

Intrinsic Vulnerability: Not intrinsically vulnerable

Description: Main issues threatening the Ferruginous Hawk appear to be agricultural development and recreational disturbance. Population declines have been attributed to the deleterious effects of cultivation, grazing, poisoning and controlling of small mammals, mining, and fire in nesting habitats. Because this species often nests in tall shrubs (juniper) on rangelands, it is susceptible to human disturbance, particularly from OHV use on public lands.

CONSERVATION ACTIONS

Conservation issues and management actions are detailed in the appropriate section plans. In short, recommended strategies include supporting legislation for renewing the Conservation Reserve Program in future Farm Bills, managing off-road travel in nesting areas, promoting best management practices for livestock grazing in sagebrush steppe habitat, and conducting public outreach.

ADDITIONAL COMMENTS

None.

Information Sources: Idaho CWCS 2005; Sauer JR, JE Hines, JE Fallon, KL Pardieck, DJ Ziolkowski, and WA Link. 2014. The North American Breeding Bird Survey, Results and Analysis 1966–2013. Version 01.30.2015. Laurel (MD): USGS Patuxent Wildlife Research Center.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted summer distribution model modified by IDFG experts.

Golden Eagle

Aquila chrysaetos

Class: Aves
Order: Accipitriformes
Family: Accipitridae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: No status

Region 4: No status

BLM: Type 2

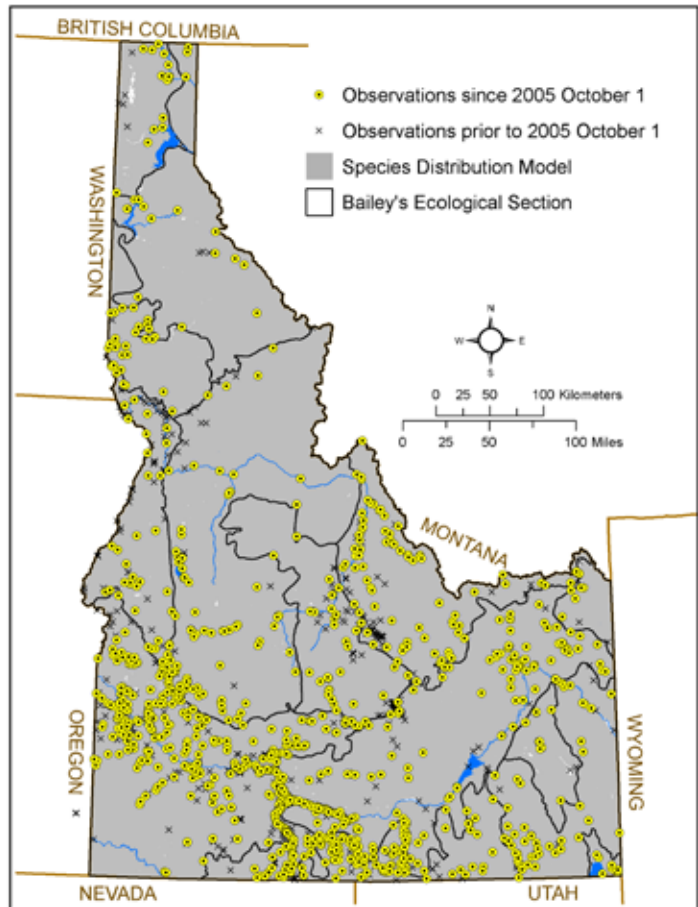
IDAPA: Protected Nongame Species

G-rank: G5

S-rank: S3

SGCN TIER: 2

Rationale: Multiple threats



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 216,400 km² (~83,600 mi²)

Key Ecological Sections: Bear Lake, Beaverhead Mountains, Challis Volcanics, Northwestern Basin and Range, Overthrust Mountains, Owyhee Uplands, Snake River Basalts

Population Size in Idaho: 1,000–2,500

Description: Golden Eagles are distributed throughout the western half of North America. This species is found throughout Idaho, wherever there is open habitat, but nests primarily in the southern half of the state. There are an estimated 130,000 individuals in North America and approximately 1,600 of these are present in Idaho during the breeding season.

HABITAT & ECOLOGY

Environmental Specificity: Moderate: Generalist—some key requirements are scarce.

Description: Golden Eagles breed in open and semi-open shrublands, grasslands, and coniferous forests, occurring primarily in canyon land and rimrock terrain. Nesting density in Idaho tends to be higher in areas bordered by shrub steppe and grassland than in areas bordered by agriculture. This species typically forages year-round in open habitats, particularly in shrub habitat, but tends to avoid agriculture, grassland, and burned habitats. Golden Eagles are an opportunistic predator, preying mainly on mammals, but will also feed on carrion, especially during winter. Black-tailed Jackrabbits and Cottontails are main prey items in the Great Basin. Golden Eagles usually nest on cliffs, but will also nest in trees. This species often constructs alternate nests (up to 14) in a single territory and will refurbish and re-use existing nests. Golden Eagles produce 1 brood per season, but will re-nest when eggs fail to hatch. Average productivity is 0.79 chicks fledged per nest in southwest Idaho.

POPULATION TREND

Short-term Trend: Relatively Stable (<=10% change)

Long-term Trend: Relatively Stable (<=10% change)

Description: Long-term nesting surveys show declines in western US populations, but not Alaska or Canada. The number of occupied nesting territories declined significantly from 35 to 29 (-0.71% per year) in the Snake River Canyon between 1971 and 1994. However, BBS data do not indicate any statistically significant trends in the western BBS region or in Idaho during the 1966-2013 or 2003-2013 periods.

THREATS

Overall Threat Impact: High

Intrinsic Vulnerability: Moderately vulnerable

Description: Golden Eagles are subject to multiple threats. Nesting population declines have been associated with loss of shrubs and jackrabbit habitat due to widespread fires. As a wide-ranging predator, this species may be negatively affected by wind energy development. Increases in OHV use have been implicated in the decline of Golden Eagle occupancy and nest success in southwest Idaho. Because of their tendency to feed upon carrion, this species is attracted to roadkill and consequently can become subject to vehicle collisions.

CONSERVATION ACTIONS

Conservation issues and management actions are described in the appropriate section plans. In short, recommended strategies include implementing large-scale experimental activities to remove cheatgrass and other invasive annual grasses, developing appropriate fire suppression plans, conducting public outreach, working with utilities to identify power lines that may pose a risk for collision or electrocution mortality, working with the Idaho Transportation Department to increase rate of roadkill removal, and managing OHV travel to minimize negative impacts on public lands.

ADDITIONAL COMMENTS

None.

Information Sources: Kochert MN and K Steenhof. 2002. Golden Eagles in the US and Canada; status, trends conservation challenges. *J. Raptor Res.* 36(supplement):33-41; Kochert MN, K Steenhof, CL McIntyre and EH Craig. 2002. Golden Eagle (*Aquila chrysaetos*), *The Birds of North America Online* (A. Poole, Ed.). Ithaca (NY): Cornell Lab of Ornithology; Partners in Flight Science Committee 2013. Population Estimates Database, version 2013. Available at <http://rmbo.org/pifpopestimates>. Accessed 9 Dec 2015; Sauer JR, JE Hines, JE Fallon, KL Pardieck, DJ Ziolkowski, and WA Link. 2014. The North American Breeding Bird Survey, Results and Analysis 1966–2013. Version 01.30.2015. Laurel (MD): USGS Patuxent Wildlife Research Center; Steenhof K, JL Brown and MN Kochert. 2014. Temporal and spatial changes in golden eagle reproduction in relation to increased off highway vehicle activity. *Wildl Soc Bull.* 38(4):682–688; Tack JD and BC Fedy. 2015. Landscapes for energy and wildlife: conservation prioritization for Golden Eagles across large spatial scales. *PLoS ONE* 10(8): e0134781. doi:10.1371/journal.pone.0134781; Brian Millsap, pers. comm.; Natalie Turley, pers comm.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted year-round distribution model.

Sandhill Crane

Grus canadensis

Class: Aves
Order: Gruiformes
Family: Gruidae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: No status

Region 4: No status

BLM: No status

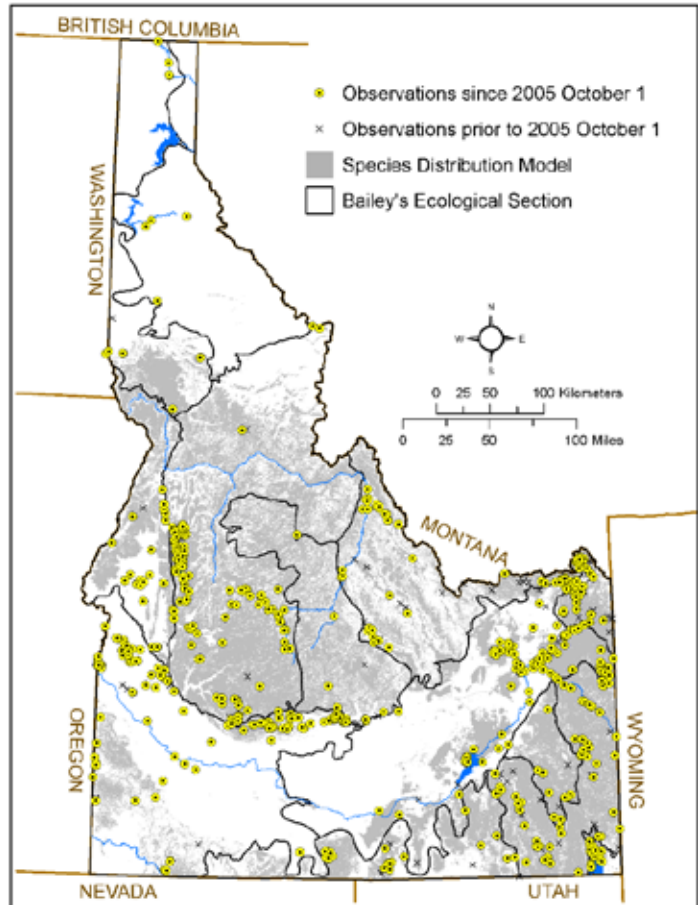
IDAPA: Migratory Game Birds

G-rank: G5

S-rank: S3B

SGCN TIER: 3

Rationale: Significant proportion of the Rocky Mountain Population breeds and/or stages in Idaho, population declines, multiple threats to habitat



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 195,800 km² (~75,600 mi²)

Key Ecological Sections: Bear Lake, Beaverhead Mountains, Challis Volcanics, Idaho Batholith, Northwestern Basin and Range, Overthrust Mountains, Owyhee Uplands, Snake River Basalts, Yellowstone Highlands

Population Size in Idaho: 7,500-10,000

Description: Three crane populations occur in Idaho. The Lower Colorado River Valley Population (LCRVP) breeds in southwest Idaho from the border with Nevada north to New Meadows. The Rocky Mountain Population (RMP) breeds in south-central and eastern Idaho. Lesser Sandhill Cranes in the Pacific Coast Population (PCP) use staging areas in the Treasure and Payette River valleys during spring migration on their way to nesting areas in southern Alaska. In Idaho there are approximately 6,500 birds in the RMP and 1,000 birds in the PCP; there is no population estimate for the LCRVP.

HABITAT & ECOLOGY

Environmental Specificity: Moderate: Generalist—some key requirements are scarce.

Description: Sandhill Cranes are found in well-watered river valleys, marshes, and meadows typically above 1500 m (5000 ft) elevation. Cranes nest along the edge of cattail and bulrush marshes in the wet meadow-shallow marsh zones and on islands. Following nesting, cranes stage in nearby wetlands in close proximity to cut grain (wheat or barley). Sandhill Cranes are long-lived and have the lowest recruitment rates (5-15% juveniles/total cranes) of any game bird in North America. Generally, they do not breed until 3-5 years of age and lay two eggs each year.

Less than 20% of breeding pairs are successful in raising young each year, and most successful pairs fledge only one young per year.

POPULATION TREND

Short-term Trend: Decline 30–50%

Long-term Trend: Decline (degree unknown)

Description: Sandhill Cranes originally nested in suitable habitat throughout Idaho, but the breeding population decreased rapidly following human settlement. September pre-migration staging surveys indicate the rangewide RMP has been relatively stable in the last 20 years (18,000-20,000 birds), but numbers in Idaho have declined from >10,000 birds in 1987 to 6,500 in 2015. Idaho has supported 22-61% of the RMP (long-term average of 37%). The rangewide RMP has been stable and estimated at 18,000-20,000 birds. The rangewide 20-year trend is increasing for the LCRVP (1,400-2,100 birds) and the PCP (\leq 25,000 birds).

THREATS

Overall Threat Impact: Medium

Intrinsic Vulnerability: Moderately vulnerable

Description: The primary threat to most Sandhill Crane populations is the loss of wetland habitat to residential and agricultural development. Further, agricultural conversion to center-pivot from flood irrigation has reduced foraging habitat. Large congregations stage during migration and use relatively small areas. This makes them particularly vulnerable to local habitat changes. The juxtaposition of secure wetland habitat and cut grain (wheat and barley) is becoming increasingly rare in Idaho. Human disturbance during migration displaces individuals from traditional staging and breeding areas.

CONSERVATION ACTIONS

Recommended actions include improving population monitoring, maintaining suitable habitat at breeding sites, maintaining or increasing grain fields and roost sites at traditional spring and fall staging areas, and providing incentives and assistance to landowners to improve habitat on private land. It is also important to identify and examine broad-scale landscape stressors (e.g., drought and anthropogenic changes) influencing rangewide demographic patterns in the LCRVP and RMP.

ADDITIONAL COMMENTS

The Sandhill Crane is one of the most ancient species of birds that inhabits North America. Fossil records date back at least 2.5 million years.

Information Sources: Gerber, BD, JF Dwyer, SA Nesbitt, RC Drewien, CD Littlefield, TC Tacha, and PA Vohs. 2014. Sandhill Crane (*Grus canadensis*). The Birds of North America Online. (A Poole, editor). Ithaca(NY): Cornell Lab of Ornithology.; Thorpe, PP, P Donnelly, and D Collins. 2015. September 2015 survey of the Rocky Mountain Population of Greater Sandhill Cranes. Lakewood(CO): US Fish and Wildlife Service. Unpublished Report.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted summer distribution model modified by IDFG experts.

Long-billed Curlew

Numenius americanus

Class: Aves

Order: Charadriiformes

Family: Scolopacidae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: No status

Region 4: No status

BLM: Type 2

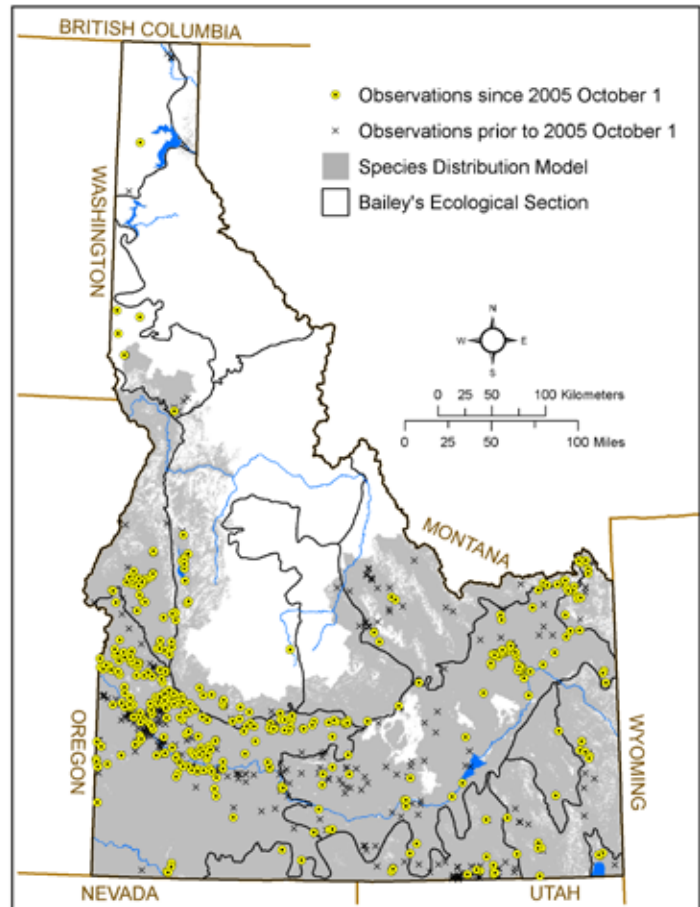
IDAPA: Protected Nongame Species

G-rank: G5

S-rank: S2B

SGCN TIER: 2

Rationale: Declining productivity, multiple threats to habitat



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 144,300 km² (~55,700 mi²)

Key Ecological Sections: Beaverhead Mountains, Overthrust Mountains, Owyhee Uplands, Snake River Basalts, Yellowstone Highlands

Population Size in Idaho: 2,500–10,000

Description: The Long-billed Curlew is a shorebird that breeds in southern Canada and the western US, including south Idaho. The continental breeding population numbers roughly 123,000 individuals, with approximately 40,000 in the Great Basin. In Idaho, the current population size is unknown. However, as of 1980, there were an estimated 3,000–5,000 pairs nesting in the state with nearly 1,000 within the Long-billed Curlew Area of Critical Environmental Concern (ACEC) in southwest Idaho. Recent work indicates only 80 pairs now nest in the ACEC, and a total of 7,000 adults are present in the greater Four Rivers BLM District during the breeding season.

HABITAT & ECOLOGY

Environmental Specificity: Moderate: Generalist—some key requirements are scarce.

Description: Long-billed Curlews nest in open short-grass, or mixed-prairie habitat and pasture-wet meadow complexes in large, relatively unfragmented landscapes with level to slightly rolling topography. They generally avoid areas with trees, high-density shrubs, and tall, dense grasses. Nests are placed on the ground in areas of notably patchy vegetation. In Idaho, this species forages predominately in grassland, but may switch to plowed fields and wet pastures if grasslands become too tall or dense after high spring rainfall. Prey includes terrestrial insects, benthic invertebrates, and some small vertebrates. Although this species appears to use nonnative grassland habitats (e.g., cheatgrass) it is unknown whether they are successful.

POPULATION TREND

Short-term Trend: Increase 10–25%

Long-term Trend: Unknown

Description: Rangelwide, Long-billed Curlews are believed to be declining, particularly in the Great Plains. North American Breeding Bird Survey data do not indicate any significant changes outside the central region and Canada during the period 1966-2013, but they do suggest an increasing, non-statistically significant trend of 3.8% per year in Idaho from 2003-2013. These data may not cover trends for this species very well and, thus, recent and ongoing research are addressing population size, trends, and adequacy of BBS for Long-billed Curlews.

THREATS

Overall Threat Impact: High

Intrinsic Vulnerability: Not intrinsically vulnerable

Description: Conversion of grasslands to croplands, fragmentation of mountain valley habitats away from traditional ranching practices towards increased rural residential development, loss of wet meadow habitats, loss of flood irrigation, increasing recreational use in curlew nesting areas, and deposition of refuse have all resulted in loss of suitable habitat in Idaho. Off-road vehicle use is detrimental to this species during nesting, causing either direct nest failure from crushing nests, or indirectly through repeated disturbance.

CONSERVATION ACTIONS

Conservation issues and management actions are described in the appropriate section plans. In short, recommended strategies include working with public land managers on travel plan development to minimize fragmentation, disturbance and direct mortality in nesting areas, conserving working lands with traditional ranching operations, conducting public outreach, and identifying and protecting intact blocks of native grasslands.

ADDITIONAL COMMENTS

None.

