

## **Intermountain Region Broad-Scale Bird Monitoring Report**

### **Biennial Report 2020**

#### **Background: Salient Aspects of 2012 (219.12) and Executive Order 13186**

The purpose of monitoring is to provide continuous feedback for the planning cycle by testing relevant assumptions, tracking relevant conditions over time, and measuring management effectiveness. Monitoring reports document whether a change to plans or the monitoring program is warranted, whether a new assessment may be needed, or whether there is no need for change at the time (219.5).

The purpose of the Intermountain Region Bird Monitoring Report is to accomplish required monitoring at the regional scale. In accordance with the 2012 planning rule, this report provides succinct information on the status of focal and other species of concern, which provides information for assessing ecological conditions for those species. Focal species are specifically selected to make “inference to the integrity of the larger ecological system to which it belongs and provides meaningful information regarding the effectiveness of the plan in maintaining or restoring the ecological conditions to maintain the diversity of plant and animal communities in the plan area.” (36 CFR 219.19) It also provides information on the status of species, and thus ecological conditions that contribute to threatened and endangered species recovery and species of conservation concern viability. The information can be used to assess the effectiveness of forest planning and results may identify needs for altering current Land Management Plans.

Relative to Migratory Bird Treaty act and Executive Order 13186, the information provides insight about the species that may be most affected by land management actions under Forest Service authority. The underlying monitoring question is: do population trends indicate that some species need more, or less, consideration in future project and plan revision decisions?

#### **Data Collection and Analysis: Integrated Monitoring in Bird Conservation**

The Intermountain Region has been funding broad-scale monitoring of bird communities in a region-wide in partnership with state agencies, BLM, DoD, and other federal agencies, Bird Conservancy of the Rockies, Intermountain Bird Observatory, and the Great Basin Bird Observatory. Yearly reports and trend data are produced by the Bird Conservancy of the Rockies, and the 2019 trend analyses data (McLaren et al. 2020) were used to compile this monitoring report. Sufficient data to estimate trend at the regional scale began with the 2017-2020 timeframe. Follow-up analyses, assessments, and planning recommendations should refer to McLaren et al. (2020) for data reporting methods, assumptions, and cautions about data use.

#### **Results**

Because Intermountain Region forests remain in transition between the 1984 and 2012 Planning rules, elements of each planning approach are retained in this report. That is, the birds monitored are species listed as Threatened or Endangered (under the Endangered Species Act) or as Regional Forester’s Sensitive Species (RFSS), Species of Conservation Concern (SCC),

Focal Species (FS), or Management Indicator Species (MIS). Species listed on most recent state Wildlife Action Plans are also monitored. The focus in this report is the median yearly trend (since 2017) for bird populations in the region. An estimate of <1.0 indicates downward population trend, 1.0 indicates no trend, and >1.0 indicates increasing trend; confidence intervals and a confidence in the direction of the trend metric are given to provide information on the variability and statistical significance of observed trends. Trends are listed in Table 1. Species with insufficient data (especially due to low occurrence values (<3 years of data) are listed as NA. Overall, the mean trend of all species with data available is positive ( $\bar{x}=1.10$ , 95% CI: 0.98-1.21, Figure 1), although 11 species have significant positive trends, and 12 significant negative trends (Table 1).

**Table 1. Mean Median Yearly Trend of Intermountain Region Monitored Species, 2017-2019**

	FS Status				State WAP	Regional Trend			
Species	TES	SCC	Focal	MIS		LCI90	Median	UCI90	Conf.
American avocet					NV		NA		
American bittern					ID, NV, UT, WY		NA		
American kestrel					WY	0.60	0.97	1.50	0.47
American pipit					WY	0.46	0.81	1.40	0.76
American white pelican					ID, NV, UT		NA		
Ash-throated flycatcher					WY	0.76	1.06	1.43	0.63
Baird's sparrow					WY		NA		
Bald eagle	SS		Dix	BT, Targ	UT, NV, WY	0.47	2.08	14.24	0.83
Band-tailed pigeon					UT	0.25	0.71	2.21	0.68
Bank swallow					NV	0.25	0.71	1.44	0.78
Bell's vireo					NV		NA		
Bendire's thrasher					UT, NV		NA		
Bewick's wren (+)					WY	1.00	1.28	1.61	0.95
Black rosy-finches (-)		Ash, MLS			ID, NV, UT	0.10	0.50	0.80	0.99
Black swift					ID, UT		NA		
Black tern					ID, NV, WY		NA		
Black-backed woodpecker			Boi	Boi, Targ	WY	0.57	1.47	4.03	0.78
Black-billed cuckoo					WY		NA		
Black-chinned hummingbird					WY	0.48	0.76	1.11	0.88
Black-chinned sparrow					NV	0.73	1.03	1.47	0.58

Black-crowned night-heron					WY		NA		
Black-throated gray warbler					WY	1.40	1.60	1.80	1.00
Blue grosbeak					WY		NA		
Blue-gray gnatcatcher					WY	0.84	1.10	1.44	0.79
Bobolink					ID, NV, WY		NA		
Boreal owl	SS			Targ	UT, WY		NA		
Brewer's sparrow				BT, Fish	NV, WY	0.78	0.93	1.09	0.77
Brown-capped rosy-finches					WY		NA		
Brown-headed cowbird				Spring MT		0.81	0.98	1.15	0.61
Burrowing owl					ID, UT, WY		NA		
Bushtit					WY	0.91	1.25	1.78	0.88
California condor	E				UT		NA		
California gull					ID		NA		
California spotted owl	SS				NV		NA		
Calliope hummingbird					WY	0.36	1.17	3.65	0.59
Canvasback					NV		NA		
Canyon wren					WY	0.71	1.01	1.45	0.52
Caspian tern					ID, NV, WY		NA		
Cassia crossbill					ID		NA		
Cassin's finch(+)					NV	1.04	1.15	1.26	0.98
Cattle egret					WY		NA		
Chestnut-collared longspur					WY		NA		
Clark's grebe					ID, WY		NA		
Clark's nutcracker(-)					ID, WY	0.78	0.89	1.01	0.94
Columbian sharp-tailed grouse					NV, UT, WY		NA		
Common loon	SS			Targ	ID, NV, WY		NA		
Common nighthawk(+)					ID, NV, WY	1.46	2.04	2.92	1.00
Common yellowthroat					WY	0.62	1.48	4.14	0.77
Dickcissel					WY				
Downy woodpecker(-)				Targ		0.34	0.67	1.06	0.92

Dusky grouse						0.55	1.00	2.17	0.50
Ferruginous hawk					ID, NV, UT, WY		NA		
Flammulated owl	SS		Dix	Targ	NV, UT, WY		NA		
Forster's Tern					WY		NA		
Franklin's gull(-)					ID, WY	0.22	0.65	1.16	0.91
Gilded flicker					NV		NA		
Golden eagle				Ash, MLS	ID, NV, UT, WY	0.17	0.67	1.92	0.74
Grasshopper sparrow(+)					ID, WY	0.98	1.45	2.09	0.94
Gray vireo(+)					WY	1.04	1.26	1.51	0.98
Gray-crowned rosy- finch					NV		NA		
Great basin willow flycatcher					NV		NA		
Great blue heron					WY	0.06	0.56	2.25	0.25
Great gray owl	SS			Targ	ID, WY		NA		
Greater sage-grouse	SS	Ash, MLS	Cur, Dix, Saw	Ash, Cari, Chal, Curl, Humb, Salm, Saw, Toiy	ID, NV, UT, WY	0.29	0.69	1.71	0.85
Greater sage-grouse, Bi- state	SS				NV		NA		
Greater sandhill crane					NV		NA		
Gunnison sage-grouse	T				UT				
Hairy woodpecker				Fish, Targ, Toiy		0.71	0.94	1.17	0.68
Harlequin duck	SS			Targ	ID, WY		NA		
Juniper titmouse					WY	0.67	1.07	1.76	0.64
Le Conte's thrasher					NV		NA		
Lewis woodpecker				Targ	ID, NV, UT, WY	0.17	1.10	6.30	0.55
Lincoln's sparrow				Ash, Flsh		0.67	0.90	1.16	0.76
Loggerhead shrike					NV, WY		NA		
Long-billed curlew					ID, NV, WY		NA		