Information Sources: Idaho CWCS 2005; Stanley TR and SK Skagen. 2007, Estimating the breeding population of Long-billed Curlew in the United States. *J Wildl Manage* 71(8):2556-2664; Jones SL, CS Nations, SD Fellows and LL McDonald. 2008, Breeding abundance and distribution of Long-billed Curlews (*Numenius americanus*) in North America. *Waterbirds* 31(1):1-14; Fellows SD and SL Jones. 2009, Status assessment and conservation action plan for the Long-billed Curlew (*Numenius americanus*). US Fish and Wildlife Service, Biological Tech Publication, FWS/BTP-R6012-2009, Washington, DC; Moulton CE 2012. Long-billed Curlew (*Numenius americanus*) and Burrowing Owl (*Athene cunicularia*) populations in the BLM Four Rivers Field Office 2011 Report. Idaho Department of Fish and Game, Boise; Carlisle J and C Moulton. 2012, 2011 abundance and productivity of Long-billed Curlews (*Numenius americanus*) in the Long-billed Curlew Area of Critical Environmental Concern of southwest Idaho. Unpublished Report; Sauer JR, JE Hines, JE Fallon, KL Pardieck, DJ Ziolkowski, and WA Link. 2014. The North American Breeding Bird Survey, Results and Analysis 1966–2013. Version 01.30.2015. Laurel (MD); USGS Patuxent Wildlife Research Center; J Carlisle, pers. comm.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted summer distribution model.

Franklin's Gull

Leucophaeus pipixcan

Class: Aves

Order: Charadriiformes

Family: Laridae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: No status

Region 4: No status

BLM: No status

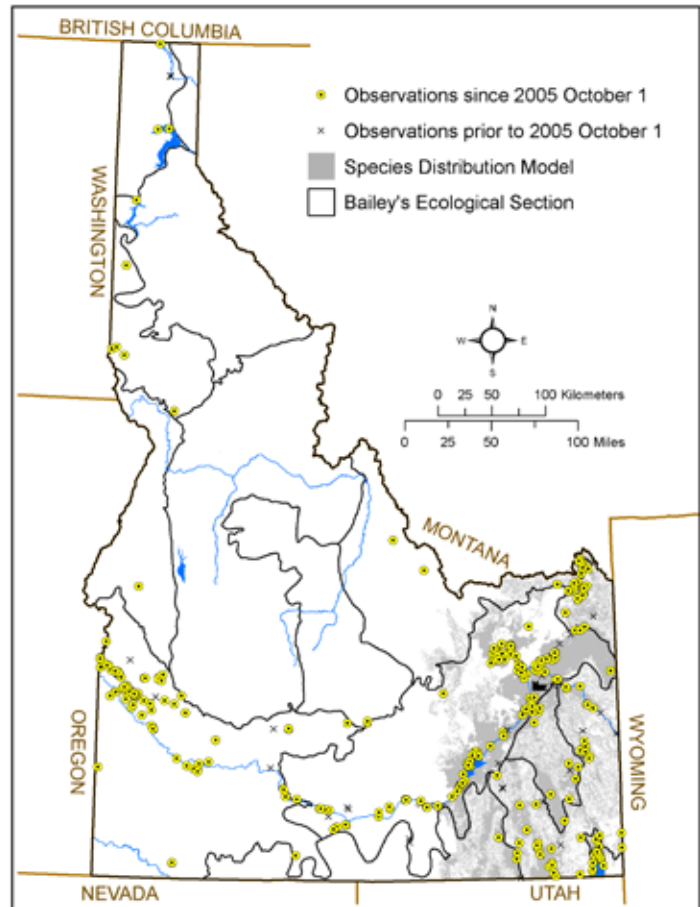
IDAPA: Protected Nongame Species

G-rank: G4G5

S-rank: S3B

SGCN TIER: 3

Rationale: Population declines, multiple threats



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 216,400 km² (~83,600 mi²)

Key Ecological Sections: Bear Lake, Overthrust Mountains, Snake River Basalts

Population Size in Idaho: 100,000–1,000,000

Description: In the interior western US, there are approximately 158,000 breeding adults. Of these, approximately 124,000 breed in eastern Idaho at Bear Lake and Grays Lake NWRs, Market Lake and Mud Lake WMAs, and Oxford Slough Waterfowl Production Area.

HABITAT & ECOLOGY

Environmental Specificity: Moderate: Generalist—some key requirements are scarce.

Description: As the only gull that nests exclusively in marshes, Franklin's Gulls breed in large areas with fairly open emergent vegetation (particularly bulrush/cattail marshes) and deep water. Nests are formed on floating mats built on the water's surface, on muskrat lodges, or on floating debris, and are constructed of dead marsh plants. This species forages in marshes, irrigated agricultural fields, pastures, and other field habitats, preying on grasshoppers, earthworms, grubs, insects, and seeds and other vegetable matter.

POPULATION TREND

Short-term Trend: Decline 10–30%

Long-term Trend: Unknown

Description: Given the behavioral nature of Franklin's Gulls to nest in large colonies in remote areas, and to shift colony locations depending on water conditions, determining population trend is quite difficult and BBS trend data likely are inappropriate. Nevertheless, BBS data suggest

declines in the west and in Idaho during the period 1966–2013 (-7% and -4.4% per year, respectively) and 2003-2013 (-2.9% and -5% per year, respectively). In contrast, colony counts indicate that Franklin's Gulls increased substantially in Idaho between 1993 (approximately 9,000 breeding pairs) and 2010 (62,000 breeding pairs). Idaho trends are therefore uncertain at this time.

THREATS

Overall Threat Impact: High

Intrinsic Vulnerability: Not intrinsically vulnerable

Description: Agricultural conversion to center-pivot from flood irrigation is the biggest threat to this species in Idaho. Over 40% of Idaho's breeding population resides at Market Lake and Mud Lake WMAs. The surrounding landscape is rapidly losing flood-irrigated habitats that are used by Franklin's Gulls for foraging. The colony at Mud Lake WMA is also threatened by rapid water level fluctuations that result in nest flooding and significant colony failure in some years. Decreased water levels in some locations, like Oxford Slough Waterfowl Production Area, result in increased access to nesting colonies by predators and significant nesting failure.

CONSERVATION ACTIONS

Conservation issues and management actions are described in the appropriate section plans. In short, recommended actions include working with the Natural Resource Conservation Service, private landowners and land managers to identify opportunities to restore natural wetlands suitable for foraging, maintaining flood-irrigated agricultural fields near nesting colonies, and working with water managers to develop and implement water level management recommendations that reduce nest loss while meeting irrigation needs.

ADDITIONAL COMMENTS

None.

Information Sources: Idaho CWCS 2005; Moulton, C, J Carlisle, K Brenner, and R Cavallaro. 2013. Assessment of foraging habitats of White-faced Ibis near two important breeding colonies in eastern Idaho. Boise (ID): Idaho Department of Fish and Game; Cavitt, JF, SL Jones, NM Wilson, JS Dieni, TS Zimmerman, RH Doster, and WH Howe. 2014. Atlas of breeding colonial waterbirds in the interior western United States. Denver (CO): US Fish and Wildlife Service; Sauer JR, J. E Hines, JE Fallon, KL Pardieck, DJ Ziolkowski, and WA Link. 2014. The North American Breeding Bird Survey, Results and Analysis 1966–2013. Version 01.30.2015. Laurel (MD): USGS Patuxent Wildlife Research Center.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted summer distribution model modified by IDFG experts.

Ring-billed Gull

Larus delawarensis

Class: Aves

Order: Charadriiformes

Family: Laridae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: No status

Region 4: No status

BLM: No status

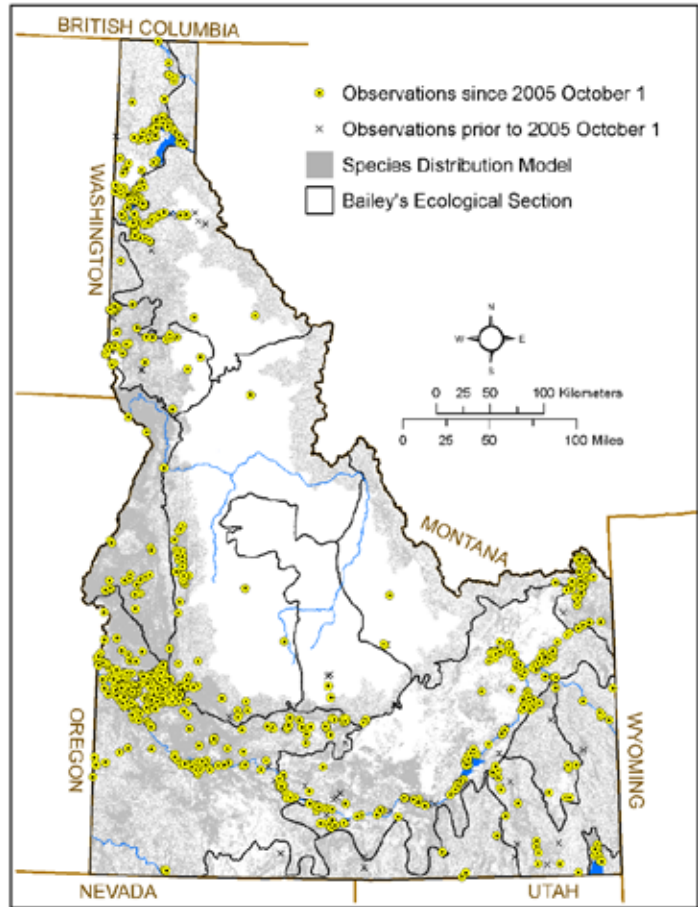
IDAPA: Protected Nongame Species

G-rank: G5

S-rank: S2B, S2N

SGCN TIER: 3

Rationale: Breeding population only, substantial population declines



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 161,400 km² (~62,300 mi²)

Key Ecological Sections: Northwestern Basin and Range, Owyhee Uplands, Snake River Basalts

Population Size in Idaho: 10,000–100,000

Description: Ring-billed Gulls breed from coastal Newfoundland, west to south-central British Columbia, south to southeast Québec, western New York State, southern Michigan, northern South Dakota, southern Wyoming and northeast California/northwest Nevada. There are an estimated 1.7 million Ring-billed Gulls breeding in North America. In the interior western US, there are approximately 15,000 breeding pairs. In the 1990s, approximately 6,000 pairs bred in Idaho at American Falls, Mormon and Magic Reservoirs, and Market Lake and Ted Trueblood WMAs. Currently, there are 2,500 pairs nesting in Idaho at three locations: Blackfoot and Island Park Reservoirs, and Market Lake WMA.

HABITAT & ECOLOGY

Environmental Specificity: Moderate: Generalist—some key requirements are scarce.

Description: Ring-billed Gulls breed almost exclusively on barren or sparsely vegetated islands in natural lakes, reservoirs, and rivers. In Idaho, they are generally found nesting with California Gulls and/or Double-crested Cormorants. Nest scrapes are formed on the ground and typically lined with sticks, grasses, leaves, or moss and nests are occasionally reused from year to year. Ring-billed Gulls will use a wide variety of fairly open habitats for foraging, including reservoirs, lakes, irrigation canals, weirs, garbage dumps, feed lots, irrigated agricultural fields, and pastures. This species is highly opportunistic, and will feed on just about any food items that are

possible to consume, although it prefers live animal prey. Ring-billed Gulls will occasionally steal food items from other species, and eat eggs from other nests in the colony.

POPULATION TREND

Short-term Trend: Decline 50–70%

Long-term Trend: Unknown

Description: Patchy distribution of colony sites in the US likely obscures any potential geographically large-scale trends. North American Breeding Bird Survey data do not indicate any significant changes in US, western, or Idaho populations. However, colony surveys conducted in Idaho indicate that the population of breeding adults has declined significantly in the past 10 years, as nesting islands have become unsuitable for nesting because of low water and exposure to predators. As of 2014, only one of five historic colonies was still active (at Market Lake WMA), although two new sites have become colonized (at Blackfoot and Island Park Reservoirs). Combined, these three locations contained only 25% of the 2006 Idaho population. There is a fourth, recently-established colony in the Owyhee Uplands within a fenced industrial settling pond in shrub-steppe habitat. This colony is likely not viable, however, due to severe mortality from heavy truck traffic, malnutrition, and predation.

THREATS

Overall Threat Impact: High

Intrinsic Vulnerability: Not intrinsically vulnerable

Description: Low water levels, particularly in the IDFG Magic Valley Region, are the most significant threat to Ring-billed Gulls in Idaho. Low water levels in nesting reservoirs has resulted in land-bridging at several nesting islands. Land-bridging results in high predation rates on young and adults, if gulls attempt to nest at these sites at all. Three historic nesting islands are no longer active because of land-bridging. In addition, the nesting colony at Blackfoot Reservoir is subject to human disturbance, and one alternative in a current Bureau of Reclamation water storage study in the Henrys Fork Basin is to raise the level of the Island Park Reservoir. This action, if implemented, would likely flood out this colony, as well as many other colonial nesting birds.

CONSERVATION ACTIONS

Conservation issues and management actions are described in the appropriate section plans. In short, they include working with water managers to develop and implement water level management guidelines during the breeding season that balance irrigation and wildlife needs, working with land managers to restore or create new nesting locations that will not be subject to low water level concerns in the foreseeable future, minimizing human disturbance of nesting colonies to the extent possible, and exploring potential for fencing access routes for land-bridged islands.

ADDITIONAL COMMENTS

None.

Information Sources: Pollet IL, D Shutler, J Chardine and JP Ryder. 2012. Ring-billed Gull (*Larus delawarensis*), The Birds of North America Online (A Poole, Editor). Ithaca (NY): Cornell Lab of Ornithology; Cavitt JF, SL Jones, NM Wilson, JS Dieni, TS Zimmerman, RH Doster, and WH Howe. 2014. Atlas of breeding colonial waterbirds in the interior western United States. Denver (CO): US Fish and Wildlife Service; Sauer JR, JE Hines, JE Fallon, KL Pardieck, DJ Ziolkowski, and WA Link. 2014. The North American Breeding Bird Survey, Results and Analysis 1966–2013. Version 01.30.2015. Laurel (MD): USGS Patuxent Wildlife Research Center; IDFG unpublished data.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted summer distribution model modified by IDFG experts.

California Gull

Larus californicus

Class: Aves

Order: Charadriiformes

Family: Laridae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: No status

Region 4: No status

BLM: No status

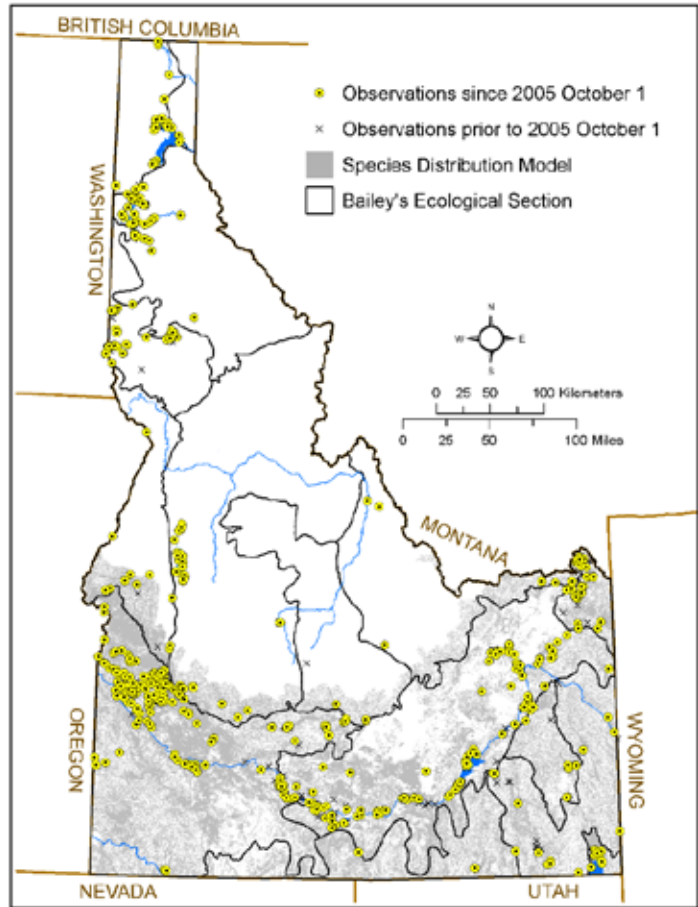
IDAPA: Protected Nongame Species

G-rank: G5

S-rank: S3B, S2N

SGCN TIER: 2

Rationale: Breeding population only, substantial population declines



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 216,400 km² (~83,600 mi²)

Key Ecological Sections: Bear Lake, Northwestern Basin and Range, Owyhee Uplands, Snake River Basalts, Yellowstone Highlands

Population Size in Idaho: 2,500–10,000

Description: California Gulls breed in scattered locations throughout the Great Basin, northwest Great Plains, and south-central taiga of North America. There are an estimated 414,000 adult California Gulls breeding in North America. In the interior western US, there are approximately 80,000 breeding pairs. In the 1990s, approximately 32,000 pairs bred in Idaho at American Falls, Blackfoot, Mormon and Magic Reservoirs, Bear Lake, Deer Flat, and Minidoka NWRs, and Ted Trueblood WMA. Currently, there are 8,000 pairs nesting in Idaho at four locations: American Falls, Blackfoot, and Island Park Reservoirs, and Minidoka NWR.

HABITAT & ECOLOGY

Environmental Specificity: Moderate: Generalist—some key requirements are scarce.

Description: California Gulls breed almost exclusively on barren or sparsely vegetated islands in natural lakes, reservoirs, and rivers. In Idaho, they are generally found nesting with Ring-billed Gulls and/or Double-crested Cormorants. Nest scrapes are formed on the ground and lined with vegetation, bones, and feathers, and nests are occasionally reused from year to year. This species may travel up to 60 km (37 mi) from the colony to forage. California Gulls will use a wide variety of fairly open habitats for foraging, including reservoirs, lakes, irrigation canals, weirs, garbage dumps, feed lots, irrigated agricultural fields, and pastures. This species is highly opportunistic and will feed on just about any food items that are possible to consume (although

it prefers live animal prey), will occasionally steal food items from other species, and commonly eat eggs from other nests in the colony.

POPULATION TREND

Short-term Trend: Decline 30–50%

Long-term Trend: Unknown

Description: Patchy distribution of colony sites in the US likely obscures any potential geographically large-scale trends. Nevertheless, BBS data suggest declines during the period 1966–2013 in the US (-1.9% per year), western BBS region (-1.5% per year), and Idaho (-7.5% per year), as well as declines in Idaho during the period 2003–2013 (-6.5% per year). Colony surveys conducted in Idaho indicate that the population of breeding adults has declined significantly in the past 10 years, as nesting islands have become unsuitable for nesting because of low water and exposure to predators. As of 2014, only four of eight historic colonies were still active, and contained 41% of the 2006 Idaho population. There is a fifth, recently-established colony in the Owyhee Uplands within a fenced industrial settling pond in shrub-steppe habitat. This colony is likely not viable, however, due to severe mortality from heavy truck traffic, malnutrition, and predation.

THREATS

Overall Threat Impact: High

Intrinsic Vulnerability: Not intrinsically vulnerable

Description: Low water levels, particularly in the IDFG Magic Valley Region, are the most significant threat to California Gulls in Idaho. Low water levels in nesting reservoirs has resulted in land-bridging at several nesting islands. Land-bridging results in high predation rates on young and adults, if gulls attempt to nest at these sites at all. Two historic nesting islands are no longer active because of land-bridging, and colony size is declining rapidly at a third because of predation resulting from land-bridging. In addition, the nesting colony at Blackfoot Reservoir is subject to human disturbance, and one alternative in a current Bureau of Reclamation water storage study in the Henrys Fork Basin is to raise the level of the Island Park Reservoir. This action, if implemented, would likely flood out this colony, as well as many other colonial nesting birds.

CONSERVATION ACTIONS

Conservation issues and management actions are described in the appropriate section plans. In short, they include working with water managers to develop and implement water level management guidelines during the breeding season that balance irrigation and wildlife needs, working with land managers to restore or create new nesting locations that will not be subject to low water level concerns in the foreseeable future, minimizing human disturbance of nesting colonies to the extent possible, and exploring potential for fencing access routes for land-bridged islands.

ADDITIONAL COMMENTS

None.

Information Sources: Idaho CWCS 2005; Cavitt JF, SL Jones, NM Wilson, JS Dieni, TS Zimmerman, RH Doster, and WH Howe. 2014. Atlas of breeding colonial waterbirds in the interior western United States. Denver (CO): US Fish and Wildlife Service; Sauer JR, JE Hines, JE Fallon, KL Pardieck, DJ Ziolkowski, and WA Link. 2014. The North American Breeding Bird Survey, Results and Analysis 1966–2013. Version 01.30.2015. Laurel (MD): USGS Patuxent Wildlife Research Center; IDFG unpublished data.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted summer distribution model modified by IDFG experts.

Caspian Tern

Hydroprogne caspia

Class: Aves

Order: Charadriiformes

Family: Laridae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: No status

Region 4: No status

BLM: No status

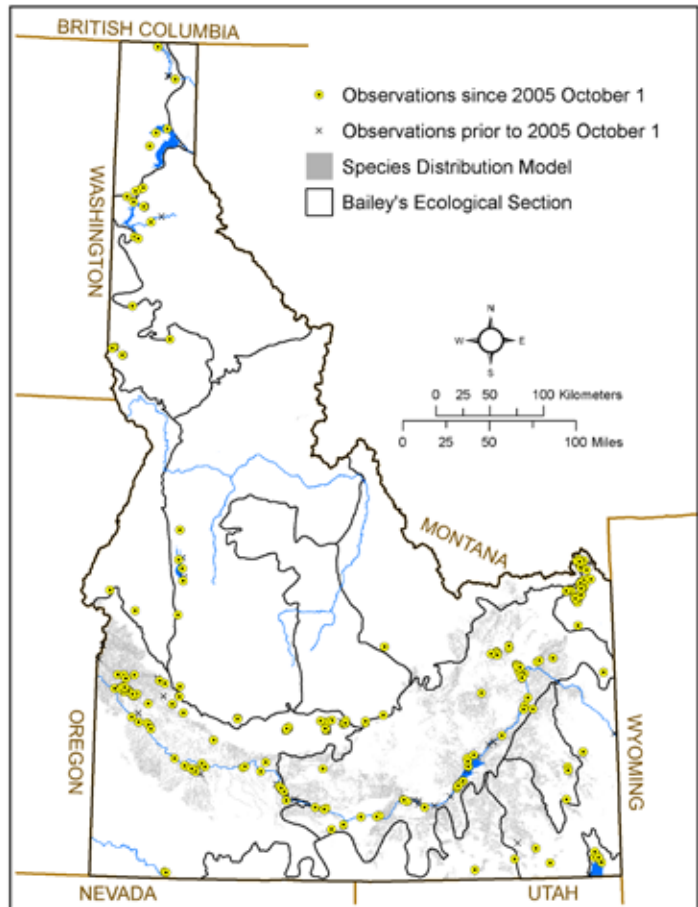
IDAPA: Protected Nongame Species

G-rank: G5

S-rank: S1B

SGCN TIER: 2

Rationale: Breeding population only, low population size, population declines, high-impact threats



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 82,800 km² (~32,000 mi²)

Key Ecological Sections: Bear Lake, Northwestern Basin and Range, Owyhee Uplands, Snake River Basalts, Yellowstone Highlands

Population Size in Idaho: 50–250

Description: Caspian Terns breed in widely scattered locations along the Pacific Coast, central Canada, the Intermountain West, the Great Lakes, the Gulf Coast, and along the Atlantic Coast. There are an estimated 68,000 adults breeding in North America. In the interior western US, there are approximately 280 breeding pairs. Of these, approximately 75 pairs currently breed at Island Park Reservoir in Idaho—this is now the only nesting location in the state. As recently as 2007, this species also nested at Blackfoot, Magic, and Mormon Reservoirs, and Bear Lake and Minidoka NWRs—in 2015, however, none of these locations were known to support nesting populations of Caspian Terns.

HABITAT & ECOLOGY

Environmental Specificity: Moderate: Generalist—some key requirements are scarce.

Description: In the western interior, Caspian Terns generally nest on open, fairly flat islands or islets of lakes, reservoirs, and rivers. In Idaho, this species appears to always nest in mixed-species colonies, particularly colonies with California Gulls. Nests are placed on either bare ground or in shallow scrapes, and lined with pebbles, grasses, mosses, and other vegetation. This species forages over lakes, reservoirs, rivers, and sloughs and preys almost exclusively on fish.

POPULATION TREND

Short-term Trend: Decline 70–80%

Long-term Trend: Unknown

Description: Patchy distribution of colony sites in the US likely obscures any potential geographically large-scale trends. North American Breeding Bird Survey data indicate no statistically significant changes in the US, or western BBS survey region during the period 1966-2013. BBS data do suggest a decline in Idaho during the period 1966-2013 and 2003-2013 of 6.9% and 6.2% per year, respectively. However, because of small sample sizes, this decline is not statistically significant. Colony surveys conducted in Idaho indicate that the population of breeding adults has declined by 30% in the past 10 years, and the breeding distribution has contracted to a single colony at Island Park Reservoir.

THREATS

Overall Threat Impact: Very High

Intrinsic Vulnerability: Not intrinsically vulnerable

Description: Low water levels, particularly in the IDFG Magic Valley Region, are the most significant threat to Caspian Terns in Idaho. Low water levels in nesting reservoirs has resulted in land-bridging at two historic nesting locations. This species appears to have low tolerance to land-bridging and has abandoned these two nesting islands. One alternative in a current Bureau of Reclamation water storage study in the Henrys Fork Basin is to raise the level of the Island Park Reservoir. This action, if implemented, would likely flood out this colony, as well as many other colonial nesting birds. Caspian Terns are also impacted by human disturbance to nesting colonies and are typically at a competitive disadvantage when nesting with other colonial species, such as California Gulls and American White Pelicans. They initiate nesting later than these other colonial species, and may be unable to initiate nesting because of lack of space, or they are subject to high predation pressure from the gulls who are often already feeding chicks.

CONSERVATION ACTIONS

Conservation issues and management actions are described in the appropriate section plans. In short, they include working with water managers to develop and implement water level management guidelines during the breeding season that balance irrigation and wildlife needs, working with land managers to restore or create new nesting locations that will not be subject to low water level concerns in the foreseeable future, minimizing human disturbance of nesting colonies to the extent possible, and creating areas on nesting islands for late breeding initiation.

ADDITIONAL COMMENTS

None.

Information Sources: Idaho CWCS 2005; Cavitt JF, SL Jones, NM Wilson, JS Dieni, TS Zimmerman, RH Doster, and WH Howe. 2014. Atlas of breeding colonial waterbirds in the interior western United States. Denver (CO): US Fish and Wildlife Service; Sauer JR, JE Hines, JE Fallon, KL Pardieck, DJ Ziolkowski, and WA Link. 2014. The North American Breeding Bird Survey, Results and Analysis 1966–2013. Version 01.30.2015. Laurel (MD): USGS Patuxent Wildlife Research Center; IDFG unpublished data.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted summer distribution model modified by IDFG experts.

Black Tern

Chlidonias niger

Class: Aves

Order: Charadriiformes

Family: Laridae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: No status

Region 4: No status

BLM: Type 2

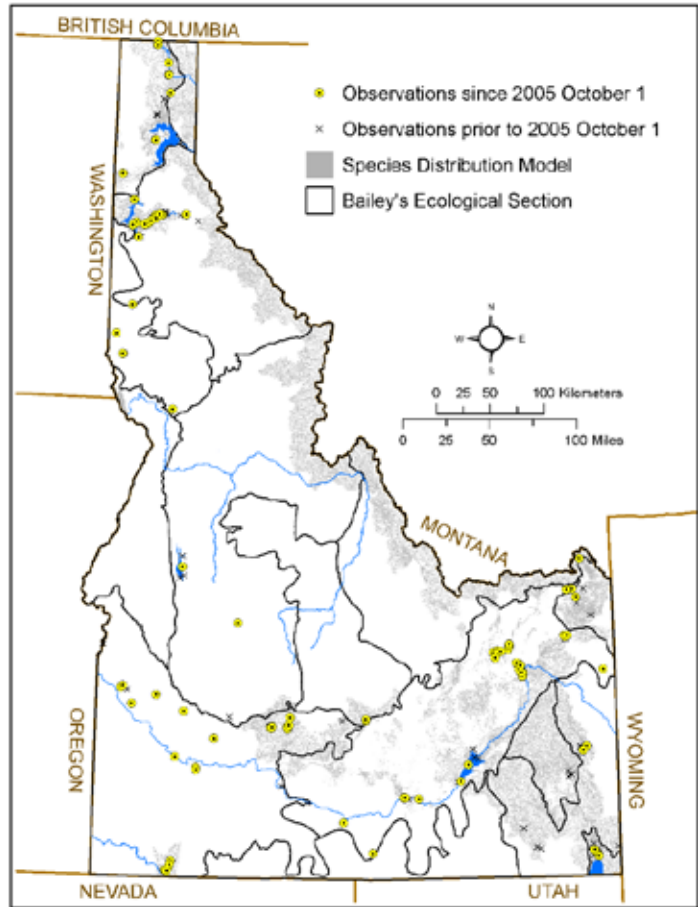
IDAPA: Protected Nongame Species

G-rank: G4

S-rank: S2B

SGCN TIER: 2

Rationale: Population declines, threats to habitat



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 68,100 km² (~26,300 mi²)

Key Ecological Sections: Bear Lake, Beaverhead Mountains, Okanogan Highlands, Overthrust Mountains, Owyhee Uplands, Snake River Basalts

Population Size in Idaho: 150-250

Description: Black Terns are localized breeders in the northern US through central Canada. Population size of this species in North America is unknown, although the US breeding population is estimated to be in the low hundreds of thousands. In the early 2000s, there were approximately 200 individuals breeding at 5-10 locations in Idaho. Most of the population is located in the northern and southeastern portions of the state. In northern Idaho, Kootenai National Wildlife Refuge and Westmond Lake appear to be consistent nesting locations for 30 and 15 pairs, respectively. Of the known breeding locations, most (>90%) are within National Wildlife Refuge or IDFG Wildlife Management Area boundaries. There may be additional nesting sites in Idaho yet to be discovered.

HABITAT & ECOLOGY

Environmental Specificity: Moderate: Generalist—some key requirements are scarce.

Description: Black Terns generally breed semi-colonially (clusters of 11–50 nests) in shallow freshwater marshes with emergent vegetation (e.g., margins of lakes, ponds, rivers, islands, or sloughs). As they have low site fidelity, nesting locations can vary widely each year, depending on marsh habitat conditions. Black Terns do not breed prior to their second summer, and some may delay breeding beyond age 2. Reproductive success is relatively low, with less than 1 chick

raised per nest on average. Unlike other North American terns, Black Terns feed predominantly on insects during the breeding season, as well as freshwater fish when available.

POPULATION TREND

Short-term Trend: Decline 50–70%

Long-term Trend: Unknown

Description: Black Terns experienced a 61% decline during the 30-year period between 1966 and 1996, followed by more recent stabilization or slight increases. This also is reflected in BBS data, which indicate sharp declines during the period 1966–1979 in the US (-10.1% per year) and a short-term increase of 3.4% per year during the period 2003–2013. In contrast, BBS data indicate significant, continued declines of -3.5% per year in the western BBS region during the period 2003–2013. No trend information is available for Idaho because of low detections for this species on BBS routes.

THREATS

Overall Threat Impact: Medium

Intrinsic Vulnerability: Moderately vulnerable

Description: The primary threat to Black Terns in Idaho is loss of marsh habitat resulting from over-extraction of ground water. Drought conditions also have a significant impact on habitat availability and suitability. Disturbance is a potential threat in some locations, although Black Terns appear to be tolerant of nearby human activity provided the colony itself is not entered.

CONSERVATION ACTIONS

Conservation issues and management actions are detailed in the appropriate section plans. In short, recommended strategies include working with the Pacific Flyway Council's Nongame Technical Committee on a wetland connectivity assessment, restoring and protecting key marsh habitats, and determining current distribution and abundance.

ADDITIONAL COMMENTS

None.

Information Sources: Idaho CWCS 2005; Sauer JR, JE Hines, JE Fallon, KL Pardieck, DJ Ziolkowski, and WA Link. 2014. The North American Breeding Bird Survey, Results and Analysis 1966–2013. Version 01.30.2015. Laurel (MD): USGS Patuxent Wildlife Research Center.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted summer distribution model modified by IDFG experts.

Yellow-billed Cuckoo

Coccyzus americanus

Class: Aves
Order: Cuculiformes
Family: Cuculidae

CONSERVATION STATUS & CLASSIFICATION

ESA: Threatened

USFS:

Region 1: No status

Region 4: Sensitive

BLM: Type 1

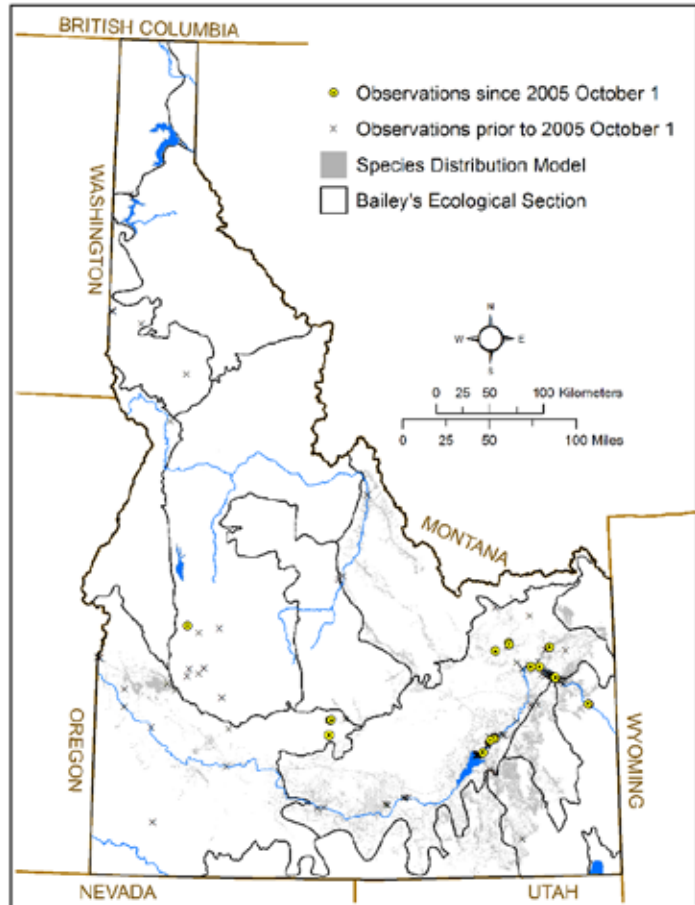
IDAPA: Protected Nongame Species

G-rank: G5

S-rank: S1B

SGCN TIER: 1

Rationale: Western US Distinct Population Segment listed as Threatened under ESA, rangewide declines, low population size, multiple threats to habitat



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 21,900 km² (~8,500 mi²)

Key Ecological Sections: Overthrust Mountains, Owyhee Uplands, Snake River Basalts

Population Size in Idaho: 1–50

Description: The Yellow-billed Cuckoo is a neotropical migrant that breeds in increasingly disjunct fragments of riparian habitat from California, Idaho, and Montana south to northwestern Mexico and winters in South America east of the Andes. The most important breeding habitat in Idaho is relatively pristine cottonwood forest found on the South Fork of the Snake River between Palisades Dam and the confluence with the Henrys Fork River, the lower Henrys Fork River from St. Anthony to the Highway 33 bridge, Deer Parks Wildlife Mitigation Unit along the main stem Snake River between Menan and Roberts, and the main stem of the Snake River between Blackfoot and American Falls Reservoir. The species is extremely rare; surveys in eastern Idaho from 2010–2012 and 2015 documented only 18 observations at 10 sites during the breeding season.

HABITAT & ECOLOGY

Environmental Specificity: Narrow: Specialist—key requirements are common.

Description: This species nests in low-elevation multi-storied cottonwood riparian forest with a densely layered high canopy and a moderately dense and heterogeneous understory. The presence of point bars and low woody vegetation are important features of nesting habitat, indicating healthy river hydraulics and active habitat succession. Occupancy increases with patch size (> 40 hectares) and when surrounded by native habitats. Pairs are non-territorial, arrive in late May, and share nest construction, incubation, and brood rearing duties. Breeding is correlated with insect abundance, which peaks from mid-June to early August. Nests consist of

a loose, flat platform of twigs lined with leaves constructed in trees or large shrubs. The nesting cycle is extremely short, lasting 17 days from the start of incubation to fledging. The species is an occasional brood parasite, laying eggs in other Yellow-billed Cuckoo nests. Its diet consists of large insects including caterpillars, katydids, cicadas, grasshoppers, and crickets.

POPULATION TREND

Short-term Trend: Decline 10–30%

Long-term Trend: Unknown

Description: No population trend data are available for Idaho because the population is too low to make valid statistical conclusions. That said, populations have probably declined and become more restricted based on habitat loss such that this species is now extremely rare.

THREATS

Overall Threat Impact: Very High

Intrinsic Vulnerability: Not intrinsically vulnerable

Description: The primary threat to Yellow-billed Cuckoo is the loss and degradation of riparian habitat associated with manmade features that alter watercourse hydrology (e.g., dams, water diversions, stream flow management that differs from natural hydrological patterns, channelization, flood control levees, and other forms of bank stabilization). These modifications restrict the natural floodplain dynamics from meandering stream channels to narrow riparian corridors that lack periodic flooding needed for cottonwood reproduction and establishment. Climate changes, particularly drought conditions, can affect river flow, snow packs, and temperature, favoring species better adapted to nondisturbance and the invasion of nonnative vegetation. Residential, recreational, and agricultural developments fragment suitable habitat and further constrain water flow management. In agricultural areas, pesticides can directly poison cuckoos and reduce the insect prey base. Improper livestock grazing can remove important vegetation structure, compact soils, degrade streambanks, and introduce invasive plants, all decreasing riparian habitat value for nesting. Mortality occurs as a result of collisions with communication towers, wind turbines, and transmission lines during migration.

CONSERVATION ACTIONS

Work with the Bureau of Reclamation and Idaho water users to implement ecologically-based systems management (e.g., allowing periodic large-volume water releases from dams to mimic natural spring flooding events and maintaining appropriate base flows) to minimize impacts to aquatic systems and restore native riparian habitat. Participate in planning efforts to improve recharge to rivers to benefit fish and wildlife resources. Seek partnerships and funding to acquire (fee title or easement), protect, restore, and manage cottonwood forests. Introduce buffer zones, exclusion fencing, and manage grazing to protect riparian habitat. Participate in coordinated monitoring and evaluate causes of population decline to make informed land management decisions. Reduce the use of neonicotinoids and assess the level of impacts on insectivorous birds at a watershed scale.

ADDITIONAL COMMENTS

The western population of this species was listed as a Threatened species under the ESA in 2014.

Information Sources: Hughes, JM. 2015. Yellow-billed Cuckoo (*Coccyzus americanus*), The Birds of North America Online (A. Poole, Ed.). Ithaca(NY): Cornell Lab of Ornithology; Poff, B, KA Koestner, DG Neary, and V Henderson. 2011. Threats to riparian ecosystems in western North America: an analysis of existing literature. Journal of the American Water Resources Assoc. 1-14.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; IDFG Upper Snake and Southeast Region surveys; USGS Gap Analysis Program predicted summer distribution model modified by IDFG experts.