Long-billed dowitcher					NV		NA		
MacGillivray's warbler				Fish	WY	0.81	0.97	1.20	0.60
McCown's longspur					WY		NA		
Merlin					WY		NA		
Mexican spotted owl	T				UT		NA		
Mountain bluebird(-)				Fish		0.76	0.89	1.02	0.93
Mountain Plover					WY		NA		
Mountain quail	SS				ID, NV	0.40	1.05	2.65	0.52
Northern flicker(-)			Dix	Targ		0.82	0.92	1.04	0.90
Northern goshawk	SS		Dix, Saw, Uin, WC	Ash, Cari, Fish, Humb, MLS, Targ, Toiy, Uint, WC	NV, WY	0.20	0.66	1.80	0.78
Northern pintail					NV		NA		
Northern pygmy-owl (+)					UT, WY	0.86	2.03	5.40	0.92
Olive-sided flycatcher(-)					ID, NV, UT	1.07	1.27	1.53	0.98
Peregrine falcon	SS	Ash	Dix	BT, Targ	NV, UT, WY	0.33	0.66	1.29	0.85
Pileated woodpecker(-)			Boi, Pay, Saw	Boi, Chal, Pay, Salm, Saw		0.16	0.47	0.95	0.95
Pinyon jay					ID, NV	0.62	0.95	1.33	0.58
Prairie falcon					NV	0.21	0.82	2.20	0.63
Purple martin					WY		NA		
Pygmy nuthatch					WY	0.73	1.08	1.52	0.62
Red crossbill					WY	0.69	0.84	1.02	0.93
Red-eyed vireo					WY	0.61	1.63	4.94	0.81
Redhead					NV		NA		
Red-headed woodpecker					WY		NA		
Red-naped sapsucker				Ash, Targ		0.66	0.99	1.48	0.46
Red-necked phalarope					NV		NA		
Ring-billed gull					ID	0.21	1.10	4.83	0.53