Burrowing Owl

Athene cunicularia

Class: Aves
Order: Strigiformes
Family: Strigidae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: No status

Region 4: No status

BLM: Type 2

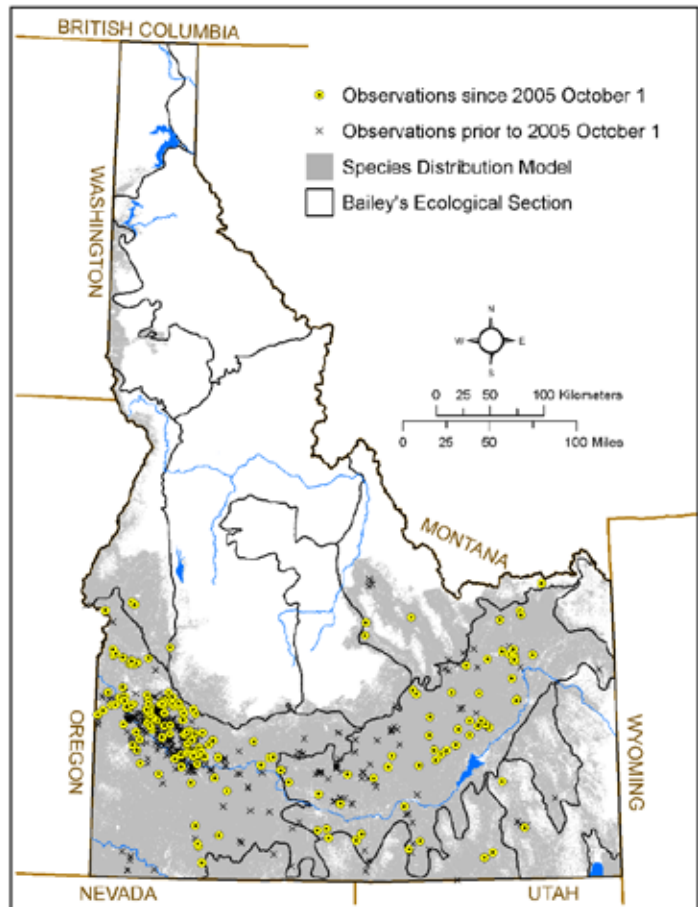
IDAPA: Protected Nongame Species

G-rank: G4

S-rank: S2B

SGCN TIER: 2

Rationale: Multiple threats to habitat



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 125,400 km² (~48,400 mi²)

Key Ecological Sections: Blue Mountains, Northwestern Basin and Range, Owyhee Uplands, Snake River Basalts

Population Size in Idaho: 2,500–10,000

Description: The western population of Burrowing Owls breeds throughout the western half of North America and Canada from as far north as British Columbia east to south-central Manitoba, and as far south as central Mexico. Although assessments of population sizes at small scales have been conducted, the size of the US population is unknown. In Idaho, Burrowing Owls are patchily distributed throughout the southern half of the state, but the population size is unknown.

HABITAT & ECOLOGY

Environmental Specificity: Moderate: Generalist—some key requirements are scarce.

Description: This species breeds in open, well-drained grasslands, farmlands, steppes, and airfields. Burrowing Owls typically use natural burrows excavated by American Badgers, and tend to be associated with irrigated agriculture. Burrowing Owls also are very responsive to artificial nesting burrows placed in their natural nesting habitats. This species forages in short-grass, mowed or overgrazed pastures, golf courses, airfields, and irrigated agricultural fields. As an opportunist, Burrowing Owls will prey on a wide variety of invertebrates and vertebrates, although the majority of prey items are invertebrates.

POPULATION TREND

Short-term Trend: Relatively Stable ($\leq 10\%$ change)

Long-term Trend: Unknown

Description: Western Burrowing Owls have declined significantly throughout much of their North American range, particularly in Canada. Although local researchers suspect populations are declining in Idaho, BBS data do not indicate statistically significant changes in Idaho or the western BBS region from 1966-2013 or 2003-2013. The lack of a significant trend may be influenced by low detection rates.

THREATS

Overall Threat Impact: Very High

Intrinsic Vulnerability: Not intrinsically vulnerable

Description: This species is subject to multiple threats. Frequent fires in the sagebrush steppe ecosystem have resulted in substantial habitat degradation, particularly conversion to cheatgrass that concurrently affects prey distribution and may also reduce nest site availability (e.g., with low populations of ground squirrels, low incidence of American Badger burrowing activity). One aspect of this degradation is an increase in Common Ravens, which are becoming a significant nest predator. For example, researchers in the Owyhee Uplands documented visitation by ravens to scavenge prey items deposited by the owls and/or take Burrowing Owl chicks at 66% of studied nests. Idling of agricultural fields tends to remove a significant prey resource for Burrowing Owls. This species uses these fields extensively for both insect and small mammal prey. In addition, shooting or control of American Badger on the landscape removes potential nesting sites for this species.

CONSERVATION ACTIONS

Conservation issues and management actions are detailed in the appropriate section plans. In short, recommended strategies are to work with land managers to restore shrub-steppe habitats in concert with Greater Sage-Grouse conservation activities, work with researchers to assess impact level of Common Raven and develop nonlethal raven predation reduction strategies, and conduct public outreach.

ADDITIONAL COMMENTS

None.

Information Sources: Idaho CWCS 2005; Sauer JR, JE Hines, JE Fallon, KL Pardieck, DJ Ziolkowski, and WA Link. 2014. The North American Breeding Bird Survey, Results and Analysis 1966–2013. Version 01.30.2015. Laurel (MD): USGS Patuxent Wildlife Research Center; James Belthoff, personal communication.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted summer distribution model.

Great Gray Owl

Strix nebulosa

Class: Aves
Order: Strigiformes
Family: Strigidae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: No status

Region 4: Sensitive

BLM: No status

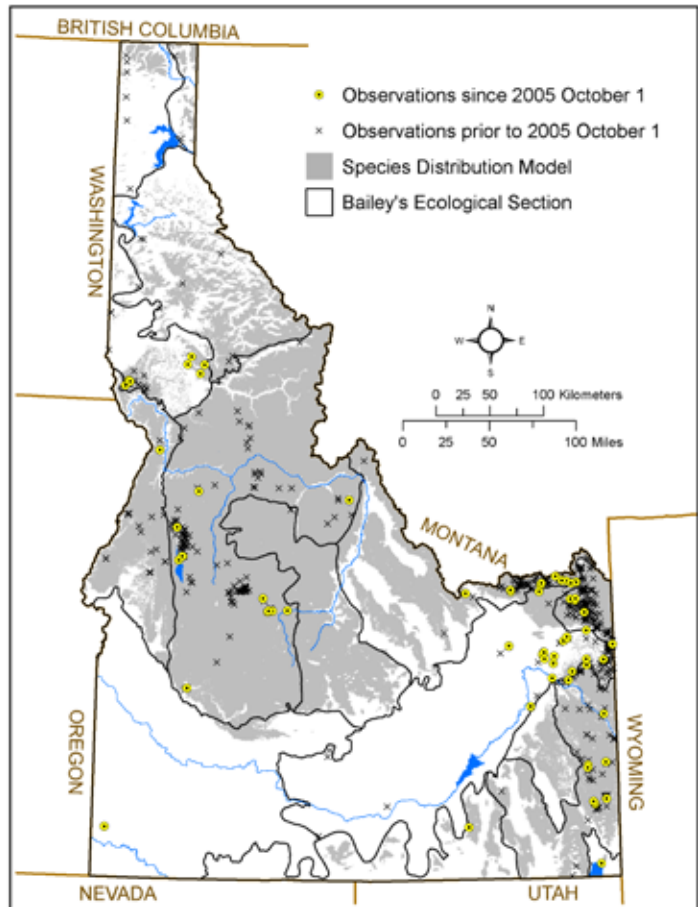
IDAPA: Protected Nongame Species

G-rank: G5

S-rank: S3

SGCN TIER: 3

Rationale: Data deficient



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 168,700 km² (~65,100 mi²)

Key Ecological Sections: Beaverhead Mountains, Challis Volcanics, Idaho Batholith, Overthrust Mountains, Palouse Prairie, Yellowstone Highlands

Population Size in Idaho: Unknown

Description: Great Gray Owls are unevenly distributed throughout a large circumboreal range that extends south along the Northern Rocky Mountains of Idaho, Montana, and Wyoming, the Cascade Mountains in Washington and Oregon, and the Sierra Nevada Mountains in California. In Idaho, Great Gray Owls are known to breed in the northern Panhandle, along the Montana-Wyoming border of eastern Idaho, in west-central Idaho, and in the Frank Church-River of No Return Wilderness. Although they are year-round residents and have been recorded in almost all mountainous areas in the state, they are relatively uncommon. Population size both continentally and in Idaho is unknown.

HABITAT & ECOLOGY

Environmental Specificity: Moderate: Generalist—some key requirements are scarce.

Description: In the southern portions of the range, these birds are almost always found associated with mountain meadows in multi-layered pine or spruce forests. In Idaho, over 90% of sightings of this species are in the lodgepole pine/Douglas-fir/aspen zone. A rodent specialist (voles in particular), this owl favors areas near bogs, forest edges, montane meadows, and other openings. It is a nocturnal and crepuscular (dawn and dusk) hunter. In some winters, when its prey are scarce, individuals will wander into areas beyond its typical range extent, often in considerable numbers, and always to the delight of birdwatchers. The breeding density of Great

Gray Owls seems limited by both prey and nest site availability. It prefers abandoned nests of other birds of prey, but will nest on the tops of broken trees or on artificial platforms as well. They produce one brood per year.

POPULATION TREND

Short-term Trend: Relatively Stable ($\leq 10\%$ change)

Long-term Trend: Unknown

Description: Population estimates and trends are challenging for this species due to its variable distribution, low density, and detectability. Because of this and the lack of BBS routes in their primary habitats, there are no BBS trend data for this species. Although Christmas Bird Count data indicate relatively stable populations in the last 10 years, declines have been documented in some areas of Idaho (e.g., Long Valley, near McCall).

THREATS

Overall Threat Impact: Medium

Intrinsic Vulnerability: Not intrinsically vulnerable

Description: While the primary threats to this species in Idaho have not been fully documented, the greatest potential impact on owl populations appears to be from some timber management practices (e.g., removal of large-diameter trees used for nesting, logging close to meadows) and fire suppression which may change the landscape habitat mosaic (dense older forest for nesting with scattered meadows for hunting) needed. In addition, as a boreal species at the southern limits of its range in Idaho, Great Gray Owls are projected to be affected by changing climates, particularly increased summer temperatures and changes in preferred habitat. However, some areas the state may act as refugia for the species. Recreational disturbance, particularly from birders and photographers, is a concern in some locations.

CONSERVATION ACTIONS

Conservation issues and management actions are detailed in the appropriate section plans. In short, recommended strategies include restoring meadow habitat adjacent to nesting habitat where conifer encroachment is reducing meadow size, restoring disturbance regimes, increasing nest site availability, and educating birders and photographers about sensitivity of nesting owls.

ADDITIONAL COMMENTS

Great Gray Owls can accurately detect rodent prey under snow by ear, plunging through the surface to grab the unsuspecting vole beneath. It has been reported to break through snow crust thick enough to support the weight of a 175 pound person.

Information Sources: Bull, Evelyn L. and James R. Duncan. 1993. Great Gray Owl (*Strix nebulosa*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/041>. doi:10.2173/bna.41; National Audubon Society (2010). The Christmas Bird Count Historical Results [Online]. Available <http://www.christmasbirdcount.org> [Accessed: 12/14/2015]; Lankford-Bingle AJ, Svancara LK, Vierling K. 2015. A new framework for spatio-temporal climate change impact assessment for terrestrial wildlife. Environ Manage.; Leon Powers

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted year-round distribution model.

Short-eared Owl

Asio flammeus

Class: Aves
Order: Strigiformes
Family: Strigidae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: No status

Region 4: No status

BLM: Type 2

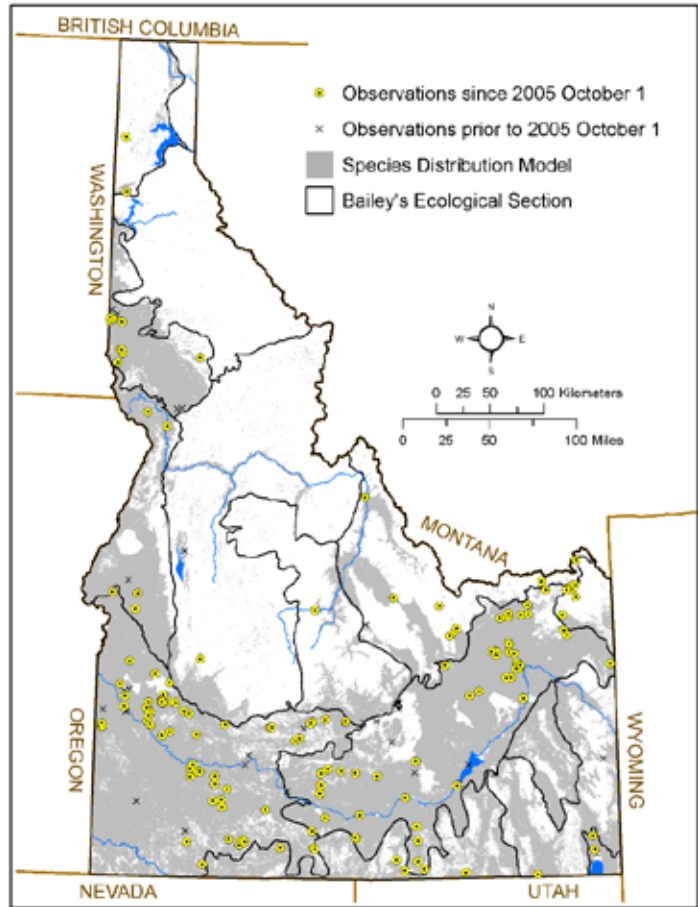
IDAPA: Protected Nongame Species

G-rank: G5

S-rank: S3

SGCN TIER: 3

Rationale: Multiple threats to habitat



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 216,400 km² (~83,600 mi²)

Key Ecological Sections: Bear Lake, Beaverhead Mountains, Blue Mountains, Northwestern Basin and Range, Owyhee Uplands, Palouse Prairie, Snake River Basalts

Population Size in Idaho: 3,046

Description: The Short-eared Owl is a confirmed breeder across nearly all of Idaho, and there are winter records in the northern and southern portions of the state. Because Short-eared Owl reproduction and population dynamics are closely associated with the density of its primary prey, small mammals, there is often considerable local variation in abundance. In addition, the species is often nomadic because of this association. Miller et al. (In Review) estimated 3,046 adults in Idaho during the breeding season in 2015. This was the first standardized survey of Short-eared Owls in Idaho.

HABITAT & ECOLOGY

Environmental Specificity: Broad: Generalist—all key requirements are common.

Description: Short-eared Owls are associated with open landscapes such as marshes, grasslands, shrub-steppe, and agricultural lands (e.g., pastures, stubble fields, and hay fields). They may also utilize wooded environments during winter. Breeding habitats typically support sufficient vegetation (primarily grasses and forbs) to provide ground nesting and roosting cover and are in close proximity to productive and open hunting areas with abundant supplies of small mammals. This species can be solitary or communal during the nonbreeding season, but often forms loose colonies during the breeding season. Short-eared Owls can initiate breeding in their first year, and typically have just one brood per year. They may lay replacement clutches if the

initial clutch is lost. Short-eared Owls feed almost exclusively on small mammals with voles making up the bulk of their diet.

POPULATION TREND

Short-term Trend: Relatively Stable ($\leq 10\%$ change)

Long-term Trend: Unknown

Description: This species' nomadic lifestyle makes assessing population status of the Short-eared Owl difficult. However, the North American Bird Conservation Initiative identified this species as one of 33 common bird species in steep decline, and all available data suggest significant declines throughout its range. North American Breeding Bird Survey data in particular suggest a decline in the western BBS region and Idaho from 1966–2013 (-1.8% and -2.7% per year, respectively) and 2003–2013 (-1.4% and -3%, respectively). There are deficiencies in the data sets used to calculate these estimates (primarily low sample size and extremely low relative abundance for this species since they are only sporadically detected using standard BBS protocols), so any lack of statistical significance in these trend estimates should be interpreted with caution.

THREATS

Overall Threat Impact: Medium

Intrinsic Vulnerability: Not intrinsically vulnerable

Description: Because it relies on large expanses of grasslands and specializes on unpredictable small mammal prey that can dramatically fluctuate in abundance across space and time, this species is vulnerable to habitat degradation. Its nesting habits (ground nesting, often in loose colonies), also make it vulnerable to human disturbance. As a result of the difficulty in studying such a nomadic species, the degree of decline and causal factors are currently unknown.

CONSERVATION ACTIONS

Conservation issues and management actions are detailed in the appropriate section plans. In short, recommended strategies are to work with land managers to restore shrub-steppe habitats in concert with Greater Sage-Grouse conservation activities and to work with the Pacific Flyway Council's Nongame Technical Committee and partners to develop a coordinated monitoring project that will be used to target habitat conservation efforts for this species.

ADDITIONAL COMMENTS

None.

Information Sources: Idaho CWCS 2005; Booms TL, GL Holroyd, MA Gahbauer, HE Trefry, DA Wiggins, DW Holt, JA Johnson, SB Lewis, MD Laron, KL Keyes and S Swengel. 2014. Assessing the status and conservation priorities of the Short-Eared Owl in North America. *Journal of Wildlife Management* 78:772–778; North American Bird Conservation Initiative, US Committee. 2014. The state of the birds 2014 report. Washington (DC): US Department of Interior; Sauer JR, JE Hines, JE Fallon, KL Pardieck, DJ Ziolkowski, and WA Link. 2014. The North American Breeding Bird Survey, Results and Analysis 1966–2013. Version 01.30.2015. Laurel (MD): USGS Patuxent Wildlife Research Center; Miller RA, N Paprocki, M Stuber, CE Moulton, and JD Carlisle. In Review. Short-eared Owl (*Asio flammeus*) surveys in the North American Intermountain West: utilizing citizen scientists to conduct long-term monitoring.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted year-round distribution model.

Common Nighthawk

Chordeiles minor

Class: Aves

Order: Caprimulgiformes

Family: Caprimulgidae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: No status

Region 4: No status

BLM: No status

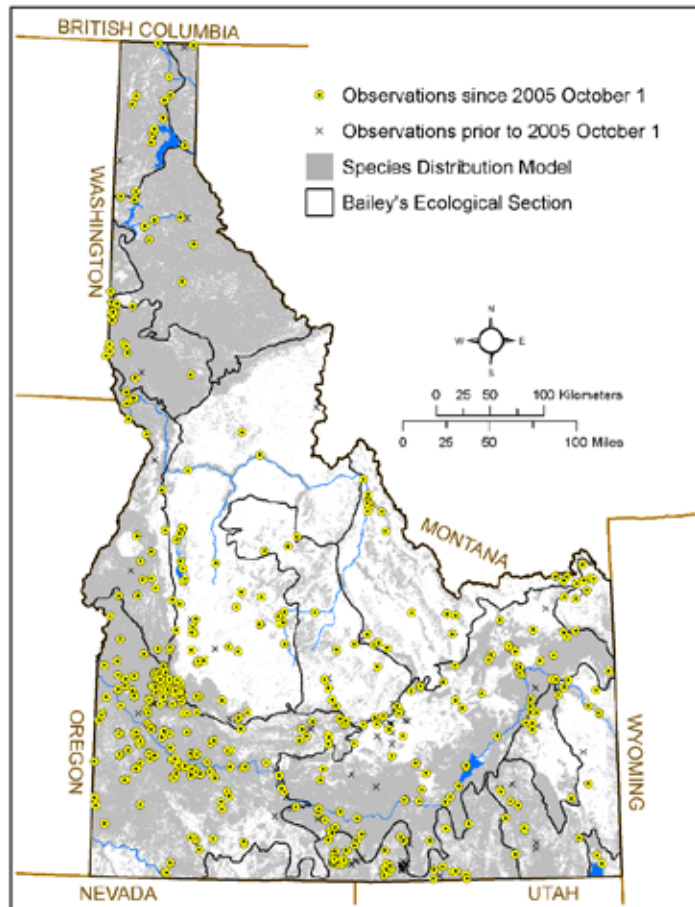
IDAPA: Protected Nongame Species

G-rank: G5

S-rank: S4B

SGCN TIER: 3

Rationale: Data deficient, population declines



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 216,400 km² (~83,600 mi²)

Key Ecological Sections: Bear Lake, Beaverhead Mountains, Bitterroot Mountains, Blue Mountains, Challis Volcanics, Flathead Valley, Idaho Batholith, Northwestern Basin and Range, Okanogan Highlands, Overthrust Mountains, Owyhee Uplands, Palouse Prairie, Snake River Basalts

Population Size in Idaho: 150,000–250,000

Description: Common Nighthawks breed throughout North America and winter in South America. They are found throughout most of Idaho. There are an estimated 15 million individuals in North America. Approximately 200,000 of them occur in Idaho during the breeding season.

HABITAT & ECOLOGY

Environmental Specificity: Broad: Generalist—all key requirements are common.

Description: Although considered the most studied nightjar species, there is still a lot unknown about Common Nighthawks. They typically nest in sagebrush and grassland habitat, open forests, logged or slashburned areas of forest, woodland clearings, and rock outcrops. Prior to changes in how roofs of buildings are typically constructed, this species was well known for its tendency to nest on flat gravel roofs, especially in cities. Whether nesting on roofs or natural sites, it makes no nest per se, usually laying its eggs directly on the ground. The Common Nighthawk is a crepuscular (dawn and dusk) forager that feeds on flying insects such as moths, beetles, and caddisflies. This species may forage in large groups.

POPULATION TREND**Short-term Trend:** Relatively Stable (<=10% change)**Long-term Trend:** Decline 50-70%

Description: Common Nighthawks continue to experience significant declines throughout their range. In Canada, this species has declined by 50% since 1996 and was listed as Threatened in Canada in 2007. North American Breeding Bird Survey data reveal statistically significant long-term (1966-2013) and short-term (2003-2013) declines in the western BBS Region (-2.3% and -1.7% per year, respectively), Great Basin (-1.2% and -1.1% per year, respectively), and numerous individual states, including Idaho (-1.8% and -0.9% per year, respectively). These declines contributed to the North American Bird Conservation Initiative's decision to designate the Common Nighthawk as a Common Species in Steep Decline.

THREATS**Overall Threat Impact:** Unknown**Intrinsic Vulnerability:** Not intrinsically vulnerable

Description: Reasons for decline are currently unknown. Population declines appear to coincide with non-selective pesticide spraying programs for mosquito control. As such, there is increasing concern that Common Nighthawks, along with other aerial insectivores, may be impacted by chemical control of insect populations. Developed in the 1990s, neonicotinoids are the most widely used insecticide on earth. They are used on crops, pet collars, home and garden products, and as seed coatings, to name a few. They are often used pre-emptively, as in the case of seed coatings. Although they are much less acutely toxic to farm workers, they are highly toxic to wildlife. This genre of insecticides is suspected to play a part in the significant decline of insectivorous birds, but more research is needed. Declines in some areas may also be due to reforestation.

CONSERVATION ACTIONS

Conservation issues and management actions are described in the appropriate section plans. In short, recommended strategies include reducing use of neonicotinoids on the landscape and promoting cooperation and collaboration with the Western Working Group of Partners in Flight and the Pacific Flyway Council's Nongame Technical Committee to assess causes of decline.

ADDITIONAL COMMENTS

None.

Information Sources: Brigham RM, J Ng, RG Poulin, and SD Grindal. 2011. Common Nighthawk (*Chordeiles minor*). The Birds of North America Online (A Pool, Ed). Ithaca (NY): Cornell Lab of Ornithology; Mineau P and C Palmer. 2013. The impact of the nation's most widely used insecticides on birds. American Bird Conservancy report; Partners in Flight Science Committee 2013. Population Estimates Database, version 2013. Available at <http://rmbo.org/pifpopestimates>. Accessed 10 Dec 2015; Sauer JR, JE Hines, JE Fallon, KL Pardieck, DJ Ziolkowski, and WA Link. 2014. The North American Breeding Bird Survey, Results and Analysis 1966–2013. Version 01.30.2015. Laurel (MD): USGS Patuxent Wildlife Research Center.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted summer distribution model.

Black Swift

Cypseloides niger

Class: Aves
Order: Apodiformes
Family: Apodidae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: Sensitive

Region 4: No status

BLM: Type 2

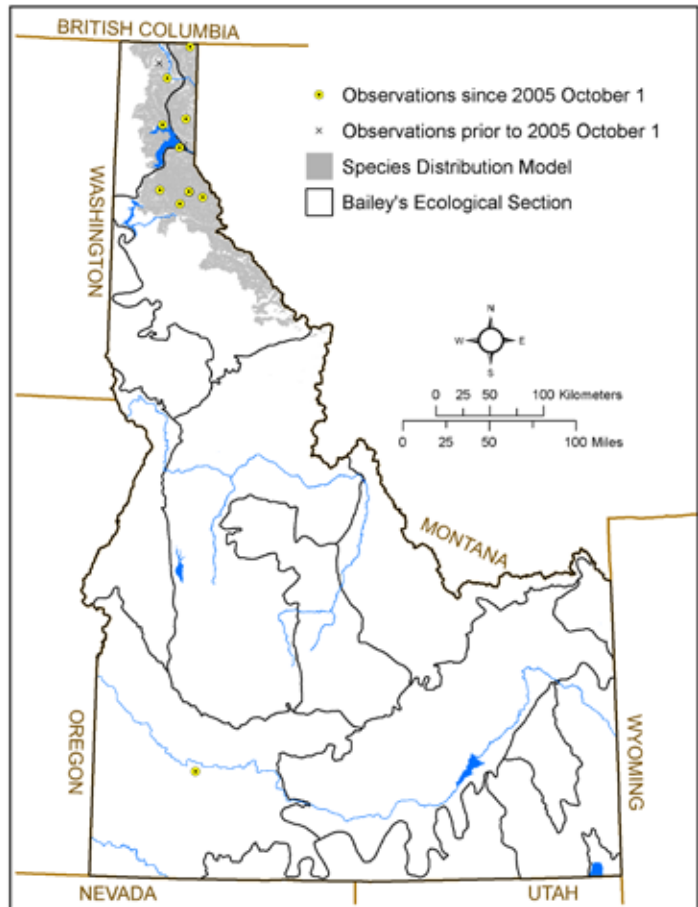
IDAPA: Protected Nongame Species

G-rank: G4

S-rank: S1B

SGCN TIER: 2

Rationale: Restricted distribution, low population size, data deficient



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 15,000 km² (~5,800 mi²)

Key Ecological Sections: Bitterroot Mountains, Flathead Valley, Okanogan Highlands

Population Size in Idaho: 1,000

Description: The Black Swift breeding range extends from British Columbia south to Mexico, from the coast eastward to Colorado, but its distribution is scattered and nowhere is it considered abundant. Winter range is poorly known, but presumed to include portions of Central and South America. Based on recent Black Swift surveys in the Idaho Panhandle National Forest (12 locations and 16 waterfalls in 2013), there are 6 confirmed nesting sites (Shadow Falls, Fern Falls, Char Falls, Wellington Creek Falls, Johnson Falls, and Copper Falls) and two suspected breeding areas (Myrtle Falls and Granite Falls, Washington, just west of the state line). Many waterfalls have not been surveyed, and thus, knowledge of distribution and abundance is incomplete.

HABITAT & ECOLOGY

Environmental Specificity: Very narrow: Specialist—key requirements are scarce.

Description: In Idaho, Black Swifts are closely associated with mountain waterfalls. They nest in cool, dark, and damp sites with flowing surface water, cliffs that are inaccessible from ground predators, rock faces with ledges or pockets, and unobstructed flyways. Where adequate space allows, nesting is often colonial. Nests are made of mud and moss and are placed on rock ledges or in shallow caves, usually near or behind waterfalls with abundant spray. Nests are commonly reused in subsequent years. Black swifts lay a single egg and raise not more than one brood per season. If nesting failure occurs early in the season, a replacement clutch may be laid. Nestling growth is slow with young leaving the nest 47-50 days after hatching. Black swifts

are aerial insectivores and forage widely in forests and open areas (winged ants are an important food source). Swifts make 2 foraging trips a day, once briefly in the early morning and a longer foray from early to late afternoon. Black Swifts are long-lived; maximum longevity records are >15 years.

POPULATION TREND

Short-term Trend: Unknown

Long-term Trend: Unknown

Description: The population trend in Idaho is not known. Statistically significant declines are reported for the western BBS region from 1966-2013 (-6.7% per year), but due to limited coverage, BBS trends are unreliable in many areas. Surveys in the Southern Rocky Mountains of Colorado and New Mexico from 1997-2005 suggest populations have been relatively stable since the 1950s.

THREATS

Overall Threat Impact: High

Intrinsic Vulnerability: Moderately vulnerable

Description: Given a lack of information on distribution, survival, and reproduction, it is difficult to assess relevant threats. Colony and nest site availability and abundant food resource are thought to be the most important factors affecting reproduction. Sustained water flow during mid and late summer correlates with insect abundance and is important for maintaining moist conditions at the nest. Therefore, factors that affect water availability in the summer (e.g., water diversion, forest management, drought, and shifts in precipitation patterns from climate change) have the potential to impact populations. Broad-scale reductions in aerial insect abundance due to habitat loss and use of pesticides on the breeding and wintering grounds are also a concern. Waterfalls are popular destinations for hikers, cave explorers, rock climbers, and waterfall enthusiasts and may disturb nesting birds at relatively accessible sites (e.g., Shadow Falls).

CONSERVATION ACTIONS

Conservation actions are discussed in the relevant section plans. In summary, strategies include developing and implementing a systematic survey to determine the current distribution, abundance, and status of nesting Black Swifts and increasing knowledge of factors that limit populations.

ADDITIONAL COMMENTS

Surveys timed during the final 2 hours of daylight are useful for counting local residents and discovering nest locations, as food delivery rates to young increase and adults return to the colony to roost. Daytime assessments are useful for gathering site-specific information (e.g., precise nest locations and habitat features) relevant to land management decisions.

Information Sources: Lowther, PE and CT Collins. 2002. Black Swift (*Cypseloides niger*), The Birds of North America Online (A. Poole, Ed.). Ithaca (NY): Cornell Lab of Ornithology; Miller, RA, KE deKramer, and JD Carlisle. 2013. Black Swift Surveys Within and Around the Idaho Panhandle National Forest 2013. Boise (ID): Idaho Bird Observatory; Levad RG, KM Potter, CW Schultz, C Gunn, and JG Doerr. 2008. Distribution, abundance, and nest-site characteristics of Black Swifts in the southern Rocky Mountains of Colorado and New Mexico. The Wilson Journal of Ornithology 120(2):331-338; Sauer, JR, JE Hines, JE Fallon, KL Pardieck, DJ Ziolkowski, Jr., and WA Link. 2014. The North American Breeding Bird Survey, Results and Analysis 1966-2013. Version 01.30.2015. Laurel (MD): USGS Patuxent Wildlife Research Center.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted summer distribution model.

Lewis's Woodpecker

Melanerpes lewis

Class: Aves
Order: Piciformes
Family: Picidae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: No status

Region 4: No status

BLM: Type 2

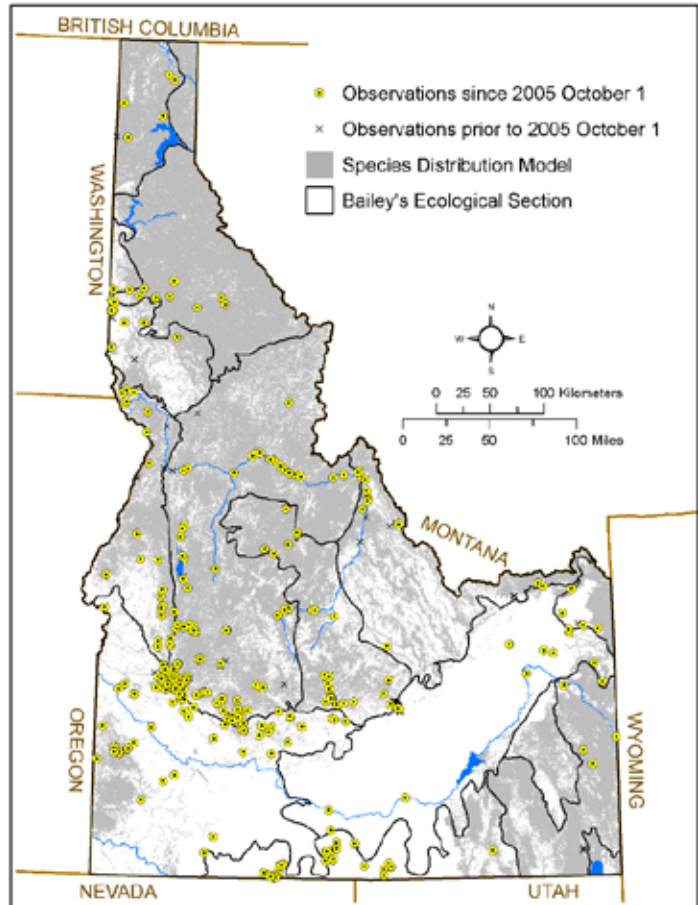
IDAPA: Protected Nongame Species

G-rank: G4

S-rank: S3B

SGCN TIER: 2

Rationale: Multiple threats



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 216,400 km² (~83,600 mi²)

Key Ecological Sections: Beaverhead Mountains, Bitterroot Mountains, Blue Mountains, Challis Volcanics, Idaho Batholith, Palouse Prairie

Population Size in Idaho: 2,500 – 5,500

Description: Lewis's Woodpeckers primarily occur in the western US and closely follow the distribution of ponderosa pine. This species breeds as far north as southern British Columbia and south through Washington state into California. From the west coast, the breeding range extends as far east as Colorado and the Black Hills, South Dakota. Lewis's Woodpeckers breed throughout Idaho except in the southeastern portion of the state. There are an estimated 4,000 individuals in Idaho.

HABITAT & ECOLOGY

Environmental Specificity: Moderate: Generalist—some key requirements are scarce.

Description: Lewis's Woodpecker is a somewhat atypical woodpecker in that it flycatches during the breeding season and stores mast (e.g., acorns and corn) during the winter. Breeding sites generally occur in burned ponderosa pine forests, cottonwood riparian forests, and aspen groves. This species appears to prefer nesting in large diameter, well-decayed snags in relatively open forests with a well-developed understory. Nests are sited in natural cavities or abandoned nest hold of primary excavators. This species exploits superabundant food sources and is generally considered to be nomadic.

POPULATION TREND

Short-term Trend: Increase 10–25%

Long-term Trend: Unknown

Description: North American Breeding Bird Survey data indicate statistically significant declines during the period 1966-2013 in the US and western BBS region of -3.2% and -2.7% per year, respectively. Declines in Idaho (0.8% per year) during that time period were not statistically significant. In contrast, more recent data (2003-2013) suggest an increasing trend of 1.7% per year. However, these trends are also not statistically significant.

THREATS

Overall Threat Impact: High

Intrinsic Vulnerability: Not intrinsically vulnerable

Description: Habitat loss and degradation are the 2 major issues of concern for this species. Declines of up to 90% of the historic pine forests and deciduous riparian habitats in western states have been documented, and these are two of the major breeding habitats for Lewis's Woodpecker. Fire suppression and timber harvest have changed conditions in many forest stands, particularly those outside wilderness areas. Forest understories have become overgrown with dense thickets of smaller-diameter trees, canopy cover is higher, and large-diameter trees and snags are less abundant. The resulting habitats are typically unsuitable for Lewis's Woodpecker, as they primarily rely upon large snags in relatively open habitats.

CONSERVATION ACTIONS

Conservation issues and management actions are detailed in the appropriate section plans. In short, recommended strategies include using prescribed fires to maintain desired conditions, designing and implementing silvicultural prescriptions that simulate natural disturbance regimes, and implementing Best Management Practices for riparian systems.

ADDITIONAL COMMENTS

None.

Information Sources: Idaho CWCS 2005; Sauer JR, JE Hines, JE Fallon, KL Pardieck, DJ Ziolkowski, and WA Link. 2014. The North American Breeding Bird Survey, Results and Analysis 1966–2013. Version 01.30.2015. Laurel (MD): USGS Patuxent Wildlife Research Center.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted year-round distribution model modified by IDFG experts.

White-headed Woodpecker

Picoides albolarvatus

Class: Aves
Order: Piciformes
Family: Picidae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: Sensitive

Region 4: Sensitive

BLM: Type 2

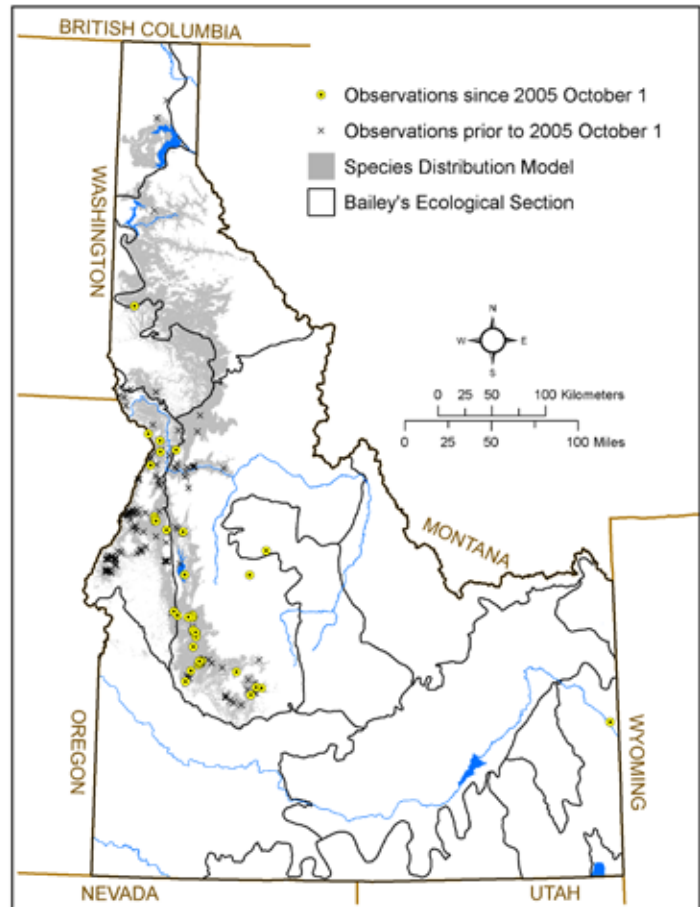
IDAPA: Protected Nongame Species

G-rank: G4

S-rank: S2

SGCN TIER: 3

Rationale: Population decline, low population size, multiple threats



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 48,500 km² (~18,700 mi²)

Key Ecological Sections: Blue Mountains, Idaho Batholith, Palouse Prairie

Population Size in Idaho: 250-500

Description: The White-headed Woodpecker occurs throughout montane coniferous forests of the West—chiefly east of the Cascade summit in the Pacific Northwest—and is resident from south-central British Columbia, eastern Washington, western Idaho, eastern Oregon, and west-central Nevada, south through the Sierra Nevada, Coast Ranges, and highest mountains of southern California. Some individuals may migrate to lower elevations during winter months. Because of complex topography and localized suitable coniferous forest habitat, populations are considerably more fragmented than mapped. Population size for this species in Idaho is estimated at approximately 320 individuals.

HABITAT & ECOLOGY

Environmental Specificity: Very narrow: Specialist—key requirements are scarce.

Description: The White-headed Woodpecker is endemic to pine-dominated (*Pinus* spp.) forests in the mountainous regions of the West. In its northernmost range, this species typically inhabits dry coniferous forests dominated by ponderosa pine. Stands are typically multistoried and open-canopied mature and old-growth ponderosa pine. This species' status is an indicator of the quality of large-diameter ponderosa pine habitats, which are used for breeding, roosting, and foraging. Throughout its range, the dominant requisite habitat components are the abundance of large-diameter pines (with large cones and abundant seed production), relatively open canopy (50–70%), and availability of snags and stumps (mostly high-cut) for nest cavities. These

birds opportunistically use recently burned or cut areas provided that large standing trees remain.

POPULATION TREND

Short-term Trend: Relatively Stable (<=10% change)

Long-term Trend: Decline 30–50%

Description: No Idaho-specific trend data exist for this species. Like other woodpeckers, White-headed Woodpecker is not well-suited for population trend monitoring by BBS because its breeding season (when birds are most vocal) occurs in the spring before BBS surveys commence and its habitat is underrepresented by existing routes. However, analysis during the Interior Columbia Basin Ecosystem Management Project indicated that White-headed Woodpecker was one of 97 species analyzed associated with severe loss of habitat (>60% decline from historical conditions), indicating the likelihood of significant long-term population declines. More recent work on the Payette National Forest indicates low, but stable, occupancy rates.