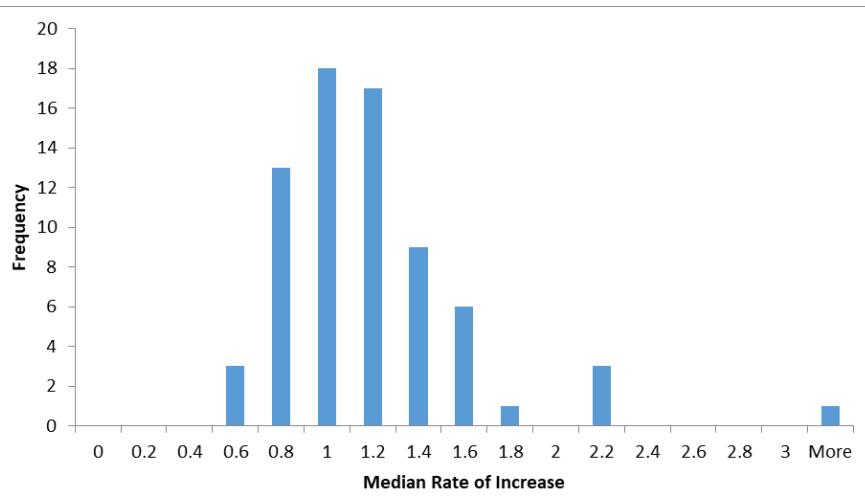
Rufous hummingbird					NV, WY	0.65	1.41	2.81	0.81
Sage sparrow					NV		NA		
Sage thrasher(-)				Fish	ID, NV, WY	0.56	0.75	1.05	0.92
Sagebrush sparrow					ID, WY	0.60	0.79	1.13	0.88
Sandhill crane(+)					ID	1.00	1.38	2.01	0.95
Scott's oriole					NV, WY		NA		
Sharp-tailed grouse					ID		NA		
Short-eared owl(-)					ID, NV, WY	0.47	0.70	1.10	0.91
Sierra Nevada mountain willow flycatcher					NV		NA		
Snowy egret					WY		NA		
Snowy plover					UT, WY		NA		
Song sparrow				Ash, Fish		0.88	1.12	1.36	0.80
Sooty grouse					NV		NA		
Southwestern willow flycatcher	E				NV, UT		NA		
Swainson's hawk					WY	0.32	0.96	2.65	0.47
Three-toed woodpecker	SS		Dix	Targ, Uint			NA		
Tricolored blackbird					NV		NA		
Trumpeter swan	SS			Targ	ID, WY		NA		
Upland sandpiper					WY		NA		
Vesper sparrow(+)				Fish		0.92	1.39	2.11	0.90
Virginia rail					WY	0.61	1.40	3.07	0.84
Virginia's warbler(-)					NV, WY	0.68	0.78	0.92	0.99
Warbling vireo				Ash		0.80	1.03	1.33	0.59
Western bluebird				Fish		0.64	1.34	2.81	0.81
Western burrowing owl					NV		NA		
Western grebe					ID, WY		NA		
Western least bittern					NV		NA		
Western sandpiper					NV		NA		
Western snowy plover					NV		NA		
Western tanager(-)				Fish		0.87	0.94	1.02	0.91
Western yellow-billed cuckoo	T				NV		NA		
White-faced ibis					ID, NV, UT, WY		NA		
White-headed woodpecker	SS		Boi, Pay	Boi, Pay	ID, NV		NA		

White-tailed Ptarmigan				Ash		0.44	0.93	2.26	0.46
Whooping crane	E			BT			NA		
Wild turkey			Dix			0.76	1.32	2.39	0.81
Williamson's sapsucker				Targ, Toiy	WY	0.63	1.00	1.55	0.50
Willow flycatcher(+)					WY	2.04	4.00	15.56	1.00
Wilson's phalarope					NV		NA		
Woodhouse's scrub-jay					WY	0.88	1.10	1.40	0.79
Yellow warbler				Fish, Toiy		0.92	1.04	1.17	0.73
Yellow-bellied sapsucker				Toiy			NA		
Yellow-billed cuckoo					ID, WY		NA		
Yellow-breasted chat				Dix		0.78	1.20	1.83	0.78
Yellow-rumped warbler				Fish		0.79	0.92	1.07	0.81
Yuma clapper rail					NV		NA		

LCI90=lower confidence interval of the median; Median=median trend for the region 2017-2019: <1.0 indicates downward population trend, 1.0 indicates no trend, and >1.0 indicates increasing trend. UCI90=upper confidence interval of the median; Conf.=confidence in the direction of the reported trend, e.g., 0.83 suggests 83% confidence in the direction of an observed trend (but not its magnitude). SS = Regional Forester's Sensitive Species; T = Threatened; E = Endangered; (+) = confidence of positive population trend > 90%; (-) = confidence of negative population trend >90%.

National Forest System Lands: Ash= Ashley, Boi= Boise, BT= Bridger-Teton, C= Caribou, Chal=Challis, Curl=Curlew, Dix=Dixie, Fish=Fishlake, Humb=Humboldt, Pay=Payette, Salm=Salmon, Saw=Sawtooth, SpringMT= Spring Mountain, Targ=Targhee, Toiy=Toiyabe, Uint=Uinta, WC= Wasatch-Cache

**Figure 1. Trends of Monitored Bird Species on Region 4 Forest System Lands 2017-2019**



## **Assessment: species with significant negative population trends**

*--Habitat Summaries and Threats are copied directly from Cornell All About Birds Website--*

Overall, trends of bird species on Intermountain Region forests are nearly normally distributed around 1.0 with a slight skew toward population increases (Figure 1). Twelve species, however, show significant negative trends. During future planning, it may be justified for forest biologists to consider the trends of species that are currently given, or not given, special FS status. Below is a very brief and somewhat informal description of the habitat needs and threats to species that show significant negative trends.

### Black rosy-finches (SCC on Ashley and Manti-La Sal)

#### *Habitat*

“Black Rosy-Finches breed above treeline in areas with cliffs and rock slides. During the nonbreeding season, they often move to lower elevations especially when heavy snow covers foraging areas. Here they forage in open parks and valleys with little snow cover and visit feeders. When winter conditions are particularly harsh they roost in crevices, caves, mineshafts, and wells.”

#### *Threats*

“Black Rosy-Finches are uncommon. Partners in Flight lists them as a Red Watch List species, with a Continental Concern Score of 17 out of 20 primarily due to their small population size and restricted breeding distribution. Partners in Flight estimates the global breeding population at 20,000. The remoteness of their breeding grounds likely means that development is not a threat, but warming temperatures could affect their habitat and food supply.”

### Clark's nutcracker (No FS special status)

#### *Habitat*

“Clark's Nutcrackers live in open coniferous forests in the western United States and southwestern Canada, at anywhere from 3,000 to 12,000 feet. Starting in early June, they become more abundant at higher elevations, in stands of shrubby whitebark or limber pine (sometimes mixed with fir, spruce, or other pines) with nearby creeks, small lakes, and moist meadows. In the fall, nutcrackers move down to lower elevations into forests of Jeffrey pine, pinyon-juniper, limber pine, southwestern white pine, bristlecone pine, ponderosa pine, or Douglas-fir, depending on which forests have the most available seeds.”

#### *Threats*

“Clark's Nutcracker populations appear to have experienced declines between 1966 and 2015, most notably in Washington, according to the North American Breeding Bird Survey. Partners in Flight estimates a global breeding population of 230,000, with 89% living in the U.S. and 11% in Canada. The species rates and 11 out of 20 on the Continental Concern Score. It is a U.S.-Canada Stewardship species. Clark's Nutcracker is not on the 2016 State of North America's Birds' Watch List. Local declines may be due to a pine beetle epidemic and the arrival of white pine blister rust, both of which kill the whitebark pines that many nutcrackers depend on. Limber pine and southwestern white pine face similar threats, while pinyon pine is declining as

people clear land for cattle. Because Clark's Nutcrackers live in fragile subalpine zones near the tops of mountains, they are one of the species most vulnerable to climate change: as temperatures warm, habitat zones are likely to shift upward in elevation, reducing the amount of subalpine habitat available on mountaintops.”

### Downy woodpecker (MIS on Targhee)

#### *Habitat*

“Open woodlands, particularly deciduous woods and along streams. Also found in created habitats including orchards, parks, and suburbs. You may also find Downy Woodpeckers in open areas, where they can nest along fencerows and feed amid tall weeds.”

#### *Threats*

“Downy Woodpeckers are numerous and their populations were stable between 1966 and 2015 according to the North American Breeding Bird Survey. Partners in Flight estimates a global breeding population of 14 million, with 79% living in the U.S. and 21% in Canada. The species rates an 7 out of 20 on the Continental Concern Score. Downy Woodpecker is not on the 2016 State of North America's Birds Watch List. These birds sometimes nest along fences, and the shift from wooden to metal fenceposts over the last century may have reduced their numbers. But clearing and thinning forests has had the opposite effect, since Downy Woodpeckers do well in young forests.”