THREATS

Overall Threat Impact: High

Intrinsic Vulnerability: Moderately vulnerable

Description: Habitat loss, specifically the reduction of large-diameter (≥53 cm) live and dead ponderosa pine, and habitat degradation through changes in historical fire regimes, pose the greatest threat to White-headed Woodpecker in its northern range. Much once suitable habitat has been rendered unsuitable either through silvicultural practices or stand conversions (as a result of fire suppression) to Douglas-fir and true fir. Old-growth ponderosa pine forests in the northern Rocky Mountains, Intermountain West, and eastside Cascades represent some of the most imperiled major forest types (85–98% decline) in US.

CONSERVATION ACTIONS

Conservation issues and management actions are detailed in the appropriate section plans. In short, recommended strategies include using prescribed fire to maintain desired conditions, promoting retention and maintenance of large tree size classes and open canopy stands of ponderosa pine, working with partners to incorporate snag retention guidelines and legacy tree guidelines into timber projects, and designing and implementing silvicultural prescriptions that simulate natural disturbance regimes.

ADDITIONAL COMMENTS

None.

Information Sources: Oliver WW and RA Ryker. 1990. *Pinus ponderosa* Dougl. ex Laws. Ponderosa Pine, p. 413-424. In R. M. Burns and B. H. Honkala [eds.], *Silvics of North America: vol. 1. Conifers*. Agric. Handb. 654. Washington (DC): USDA Forest Service; Langston N. 1995. *Forest dreams, forest nightmares: the paradox of old growth in the Inland West*. Seattle (WA): University of Washington Press; Noss RF, ET LaRoe, and JM Scott. 1995. *Endangered ecosystems of the United States: a preliminary assessment of loss and degradation*. Biological Report 28. Washington (DC): US Department of the Interior, National Biological Service; Wisdom MJ, RS Holthausen, BC Wales, CD Hargis, VA Saab, DC Lee, WJ Hann, TD Rich, MM Rowland, WJ Murphy, and MR Earnes. 2000. *Source habitats for terrestrial vertebrates of focus in the interior Columbia basin: broad-scale trends and management implications*. Portland (OR): US Forest Service, Pacific Northwest Research Station. [accessed 2015 Jun 01]. 3 vol. PNW-GTR-485. <http://www.fs.fed.us/pnw/pubs/gtr485/>; Idaho CWCS 2005; Dixon, RD. 2010. *Status and conservation of White-headed Woodpecker (Picoides albolarvatus) in the Interior West, USA: a metapopulation approach* [dissertation]. Moscow (ID): University of Idaho; Victoria Saab pers. comm.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted year-round distribution model.

Olive-sided Flycatcher

Contopus cooperi

Class: Aves
Order: Passeriformes
Family: Tyrannidae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: No status

Region 4: No status

BLM: Type 2

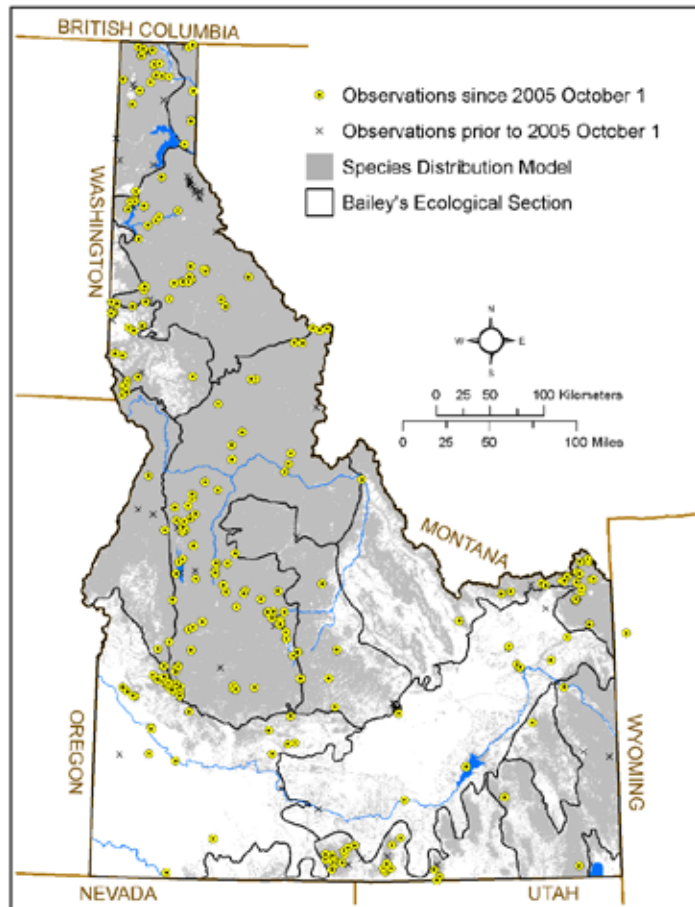
IDAPA: Protected Nongame Species

G-rank: G4

S-rank: S3B

SGCN TIER: 3

Rationale: Rangewide declines, threats related to insecticides



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 198,200 km² (~76,500 mi²)

Key Ecological Sections: Beaverhead Mountains, Bitterroot Mountains, Blue Mountains, Challis Volcanics, Flathead Valley, Idaho Batholith, Okanogan Highlands, Palouse Prairie, Yellowstone Highlands

Population Size in Idaho: 30,000-50,000

Description: Olive-sided Flycatchers breed throughout Canada south through western US along the Cascades and Rocky Mountains from sea level to 3,350 m (11,000 ft). This flycatcher undergoes one of the longest migrations of all northern-breeding migrants, wintering primarily in Panama and the Andes Mountains of South America. In Idaho, Olive-sided Flycatchers breed throughout the northern half of the state. There are an estimated 840,000 individuals in the US. Approximately 40,000 of them are in Idaho during the breeding season.

HABITAT & ECOLOGY

Environmental Specificity: Moderate: Generalist—some key requirements are scarce.

Description: Olive-sided Flycatchers typically breed in mid- to high-elevation mixed conifer forests along forest edges and openings, including burns and clear-cuts. They require tall, prominent trees and snags, which serve as singing and foraging perches, and unobstructed air space for hunting. Nesting territories are relatively large for a passerine bird—1 pair may defend up to 40–45 ha (100–110 acres). The Olive-sided Flycatcher is monogamous and produces 1 brood per year. It will renest if it experiences early nest failure. This species preys almost exclusively on flying insects, especially bees. Olive-sided Flycatcher abundance is often higher in

forest recently burned by stand-replacing wildfire, and is considered by some to be a burn specialist.

POPULATION TREND

Short-term Trend: Decline 10–30%

Long-term Trend: Unknown

Description: Olive-sided Flycatcher has experienced significant declines throughout its range. North American Breeding Bird Survey data reveal statistically significant long-term (1966-2013) and short-term (2003-2013) declines in the US (-2.8% and -2.1% per year, respectively), Northern Rockies (-3.2% and -2.6% per year, respectively), and numerous individual states, including Idaho (-3.4% and 3.9% per year, respectively). These declines contributed to the North American Bird Conservation Initiative's decision to designate this species as a Yellow Watch List species.

THREATS

Overall Threat Impact: Medium

Intrinsic Vulnerability: Not intrinsically vulnerable

Description: Reasons for decline are currently unknown. Fire suppression and timber harvest have changed conditions in many forest stands, particularly those outside wilderness areas. Forest understories have become overgrown with dense thickets of smaller-diameter trees, canopy cover is higher, and large-diameter trees and snags are less abundant. The resulting habitats are unsuitable for Olive-sided Flycatchers, as they primarily rely upon relatively open habitats. There is increasing concern that this species, along with other aerial insectivores, may be impacted by chemical control of insect populations. Developed in the 1990s, neonicotinoids are the most widely used insecticide on earth. They are used on crops, pet collars, home and garden products, and as seed coatings, to name a few. They are often used pre-emptively, as in the case of seed coatings, and are highly toxic to wildlife. This genre of insecticides is suspected to play a part in the significant decline of insectivorous birds, but more research is needed.

CONSERVATION ACTIONS

Conservation issues and management actions are described in the appropriate section plans. In short, recommended strategies include using prescribed and natural fires to maintain desired conditions, designing and implementing silvicultural prescriptions that simulate natural disturbance regimes, reducing use of neonicotinoids on the landscape, and promoting cooperation and collaboration with the Western Working Group of Partners in Flight to fill knowledge gaps and mitigate threats.

ADDITIONAL COMMENTS

Often diving for insects from high, prominent perches at the tops of snags or dead tips or uppermost branches of live trees, the Olive-sided Flycatcher has been described as "the Peregrine of flycatchers". This behavior, along with its distinctive loud and resounding song—quick, THREE BEERS!—makes this SGCN one of our more recognizable forest migrants.

Information Sources: Altman, B and R Sallabanks. 2012. Olive-sided Flycatcher (*Contopus cooperi*), The Birds of North America Online (A. Poole, Ed.). Ithaca (NY): Cornell Lab of Ornithology; Partners in Flight Science Committee 2013. Population Estimates Database, version 2013. Available at <http://rmbp.org/pifpopestimates>. Accessed 9 Dec 2015; Mineau P and C Palmer. 2013. The impact of the nation's most widely used insecticides on birds. American Bird Conservancy report; Sauer JR, JE Hines, JE Fallon, KL Pardieck, DJ Ziolkowski, and WA Link. 2014. The North American Breeding Bird Survey, Results and Analysis 1966–2013. Version 01.30.2015. Laurel (MD): USGS Patuxent Wildlife Research Center.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted summer distribution model.

Pinyon Jay

Gymnorhinus cyanocephalus

Class: Aves
Order: Passeriformes
Family: Corvidae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: No status

Region 4: No status

BLM: Type 2

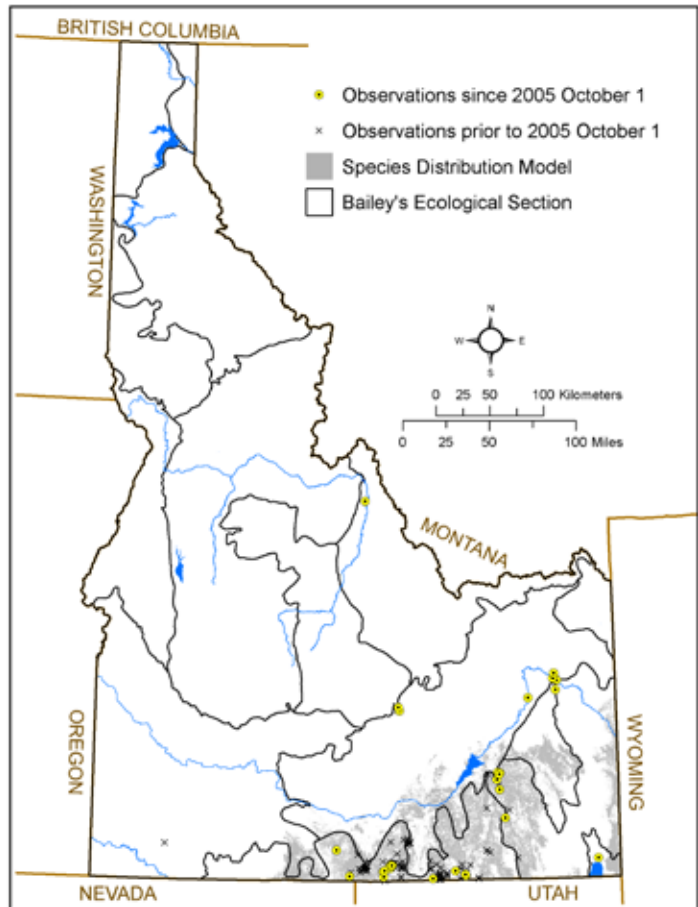
IDAPA: Protected Nongame Species

G-rank: G5

S-rank: S3

SGCN TIER: 2

Rationale: Rangewide declines, multiple threats



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 24,600 km² (~9,500 mi²)

Key Ecological Sections: Northwestern Basin and Range

Population Size in Idaho: 1,000–2,500

Description: The Pinyon Jay is found in the western and southwestern US. It is a resident in southeastern Idaho. Generally winters in the breeding range, but when pine-cone crop fails, may irrupt into northern Idaho. The Pinyon Jay is locally common in southeastern Idaho where the population size is estimated to be about 1,700 individuals. It is found almost exclusively in the Northwestern Basin and Range Ecological Section.

HABITAT & ECOLOGY

Environmental Specificity: Narrow: Specialist—key requirements are common.

Description: The Pinyon Jay is a highly social, seed-caching, cooperative-breeder that is closely tied to pinyon-juniper woodlands. It may also breed in sagebrush and ponderosa pine forests. This species prefers more mature stands of pinyon as older trees tend to produce more seeds. The Pinyon Jay has a complex social organization, with permanent flocks that may contain more than 500 individuals. Many birds spend their entire lives in their natal flocks. They nest colonially and young from multiple nests will gather in crèches, which may contain hundreds of individuals. Individuals that do disperse—mostly females before they are one year of age—generally travel short distances. Pinyon Jays may live 16 years. If habitat conditions are good, a flock may occupy the same home range for decades. In years when cone crops fail, individuals may disperse far from their normal range, making them one of the truly “irruptive” bird species of North America.

POPULATION TREND

Short-term Trend: Decline 10–30%

Long-term Trend: Unknown

Description: The Pinyon Jay has experienced significant declines throughout its range. North American Breeding Bird Survey data reveal statistically significant long-term (1966-2013) and short-term (2003-2013) declines in the US (-4.4% and -3.6% per year, respectively), western BBS region (-4.3% and -3.6% per year, respectively), Great Basin (-4.7% and -3.6% per year, respectively), and numerous individual states. These declines contributed to the North American Bird Conservation Initiative's decision to designate the Pinyon Jay as a Yellow Watch List species. No trend data are available for Idaho due to low detection rates.

THREATS

Overall Threat Impact: Medium

Intrinsic Vulnerability: Not intrinsically vulnerable

Description: The primary threat to Pinyon Jay is land management policy to eradicate pinyon-juniper woodlands because of concern about encroachment into sagebrush communities. Juniper has been managed as an invasive species on public and private lands for more than 60 years and large areas have been eradicated to promote grasslands and shrublands. Increasing fire frequency and severity in pinyon-juniper habitats is also a concern, which is exacerbated by drought and climate change. Nesting colonies are also sensitive to human disturbance.

CONSERVATION ACTIONS

Conservation issues and management actions are described in the Northwestern Basin and Range Ecological Section plan. In short, recommended strategies include retaining patches of mature pinyon or pinyon-juniper, retaining large trees (which are the most prolific cone-producers), protecting old growth pinyon-juniper stands from fire, and developing appropriate fire suppression plans.

ADDITIONAL COMMENTS

Pinyon Jays have excellent spatial memories that enable them to accurately recover hidden food stores months after caching, even beneath snow.

Information Sources: Idaho CWCS 2005; Partners in Flight Science Committee 2013. Population Estimates Database, version 2013. Available at <http://rmbo.org/pifpopestimates>. Accessed 9 Dec 2015; Sauer JR, JE Hines, JE Fallon, KL Pardieck, DJ Ziolkowski, and WA Link. 2014. The North American Breeding Bird Survey, Results and Analysis 1966–2013. Version 01.30.2015. Laurel (MD): USGS Patuxent Wildlife Research Center.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted year-round distribution model.

Clark's Nutcracker

Nucifraga columbiana

Class: Aves
Order: Passeriformes
Family: Corvidae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: No status

Region 4: No status

BLM: No status

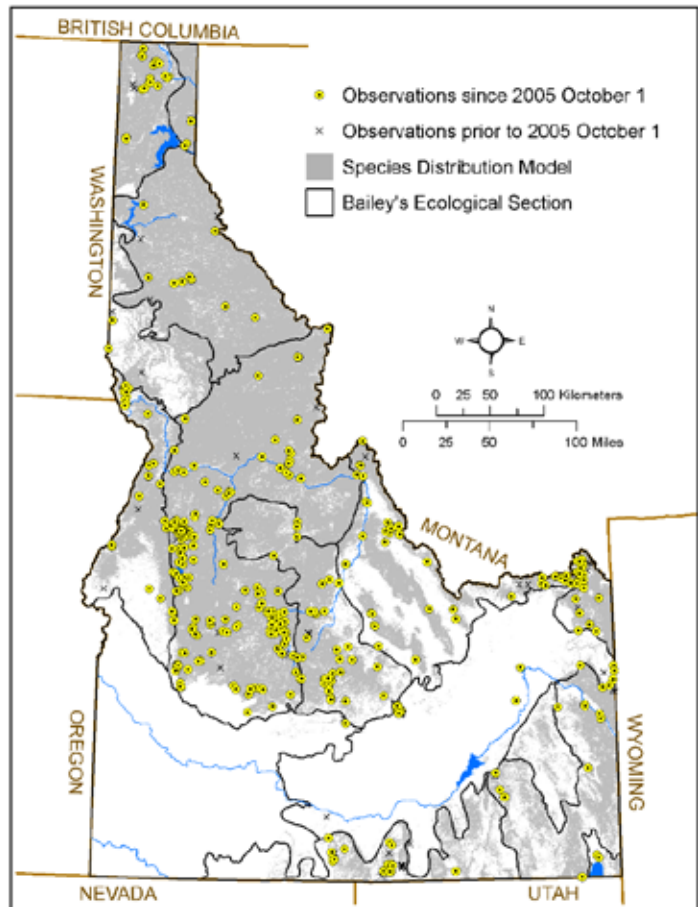
IDAPA: Protected Nongame Species

G-rank: G5

S-rank: S2

SGCN TIER: 3

Rationale: Multiple threats to habitat and food source



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 158,600 km² (~61,200 mi²)

Key Ecological Sections: Beaverhead Mountains, Bitterroot Mountains, Blue Mountains, Challis Volcanics, Flathead Valley, Idaho Batholith, Okanogan Highlands, Overthrust Mountains, Yellowstone Highlands

Population Size in Idaho: 12,000

Description: The Clark's Nutcracker inhabits montane regions of the western US and Canada. In Idaho, observations are broadly distributed in northern, central and southeastern portions of the state. Idaho's breeding population is estimated at 12,000 birds, or about 5% of the US population.

HABITAT & ECOLOGY

Environmental Specificity: Narrow: Specialist—key requirements are common.

Description: The Clark's Nutcracker breeds in open coniferous forests from montane to subalpine zones. It generally nests at lower elevations and moves upslope to subalpine forests later in summer, particularly where whitebark and/or limber pine occurs. It specializes on seeds of masting conifer species and relies on cached seeds for overwintering and breeding. Nesting begins in January and February. Pairs construct platform nests on outer, horizontal branches, sheltered from wind and close to food stores. Females lay a clutch of 2-5 eggs in March or April, and young typically fledge in April or May. In late spring, family groups and nonbreeding individuals migrate to higher elevations to retrieve seed stores made available by snowmelt. Their diet shifts to fresh seeds once the new seed crop is ripe, at which time most juveniles become independent and forage for themselves. The Clark's Nutcracker is a keystone species in

North America because it plays an important role in forest regeneration and seed dispersal for many conifer species. Whitebark pine, in particular, germinates almost exclusively from Clark's Nutcracker seed caches that are not retrieved before snowmelt and summer rains. Seed caching begins in late summer and continues through fall. In the event of simultaneous cone crop failures, large numbers of birds will leave their home region and irrupt into areas where they are not typically found. This species is known to live up to 17 years.

POPULATION TREND

Short-term Trend: Decline 30–50%

Long-term Trend: Unknown

Description: Populations fluctuate from year to year, primarily based on food availability. North American Breeding Bird Survey data in Idaho suggest both a long-term decline (-0.4% per year from 1966-2013) and an even steeper short-term decline (-5.1% per year from 2003-2013). However, neither trend was statistically significant, likely because of a limited number of BBS routes in suitable habitat.

THREATS

Overall Threat Impact: Very High

Intrinsic Vulnerability: Not intrinsically vulnerable

Description: High-elevation whitebark pine forests are declining because of a rapid expansion of an exotic pathogen that causes white pine blister rust, native mountain pine beetle outbreaks, and altered fire regimes. Decades of fire suppression has advanced the development of late successional stands that are generally more shade-tolerant, fire-intolerant, and structurally more dense and homogenous. Warming temperatures and broad-scale changes in precipitation patterns are likely to increase the extent and severity of stand-replacing wildfires, disease outbreaks, and insect infestations. From 2009-2013, the Greater Yellowstone Ecosystem Clark's Nutcracker population failed to breed in 2 of 5 years following fall seasons with low whitebark pine cone crops and high snowpack in early spring. While this breeding strategy may maximize long-term survival and allow birds to exploit unpredictable environments, it can also expedite population-level impacts if pine seed crop failures are prolonged.

CONSERVATION ACTIONS

Conservation actions are described in the appropriate section plans. In summary, strategies include actively managing high-elevation forests to increase resiliency to disturbance and climate change, increasing the diversity of stand age, size classes, and tree species, retaining and restoring rust-resistant whitebark pine communities, and engaging forest collaboratives to develop and implement forest restoration projects.

ADDITIONAL COMMENTS

None.

Information Sources: Tomback, DF. 1998. Clark's Nutcracker (*Nucifraga columbiana*), The Birds of North America Online (A. Poole, Ed.). Ithaca (NY): Cornell Lab of Ornithology; Schaming, TD. 2015. Population-wide failure to breed in the Clark's Nutcracker (*Nucifraga columbiana*). PLoS ONE 10(5): e0123917. Doi:10.1371/journal.pone.0123917; Sauer, JR, JE Hines, JE Fallon, KL Pardieck, DJ Ziolkowski, Jr., and WA Link. 2014. The North American Breeding Bird Survey, Results and Analysis 1966 - 2013. Version 01.30.2015. Laurel (MD): USGS Patuxent Wildlife Research Center; Partners in Flight Science Committee 2013. Population Estimates Database, version 2013. Available at <http://rmbo.org/pifpopestimates>. Accessed 16 Dec 2015; Barringer LE, DF Tomback, MB Wunder, and ST McKinney. 2012. Whitebark pine stand condition, tree abundance, and cone production as predictors of visitation by Clark's Nutcracker. PLoS ONE 7(5): e37663. doi:10.1371/journal.pone.0037663.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted year-round distribution model.

Sage Thrasher

Oreoscoptes montanus

Class: Aves
Order: Passeriformes
Family: Mimidae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: No status

Region 4: No status

BLM: Type 2

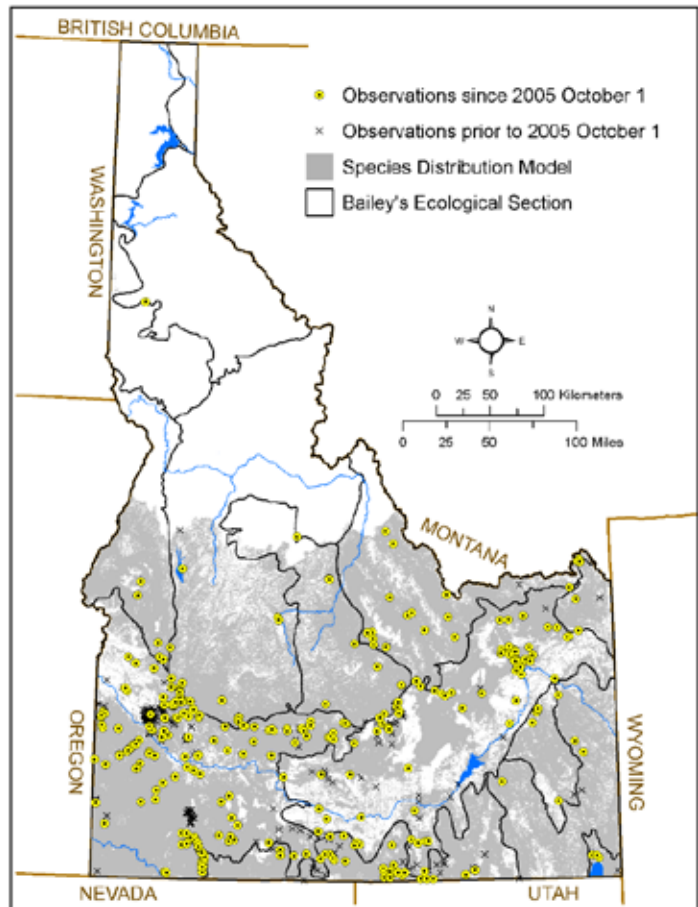
IDAPA: Protected Nongame Species

G-rank: G5

S-rank: S3B

SGCN TIER: 2

Rationale: Declining populations, multiple threats



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 150,000 km² (~57,900 mi²)

Key Ecological Sections: Bear Lake, Beaverhead Mountains, Challis Volcanics, Northwestern Basin and Range, Overthrust Mountains, Owyhee Uplands, Snake River Basalts

Population Size in Idaho: 300,000–600,000

Description: Sage Thrashers breed from valleys to above 2,000m (6,500 ft) throughout the Intermountain West. In Idaho they can be found in the southern half of the state, tightly associated with sagebrush steppe habitats. This species typically winters in the southwestern US and Mexico, but can stray towards the Atlantic Coast. Rangewide, there are an estimated 5.9 million individuals. Approximately 400,000 of them are in Idaho during the breeding season.

HABITAT & ECOLOGY

Environmental Specificity: Moderate: Generalist—some key requirements are scarce.

Description: The Sage Thrasher is a sagebrush obligate species dependent on large patches of sagebrush steppe for successful breeding. Throughout the main portion of the breeding range, this species nests most commonly in big sagebrush and three-tip sagebrush, and occasionally uses other species, such as low sagebrush and rabbitbrush. For nesting, it shows a strong preference for tall (>70 cm [28 in]) shrubs. Sage Thrashers breed as second-year birds (first year after hatching), and annually thereafter. Typical of thrashers, this species is elusive when disturbed, frequently running on the ground rather than taking flight. It is known to reject cowbird eggs. Sage Thrashers feed mostly on insects on the ground, but they will also take berries. This species tends to wander during migration, with individuals occasionally showing up as far East as the Atlantic seaboard.

POPULATION TREND

Short-term Trend: Decline 10–30%

Long-term Trend: Decline 50-70%

Description: The Sage Thrasher has experienced declines throughout its range. North American Breeding Bird Survey data reveal statistically significant long-term (1966-2013) and short-term (2003-2013) declines in the US (-1.4% and -1.2% per year, respectively), Great Basin (-1.6% and -1.0% per year, respectively), and Idaho (-1.6% and -1.4% per year, respectively). Populations are mostly stable where suitable shrub-steppe habitat remains intact in large patches. However, some populations have been dramatically reduced in size, and even locally extirpated, where there has been conversion of sagebrush to grassland.

THREATS

Overall Threat Impact: High

Intrinsic Vulnerability: Not intrinsically vulnerable

Description: Loss of shrub steppe habitat, primarily resulting from post-fire invasion of cheatgrass, is the main concern for this species. Mechanical, chemical, and burning methods to remove big sagebrush and increase grasses and forbs for livestock grazing has probably had significant impact on Sage Thrasher distribution, productivity, and long-term population trends.

CONSERVATION ACTIONS

Conservation issues and management actions are detailed in the appropriate section plans. In short, recommended strategies include supporting long-term strategies for the restoration of sagebrush-steppe ecosystems, protecting Wyoming big-sagebrush from destruction by wildfire, implementing actions to reduce spread of invasive plants, and implementing large-scale experimental activities to remove cheatgrass and other invasive annual grasses.

ADDITIONAL COMMENTS

None.

Information Sources: Reynolds TD, TD Rich and DA. Stephens. 1999. Sage Thrasher (*Oreoscoptes montanus*), The Birds of North America Online (A. Poole, Ed.). Ithaca (NY): Cornell Lab of Ornithology; Partners in Flight Science Committee 2013. Population Estimates Database, version 2013. Available at <http://rmbo.org/pifpopestimates>. Accessed 14 Dec 2015; Sauer JR, JE Hines, JE Fallon, KL Pardieck, DJ Ziolkowski, and WA Link. 2014. The North American Breeding Bird Survey, Results and Analysis 1966–2013. Version 01.30.2015. Laurel (MD): USGS Patuxent Wildlife Research Center.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted summer distribution model.

Sagebrush Sparrow

Artemisiospiza nevadensis

Class: Aves
Order: Passeriformes
Family: Emberizidae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: No status

Region 4: No status

BLM: Type 2

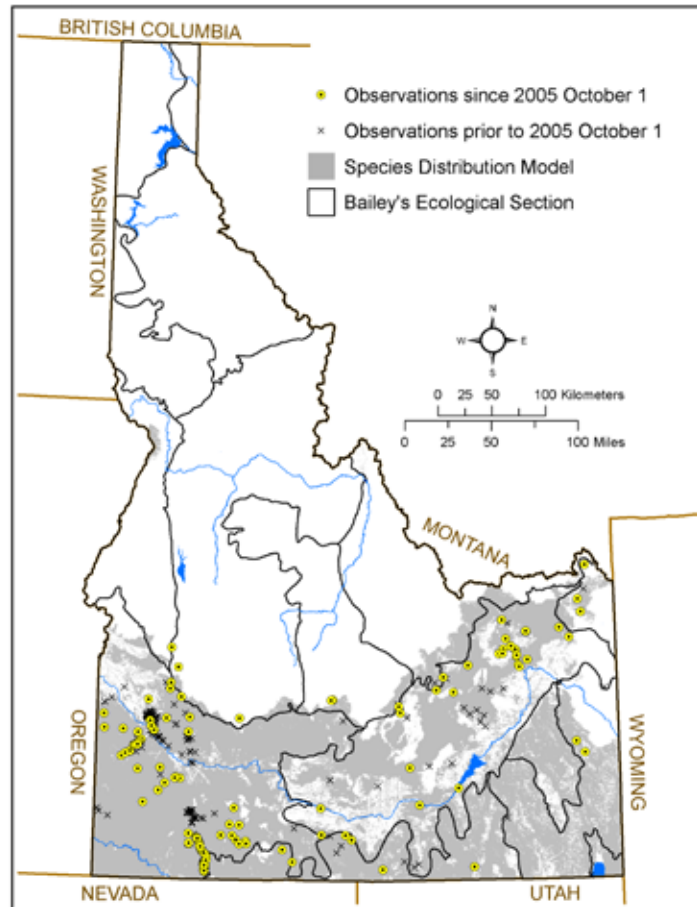
IDAPA: Protected Nongame Species

G-rank: G5

S-rank: S3B

SGCN TIER: 2

Rationale: Declining populations, threats to habitat



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 96,200 km² (~37,100 mi²)

Key Ecological Sections: Beaverhead Mountains, Northwestern Basin and Range, Owyhee Uplands, Snake River Basalts

Population Size in Idaho: 40,000–60,000

Description: The Sagebrush Sparrow is a widespread breeder in shrub-steppe habitats throughout much of the Great Basin east of the Cascades and Sierra Nevadas and west of the Rockies. It has a scattered distribution throughout southern Idaho. Due to a recent taxonomic split (Sage Sparrow [*Artemisiospiza belli*] was split into two species: Sagebrush Sparrow and Bell's Sparrow [*A. belli*]), the current population for this species is unknown. Approximately 50,000 individuals are in Idaho during the breeding season.

HABITAT & ECOLOGY

Environmental Specificity: Moderate: Generalist—some key requirements are scarce.

Description: Sagebrush Sparrows prefer semi-open habitats with evenly spaced shrubs 1–2 m (3–6 ft) high. Vertical structure, habitat patchiness, and vegetation density may be more important in habitat selection than specific shrub species, but this sparrow is closely associated with big sagebrush throughout most of its range. In Idaho, it prefers big sagebrush, in either pure stands or interspersed with bitterbrush, rabbitbrush, or greasewood. It is rarely found in mixed sagebrush-juniper, except in ecotones adjacent to shrub-steppe habitat. It usually breeds below 1,700 m (5,500 ft), but has been found above 2,400 m (7,800 ft). This species is often missing from what appears to be suitable habitat, so other unknown habitat characteristics may be important. Most nests are found within or under shrubs, and the nest shrub is generally higher than the

average height of surrounding vegetation. The Sagebrush Sparrow is categorized as a ground-foraging omnivore during the breeding season, and as a ground-gleaning granivore during nonbreeding periods. Foods taken during the breeding season include adult and larval insects, spiders, seeds, small fruits, and succulent vegetation.

POPULATION TREND

Short-term Trend: Decline 30–50%

Long-term Trend: Decline >90%

Description: North American Breeding Bird Survey data indicate significant long-term (1966-2013) and short-term (2003-2013) declines in Idaho (-5.1% and -4.8%, respectively). These are the largest declines for this species anywhere within its range.

THREATS

Overall Threat Impact: High

Intrinsic Vulnerability: Not intrinsically vulnerable

Description: Loss of shrub-steppe habitat, primarily resulting from post-fire invasion of cheatgrass, is the main concern for this species. Habitat loss throughout the Great Basin and other shrub-dominated ecosystems by mechanical, chemical, and burning methods to remove big sagebrush and increase grasses and forbs for livestock grazing has probably had an impact on Sagebrush Sparrow distribution, productivity, and long-term population trends.

CONSERVATION ACTIONS

Conservation issues and management actions are detailed in the appropriate section plans. In short, recommended actions include supporting long-term strategies for the restoration of sagebrush-steppe ecosystems, protecting Wyoming big-sagebrush from destruction by wildfire, implementing best management practices to reduce spread of invasive plants, and implementing large-scale experimental activities to remove cheatgrass and other invasive annual grasses.

ADDITIONAL COMMENTS

None.

Information Sources: Martin, JW and BA Carlson. 1998. Sage Sparrow (*Artemisiospiza belli*). The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/326>. doi:10.2173/bna.326; Partners in Flight Science Committee 2013. Population Estimates Database, version 2013. Available at <http://rmbo.org/pifpopestimates>. Accessed on 12/14/2015; Sauer JR, J. E Hines, JE Fallon, KL Pardieck, DJ Ziolkowski, and WA Link. 2014. The North American Breeding Bird Survey, Results and Analysis 1966 - 2013. Version 01.30.2015 USGS Patuxent Wildlife Research Center, Laurel, MD.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted summer distribution model.

Grasshopper Sparrow

Ammodramus savannarum

Class: Aves

Order: Passeriformes

Family: Emberizidae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: No status

Region 4: No status

BLM: Type 2

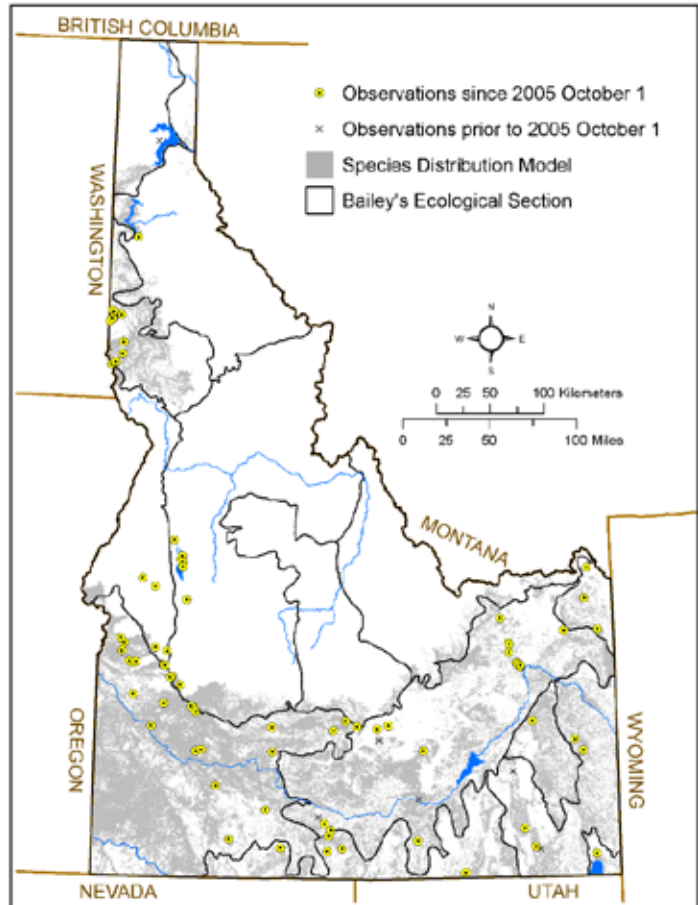
IDAPA: Protected Nongame Species

G-rank: G5

S-rank: S3B

SGCN TIER: 3

Rationale: Limited distribution, rangewide population declines



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 113,300 km² (~43,700 mi²)

Key Ecological Sections: Blue Mountains, Northwestern Basin and Range, Owyhee Uplands, Palouse Prairie, Snake River Basalts

Population Size in Idaho: 130,000

Description: The Grasshopper Sparrow breeds in temperate grassland habitats throughout much of the US, southern and southeastern Canada, and northern Mexico. Despite this wide extent, it is locally distributed and even uncommon and rare in parts of its range. In Idaho, the species is locally abundant in suitable habitat in the Palouse Prairie and the Snake River Plain. Winter range includes the southern US, Mexico, Central America, and the Caribbean.

HABITAT & ECOLOGY

Environmental Specificity: Moderate: Generalist—some key requirements are scarce

Description: The Grasshopper Sparrow is a small, inconspicuous grassland bird that breeds in a broad array of open grasslands of intermediate stature and age, including native prairie, pastures, hayfields, planted grasslands (e.g., crested wheatgrass), recently burned sites, and open sagebrush steppe. In the West, this species prefers drier sites with intermediate grass height, patchy bare ground for foraging, and sparse shrub cover, and is more likely to occupy large tracts of habitat than small fragments. In the Columbia Basin, Grasshopper Sparrows were most abundant in perennial bunchgrass grasslands, and to a lesser extent in sagebrush-bunchgrass habitat, and least abundant in degraded sagebrush with an annual understory dominated by cheatgrass. Nests are hidden at the base of clumps of grass or other vegetation and consist of a grass cup nest with a domed-shape overhang and side entrance. If conditions allow, pairs may

raise 2 broods per season. Average clutch size is 4-5 eggs. Its diet consists primarily of insects (mostly grasshoppers) as well as seeds. Its song is weak and insect-like, making this species difficult to detect during the breeding season.

POPULATION TREND

Short-term Trend: Decline 10–30%

Long-term Trend: Unknown

Description: According to BBS, Grasshopper Sparrow populations have declined over 70% in the US (-2.8% per year) and 67% in the western BBS region (-2.3% per year) from 1966-2013. In Idaho, populations declined 68% (-2.4% per year) from 1966-2013 and 22% (-2.5% per year) from 2003-2013; however, neither trend was statistically significant, likely because of a limited number of BBS routes within Grasshopper Sparrow habitat.

THREATS

Overall Threat Impact: High

Intrinsic Vulnerability: Not intrinsically vulnerable

Description: Habitat loss, fragmentation, and degradation are primary reasons for Grasshopper Sparrow declines rangewide. Threats include the conversion of native grasslands to agricultural land (e.g., on the Palouse Prairie), conversion of hayfields and pastures to intensive agriculture (facilitated by center-pivot irrigation), and residential development. Energy development can lead to direct mortality from collisions and indirect impacts from infrastructure, such as increasing edge habitat, predators and nest parasites, human disturbance, and the spread of noxious weeds. Intensive grazing reduces floristic and structural diversity, ground nest cover, and interrupts fire cycles, although some prescriptive grazing can have site-specific benefits. The invasion of cheatgrass and other exotic annual grasses has fundamentally altered fire regimes, resulting in the loss and degradation of preferred habitat. Elsewhere, fire suppression and reduced fuel loads from grazing has decreased fire frequency and led to the encroachment of native shrubs and trees. Early season mowing of hayfields and agricultural grasslands can cause direct mortality, nest failure, and reduced site fidelity. Drought and changes in precipitation patterns due to climate change can negatively impact insect abundance, productivity, and exacerbate threats. Pesticide use can directly poison birds and reduce food resources.

CONSERVATION ACTIONS

Conservation actions are described in the appropriate section plans. Recommended strategies include maintaining intermediate grasslands in various stages of succession by supporting proper livestock grazing (manage timing and intensity), fire management (including prescribed burning without significantly reducing shrub cover), mowing practices compatible with Grasshopper Sparrow nesting phenology, and promoting grassland protection and restoration on private lands using federal Farm Bill programs.

ADDITIONAL COMMENTS

None.