### Franklin's gull (No FS special status)

#### *Habitat*

“Franklin's Gulls nest in freshwater marshes with abundant emergent vegetation and patches of open water. Here, they form large colonies of hundreds or thousands of birds, often nesting less than 2 feet from neighbors. After nesting, Franklin's wander widely in the intermountain West of North America and in the prairies, where they may be abundant locally, especially where insect prey is emerging in swarms. During migration, Franklin's Gulls have been detected in almost every corner and habitat of North America, including very high elevations (over 14,000 feet) in the Rocky Mountains. For feeding, they seek out agricultural areas, pastures, and many sorts of wetlands, including sewage ponds, lakes, lagoons, estuaries, and bays. They readily follow tractors during plowing, eating grubs and worms turned up from the soil, and they sometimes visit landfills with other gulls. In South America, Franklin's Gulls winter mostly along ocean coastlines and forage along shorelines and out to sea about 30 miles, though they also forage at high-elevation lakes in Peru far from the ocean. Like other gulls, Franklin's are flexible and opportunistic in their foraging and make use of whatever habitats are most productive.”

#### *Threats*

“According to the North American Breeding Bird Survey, Franklin's Gull populations declined throughout the species' range by almost 3% per year between 1968 and 2015, resulting in a cumulative decline of 76% over that period. In the United States (which represents only a small portion of the species' breeding range), declines were over 6% per year during the same period, which amounts to a 95% decline. Partners in Flight estimates a global breeding population of

830,000 and rates the species a 14 out of 20 on the Continental Concern Score, placing it on the Yellow Watch List for species with population declines. Franklin's Gull populations declined in the 1800s and early 1900s as about half of wetlands in their U.S. range were drained. Other nesting habitats were modified or manipulated to benefit other species (such as waterfowl) and thus became unsuitable for Franklin's. Their sensitivity to human disturbance at colonies has limited their numbers in some places. Environmental pollutants such as heavy metals also pose a threat to this aquatic species. Climate change forecasts of warmer temperatures throughout the breeding range, with both stronger storms and intense periods of drought, could reduce nesting habitat and nesting success. ”

#### Mountain bluebird (MIS on Fishlake)

##### *Habitat*

“During breeding season, Mountain Bluebirds seek out open areas with a mix of short grasses, shrubs, and trees, at elevations of up to 12,500 feet above sea level. They gravitate toward prairie and tundra edges, meadows, sagebrush flats, alpine hillsides, pastures, and recently burned or clearcut areas. Along roadsides, they seek out nest boxes or nesting cavities that face away from roads. Mountain Bluebirds winter at lower elevations—in meadows, hedgerows, prairies, and flat grasslands with few scattered trees and bushes, pinyon-juniper and oak-juniper woodlands, and agricultural areas. They avoid the most arid desert habitats. ”

##### *Threats*

“Mountain Bluebirds are fairly common, but populations declined by about 24% between 1966 and 2015, according to the North American Breeding Bird Survey. Partners in Flight estimates the global breeding population of 4.6 million, with 80% spending some part of the year in the U.S., 20% breeding in Canada, and 31% wintering in Mexico. The species rates a 12 out of 20 on the Continental Concern Score. Mountain Bluebird is not on the 2016 State of North America's Birds' Watch List, but it is a U.S.-Canada Stewardship species. These bluebirds benefited from the westward spread of logging and grazing in the late nineteenth and early twentieth centuries, when the clearing of forest created open habitat for foraging. The subsequent waning of these industries, coupled with the deliberate suppression of wildfires, led to a dwindling of open acreage in the West and the decline of the species. More recently, as land-use practices have stabilized, so have Mountain Bluebird populations. Construction of nest boxes in suitable habitat has also provided a population boost. Populations are declining in areas where trees are too small to provide natural nesting cavities, and where forest and agricultural management practices have reduced the availability of suitable nest sites. Among birds that nest in cavities but can't excavate them on their own, competition is high for nest sites. Mountain, Western, and more recently Eastern bluebirds compete for nest boxes where their ranges overlap. House Sparrows, European Starlings, and House Wrens also compete fiercely with bluebirds for nest cavities.”

#### Northern flicker (Focal on the Dixie, MIS on the Targhee)

##### *Habitat*

“Look for Northern Flickers in woodlands, forest edges, and open fields with scattered trees, as well as city parks and suburbs. In the western mountains they occur in most forest types,

including burned forests, all the way up to treeline. You can also find them in wet areas such as streamside woods, flooded swamps, and marsh edges.”

#### *Threats*

“Northern Flickers are widespread and common, but numbers decreased by almost 1.5% per year between 1966 and 2012, resulting in a cumulative decline of 49%, according to the North American Breeding Bird Survey. Partners in Flight estimates a global breeding population of 9 million with 78% spending some part of the year in the U.S., 42% in Canada, and 8% in Mexico. They rate a 10 out of 20 on the Continental Concern Score and are listed as a Common Bird in Steep Decline. They are not listed on the 2014 State of the Birds Report.”

### Pileated woodpecker (Focal on the Boise, Payette, Sawtooth, MIS on Boise, Challis, Payette, Sawtooth, Salmon

#### *Habitat*

“Pileated Woodpeckers live in mature deciduous or mixed deciduous-coniferous woodlands of nearly every type, from tall western hemlock stands of the Northwest to beech and maple forests in New England and cypress swamps of the Southeast. They can also be found in younger forests that have scattered, large, dead trees or a ready supply of decaying, downed wood. Throughout their range, Pileated Woodpeckers can also be found in suburban areas with large trees and patches of woodland.”

#### *Threats*

“Pileated Woodpeckers are fairly common and numerous. Their populations steadily increased from 1966 to 2014, according to the North American Breeding Bird Survey. Partners in Flight estimates a global breeding population of 1.9 million with 67% living in the U.S., and 33% in Canada. They rate a 7 out of 20 on the Continental Concern Score and are not on the 2014 State of the Birds Watch List. Pileated Woodpeckers rely on large, standing dead trees and fallen logs—something that property managers may consider undesirable. It’s important to maintain these elements both for the insect food they provide and for the many species of birds and mammals that use tree cavities. Historically, Pileated Woodpeckers probably declined greatly with the clearing of the eastern forests but rebounded in the middle twentieth century as these forests came back.”

### Red crossbill (No FS special status)

#### *Habitat*

“Red Crossbills favor mature coniferous forests, especially spruce, pine, Douglas-fir, hemlock, or larch with recent cone crops. Although Red Crossbills mostly breed south of the forests of spruce, fir, and larch where White-winged Crossbills breed most abundantly, the two species forage together in white spruce and Engelmann spruce forests in late summer, when cone crops are extensive. In North America, Red Crossbill comprises at least 11 different “types” (distinguished in the field by their flight calls), many of which specialize on particular species of conifer. For example, the small-billed type 3 favors western hemlock, which has very small cones, whereas the largest-billed type 6, found in the Southwest, feeds on larger-coned pine

species. Birders have begun to make audio and video recordings of Red Crossbill, both to identify the type involved and to identify the species of conifer in which they feed.”

#### *Threats*

“Red Crossbill populations have declined by an estimated 12% since 1970, according to Partners in Flight. The group estimates a global breeding population of 26 million, with a U.S./Canada breeding population of 7.8 million, and rates the species an 8 out of 20 on the Continental Concern Score, indicating it is a species of low conservation concern. In Newfoundland, Canada, the species has become quite scarce (possibly as a result of the introduction of red squirrels to the island), and populations in the Pacific Northwest have also declined between 1966 and 2015, according to the North American Breeding Bird Survey, probably as a result of deforestation associated with development and logging. Crossbills gather grit on roadsides, making them vulnerable to vehicle strikes, and to possible ill effects from ingesting salt and other chemicals used to treat roads in winter. Logging of older-growth forest reduces food available to Red Crossbills, as many conifer species reach maximum productivity in their seventh decade or later. Extensive forest fires and outbreaks of pine beetles may temporarily reduce habitat and food available to Red Crossbills. In the early years after forest fires, crossbills can be common in burns because many of the dead trees (especially lodgepole pine) still have cones on them.”