Information Sources: Vickery, Peter D. 1996. Grasshopper Sparrow (*Ammodramus savannarum*), The Birds of North America Online (A. Poole, Ed.). Ithaca (NY): Cornell Lab of Ornithology; Sauer, JR, JE Hines, JE Fallon, KL Pardieck, DJ Ziolkowski, Jr., and WA Link. 2014. The North American Breeding Bird Survey, Results and Analysis 1966 - 2013. Version 01.30.2015. Laurel (MD): USGS Patuxent Wildlife Research Center; Ruth, JM. 2015. Status Assessment and Conservation Plan for the Grasshopper Sparrow (*Ammodramus savannarum*). Version 1.0 U.S. Lakewood (CO): US Fish and Wildlife Service.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted summer distribution model.

Bobolink

Dolichonyx oryzivorus

Class: Aves
Order: Passeriformes
Family: Icteridae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: No status

Region 4: No status

BLM: No status

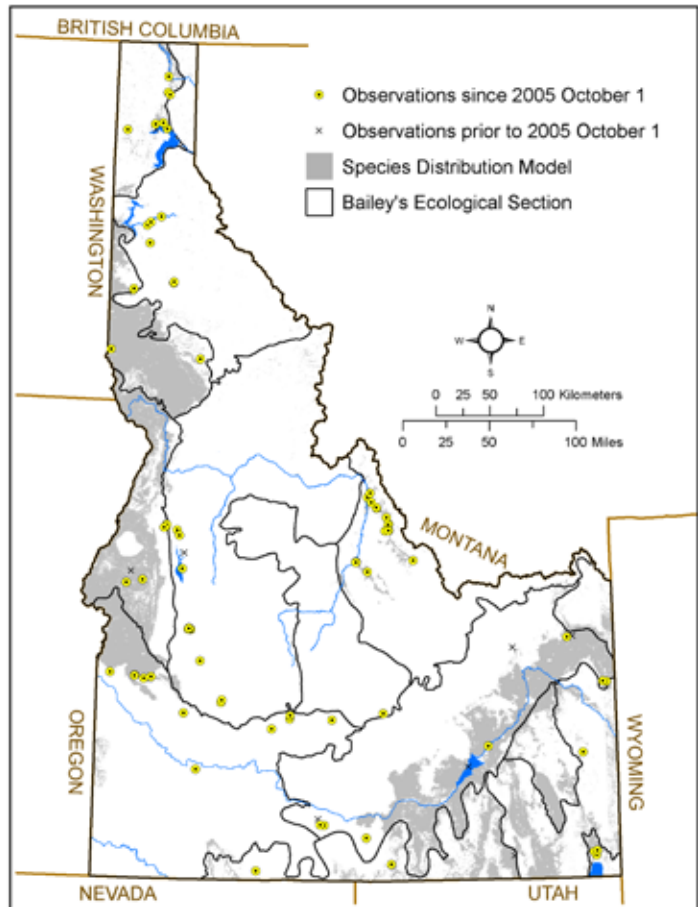
IDAPA: Protected Nongame Species

G-rank: G5

S-rank: S2B

SGCN TIER: 2

Rationale: Population declines, multiple threats



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 107,000 km² (~41,300 mi²)

Key Ecological Sections: Beaverhead Mountains, Yellowstone Highlands

Population Size in Idaho: 12,000

Description: The Bobolink is a neotropical migrant that breeds in grasslands of the US and Canada (generally between 39° and 50° latitude) and winters in the southern interior of South America. Idaho is on the western edge of its breeding range, where populations are generally patchily distributed. Bobolinks are known to occur in relatively small aggregations in suitable habitat. There is uncertainty regarding the Idaho population size due to low relative abundance and limited coverage of the species in BBS.

HABITAT & ECOLOGY

Environmental Specificity: Moderate: Generalist—some key requirements are scarce.

Description: Bobolinks are ground-nesting birds that breed in native prairie, wet meadows, and surrogate grasslands in non-forested landscapes. Private agricultural lands, including irrigated forage crops and pastures, compose a high proportion of nesting habitat in Idaho. Bobolinks prefer moist grasslands with forbs for nest concealment, thermal cover, and abundant prey items (especially caterpillars). Bobolinks are area sensitive; both occupancy and abundance increases with habitat patch size. Territorial males are known for elaborate songs and ritualized displays, and may pair with multiple females. Adults typically raise one brood per season. If conditions allow, pairs may renest if a nesting attempt fails. Bobolinks feed on invertebrates (exclusive nestling food source), weed seeds, and grains. Adults of both sexes show high fidelity to breeding sites, influenced by previous reproductive success.

POPULATION TREND**Short-term Trend:** Decline 30-50%**Long-term Trend:** Unknown

Description: Historically, Bobolinks nested in tall-grass and mixed-grass prairie habitats of the Midwest, but expanded both east and westward because of surrogate grassland habitats created by low-intensity agriculture. However, populations have declined significantly through much of the breeding range since the 1960s. Based on BBS data, there were statistically significant long-term declines from 1966-2013 in the US (-1% per year), the western BBS region (-2.9% per year), and in Idaho (-6.9% per year). Since 2003, the Idaho trend was -6.6% per year, although not statistically significant. There is some uncertainty regarding the Idaho trends due to a small sample size.

THREATS**Overall Threat Impact:** High**Intrinsic Vulnerability:** Not intrinsically vulnerable

Description: Bobolinks are susceptible to direct mortality and nest failure from hay cutting. Successful breeding on working lands, therefore, depends on hay cutting regimes that are compatible with the Bobolink's nesting phenology. Suitable nesting habitat is lost to more intensely-farmed crops (facilitated by center-pivot irrigation), subdivision, and development. Bobolinks are susceptible to pesticides and intentionally poisoned in rice fields on the wintering grounds to control seed predation. Because of potential toxicity to pollinators and birds, neonicotinoid-based products are a concern on both the breeding and wintering grounds. Climate change has the potential to exacerbate these threats. Warming temperatures may accelerate plant growth and lead to earlier and more frequent cutting. Warming temperatures and increasing water demands may also lead to a conversion of irrigated hay fields to more drought-resistant croplands unsuitable for nesting.

CONSERVATION ACTIONS

Conservation issues and management actions for the species are detailed in the Beaverhead Mountains Ecological Section plan. Recommended strategies include working with Natural Resources Conservation Service, other relevant agencies, and hay producers to develop incentives to keep working lands in hay and pasture production (hay growers producing for beef-cattle tend to cut at later dates largely compatible with nesting), and studying population-level impacts of pesticide use.

ADDITIONAL COMMENTS

Bobolinks travel about 12,500 miles round-trip every year – one of the longest migrations of any songbird in the New World.

Information Sources: Renfrew, R, AM Strong, NG Perlut, SG Martin and TA Gavin. 2015. Bobolink (*Dolichonyx oryzivorus*). The Birds of North America Online (A. Poole, Ed.). Ithaca (NY): Cornell Lab of Ornithology; Wittenberger, JF. 1978. The breeding biology of an isolated bobolink population in Oregon. Condor 80:355-371; Bollinger, EK. 1995. Successional changes and habitat selection in hayfield bird communities. The Auk 112:720-730; Sauer, JR, JE Hines, JE Fallon, KL Pardieck, DJ Ziolkowski, Jr., and WA Link. 2014. The North American Breeding Bird Survey, Results and Analysis 1966–2013. Version 01.30.2015. Laurel (MD): USGS Patuxent Wildlife Research Center; Partners in Flight Science Committee 2013. Population Estimates Database, version 2013. Available at <http://rmbo.org/pifpopestimates>. Accessed 2015 Dec 8.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted summer distribution model.

Black Rosy-Finch

Leucosticte atrata

Class: Aves
Order: Passeriformes
Family: Fringillidae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: No status

Region 4: No status

BLM: No status

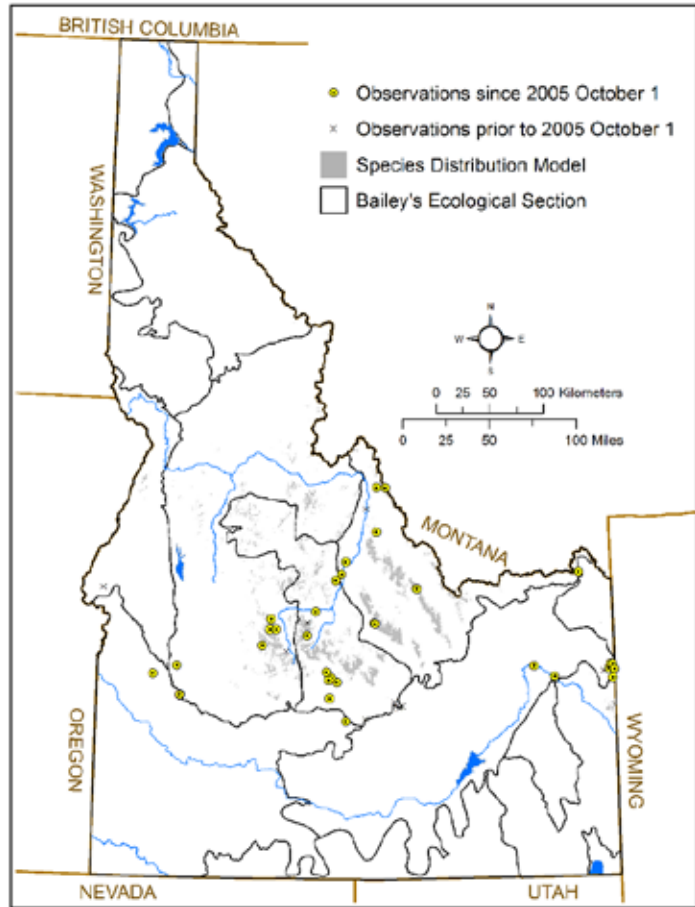
IDAPA: Protected Nongame Species

G-rank: G4

S-rank: S2

SGCN TIER: 3

Rationale: Restricted distribution, low population size



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 168,800 km² (~65,200 mi²)

Key Ecological Sections: Beaverhead Mountains, Challis Volcanics, Idaho Batholith

Population Size in Idaho: 250–1,000

Description: The Black Rosy-Finch is found breeding above treeline in suitable habitat in central Idaho, including within the Beaverhead, Lemhi, Lost River, Salmon River, and Sawtooth ranges, and Boulder and White Cloud mountains. Winter range for this species includes its breeding range, either on alpine tundra and open slopes just below treeline when snow levels are high, or lower in intermountain valleys when snow levels are lower and upper slopes are snowbound. In Idaho, this includes the intermountain valleys of east-central Idaho, where Black Rosy-Finch are observed in large mixed flocks with more abundant Gray-crowned Rosy-Finch during local Christmas Bird Counts. Winter range also extends southward throughout southern Idaho with records existing for both Boise and Pocatello. No population estimates exist for the Black Rosy-Finch, primarily because of the lack of BBS data for this species.

HABITAT & ECOLOGY

Environmental Specificity: Very narrow: Specialist—key requirements are scarce.

Description: Nests above timberline throughout its range, wherever cliffs and rock slides provide nest sites with protection from falling rocks and hail, and where there are adequate feeding grounds on tundra, fellfields, rock slides, snowfields, and glaciers within flying distance of nests. In Idaho, nests have been found at 2,620 m (8,600 ft) in the Seven Devils Mountains, typically on north-facing cliffs overlooking snowfields. During migration and in winter, also found in open habitats, fields, cultivated lands, brushy areas, lower montane conifer forests, and around

human habitation. The Black Rosy-Finch eats seeds in winter and seeds and insects on breeding grounds. Is one of only three species known to nest exclusively in alpine habitats in Idaho; the others are the Gray-crowned Rosy-Finch and American Pipit.

POPULATION TREND

Short-term Trend: Relatively Stable ($\leq 10\%$ change)

Long-term Trend: Unknown

Description: There are no BBS trend data available for the Black Rosy-Finch because of the remoteness (high elevation) of breeding sites for this species. Winter population estimates also are lacking due to the nomadic behavior of winter flocks in response to changing weather and snow depth. As a result, there is currently no information on population trend for this species, either throughout its range in general or in Idaho specifically.

THREATS

Overall Threat Impact: High

Intrinsic Vulnerability: Not intrinsically vulnerable

Description: Alpine habitat is limited in Idaho, and is expected to become scarcer in light of climate change. Long-term changes in habitat, including snow depth and snowline as a result of a warming climate, may be the largest threat to Black Rosy-Finch. Work is needed to determine what impacts these changes may have on this species and what could be done to mitigate for them. There is also a need to identify other potential stressors which may exacerbate any effects of climate change. For example, research in the Sierras indicates that stocking fish in high alpine lakes results in a trophic cascade (loss of mayfly prey) that negatively impact Gray-crowned Rosy-Finches. Whether Black Rosy-Finches are similarly impacted by fish stocking is unknown.

CONSERVATION ACTIONS

Conservation issues and management actions are detailed in the appropriate section plans. In short, recommended strategies are to determine current distribution and abundance, work with partners to identify temperature associations and limits, assess tundra phenology and how it relates to occupancy, and assess potential impacts of fish stocking in high mountain lakes.

ADDITIONAL COMMENTS

None.

Information Sources: Idaho CWCS 2005; Epanchin PN, RA Knapp and SP Lawler. 2010. Nonnative trout impact on alpine-nesting bird by altering aquatic-insect subsidies. *Ecology* 91(8):2406-2415.

Map Sources: Idaho Department of Fish and Game. Idaho Fish and Wildlife Information System, Species Diversity Database, accessed August 14, 2015; USGS Gap Analysis Program predicted summer, winter, and year-round distribution models.

Red Crossbill [South Hills popn.]

Loxia curvirostra

Class: Aves
Order: Passeriformes
Family: Fringillidae

CONSERVATION STATUS & CLASSIFICATION

ESA: No status

USFS:

Region 1: No status

Region 4: No status

BLM: No status

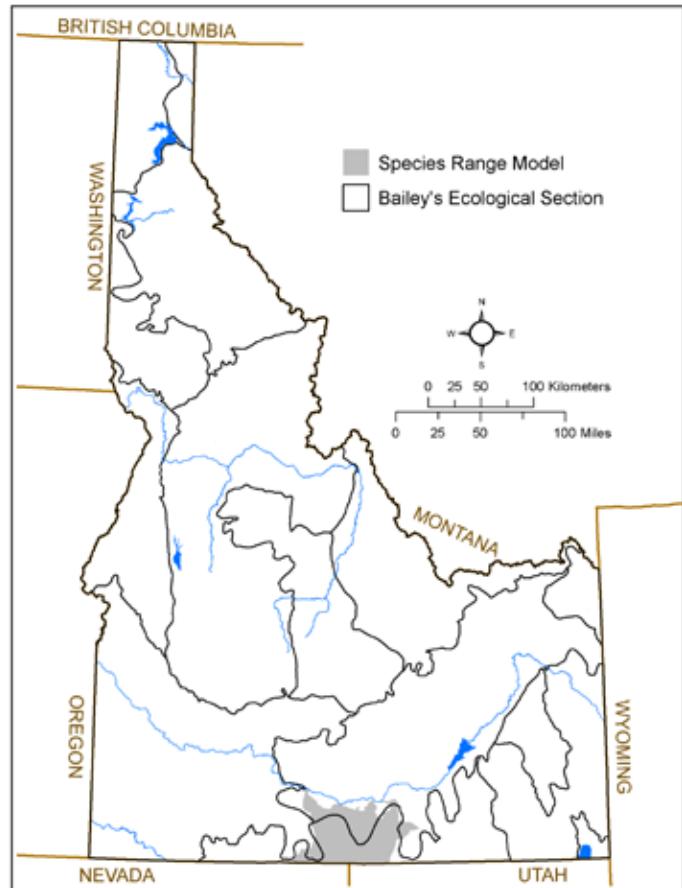
IDAPA: Protected Nongame Species

G-rank: GNR

S-rank: S1

SGCN TIER: 2

Rationale: Disjunct population, endemic



DISTRIBUTION & ABUNDANCE

Range Extent in Idaho: 4,900 km² (~1,900 mi²)

Key Ecological Sections: Northwestern Basin and Range

Population Size in Idaho: 500-2,500

Description: Red Crossbills are found in parts of North America, Europe, Asia and northern Africa. In North America, they inhabit conifer forests from Alaska to Newfoundland south through much of the western US, portions of the eastern US, and portions of Mexico and Central America. There are 9 distinct types of Red Crossbills. The South Hills form of Red Crossbill, hereafter referred to as the South Hills Crossbill, is found only in the South Hills and Albion Mountains, an isolated mountain range in south-central Idaho. This subtype of Red Crossbill has been proposed as a separate species, but thus far has not been recognized as such by the American Ornithologists' Union. There are currently approximately 1,800 individuals.

HABITAT & ECOLOGY

Environmental Specificity: Very narrow: Specialist—key requirements are scarce.

Description: South Hills Crossbills are medium-sized finches with crossed mandibles that allow them to pry open conifer cone scales to access the seeds within. In the South Hills and Albion mountains, lodgepole pine have evolved in the absence of red squirrels, often a primary dispersal predator of their seeds, for 10,000–12,000 years and instead, crossbills fill this role. As a result of coevolution, cone structure of the lodgepole pines and bill morphology (and other traits) of Red Crossbills in this region differ from that of other populations of lodgepoles and crossbills elsewhere. This coevolution and the resultant specialized diet and morphology of the South Hills Crossbill intimately links these birds to lodgepole pine-dominated stands within the South Hills and Albion Mountains. In fact, because their bills are specialized for foraging on the

seeds of lodgepole pines in these ranges, South Hills Crossbills are year-round residents (non-migratory) and would be at a competitive disadvantage in most other lodgepole pine forests (and in stands of other types of conifers). Crossbills have responded to the extreme variability in conifer seed crops (their preferred food) in a number of ways, including variable age of first breeding and multiple broods per year. This species is apparently monogamous and there is little evidence of territoriality within populations. Females construct bulky, loosely-built cup nests of twigs, grasses, and other materials, typically within conifers and built on horizontal branches away from the trunk. Only females incubate eggs and brood chicks, while both parents feed nestlings.

POPULATION TREND

Short-term Trend: Unknown

Long-term Trend: Unknown

Description: Because of their restricted distribution, there are no BBS trend data available for the South Hills Crossbill. After remaining relatively stable between 1998-2003, C. Benkman reports that this species declined by 80% between 2003 and 2011, to a low of approximately 370 individuals. This collapse appears to have been associated with hot summer days and low seed crops. Since 2011, the population has rebounded and is approaching pre-decline levels.

THREATS

Overall Threat Impact: Unknown

Intrinsic Vulnerability: Moderately vulnerable

Description: The primary threat to South Hills Crossbills may be the loss of lodgepole pine forage availability due to increasing temperatures. Population change in this species appears to be linked to the number of hot summer days in the four years immediately preceding the change. Hot summer days cause the serotinous cones to open early, releasing seeds prematurely in late summer and making fewer seeds available the rest of the year. This resulted in declines in adult survival. In addition, climate change projections suggest that there will be little new recruitment in lodgepole pine forests within 160 km (100 mi) of the South Hills and Albion Mountains. Given the close relationship between South Hills Crossbill and the form of lodgepole pine in the South Hills and Albion Mountains, a lack of lodgepole recruitment would likely adversely affect the South Hills Crossbill population. The potential for wildfire is also a concern as catastrophic wildfire could reduce the already limited amount of lodgepole pine in these mountain ranges, which could rapidly precipitate subsequent declines in crossbill numbers.

CONSERVATION ACTIONS

Conservation issues and management actions are detailed in the Northwestern Basin and Range Ecological Section plan. In short, recommended strategies include preserving remaining stands of late-seral forest that are in excellent ecological condition and ensuring that management actions intended to mitigate forest losses from severe wildfire are consistent with existing fire regimes.

ADDITIONAL COMMENTS

None.

Information Sources: Benkman, C., J. W. Smith, P. C. Keenan, T. L. Parchman. 2009. A new species of the Red Crossbill (Fringillidae: *Loxia*) from Idaho. *Condor* 111:169-176.

Map Sources: Based on description in Benkman et al. (2009) following USGS Gap Analysis Program predicted distribution model methodology.