### Sage thrasher (MIS on the Fishlake)

#### *Habitat*

“The Sage Thrasher breeds exclusively in shrubsteppe habitats—the vast, open landscapes of the interior West. These areas tend to be so dry that trees don’t grow, and the ground is dominated by big sagebrush (*Artemisia tridentata*) and other sagebrush species. Sage Thrashers require relatively dense ground cover for concealment, but also some bare ground for foraging and for getting around on their feet, which they often do in preference to flying. Thrashers tend to be more numerous in areas dominated by sagebrush, a small amount of grasses, and some bare ground. During migration and wintering, Sage Thrashers use arid or semiarid open country with scattered bushes, grasslands, and open pinyon-juniper woodlands.”

#### *Threats*

“Sage Thrashers are numerous but their populations declined by almost 1.5% per year between 1966 and 2014, resulting in a cumulative decline of 52%, according to the North American Breeding Bird Survey. Partners in Flight estimates a global breeding population of 5.9 million, with 100% spending some part of the year in the U.S., and 48% wintering in Mexico. A small part of the population may breed in Canada. The species rates an 11 out of 20 on the Continental Concern Score. Sage Thrasher is a U.S.-Canada Stewardship species and is not on the 2014 State of the Birds Watch List. Compared to most sagebrush-dependent birds, Sage Thrasher populations so far are faring well in the face of development. Nevertheless all birds that depend on sagebrush landscapes are vulnerable to habitat loss and fragmentation due to heavy livestock grazing, residential development, agricultural conversion, herbicide and pesticide treatments, and changes to fire regimes. These combined changes have led to a loss of 50 percent of the sagebrush steppe habitat in Washington, and the species is nearly

extirpated from Canada altogether. The loss of sagebrush habitat to invasive cheatgrass and crested wheatgrass are also threats rangewide.”

#### Short-eared owl (No FS special status)

##### *Habitat*

“Short-eared Owls live in large, open areas with low vegetation, including prairie and coastal grasslands, heathlands, meadows, shrubsteppe, savanna, tundra, marshes, dunes, and agricultural areas. Winter habitat is similar, but is more likely to include large open areas within woodlots, stubble fields, fresh and saltwater marshes, weedy fields, dumps, gravel pits, rock quarries, and shrub thickets. When food is plentiful, winter areas often become breeding areas.”

##### *Threats*

“Short-eared Owl populations are difficult to estimate with certainty. There have been declines, particularly in Canada, but overall populations appear to have stayed stable between 1966 and 2015, according to the North American Breeding Bird Survey. Partners in Flight estimates a global breeding population of 3 million, with 14% spending some part of the year in the U.S., 11% in Canada, and 3% wintering in Mexico. The species rates a 12 out of 20 on the Continental Concern Score. Short-eared Owl is not on the 2016 State of North America's Birds Report, but was listed as a Common Bird in Steep Decline on the 2014 State of the Birds Report. Habitat loss from agriculture, livestock grazing, recreation, and development appears to be the major cause of population declines. Short-eared Owls require large uninterrupted tracts of open grasslands, and appear to be particularly sensitive to habitat loss and fragmentation. Habitat restoration programs, such as the Conservation and Wetland Reserve Programs, have shown some success in restoring suitable habitat for Short-eared Owls on private land.”

#### Virginia's warbler (No FS special status)

##### *Habitat*

“Virginia's Warblers breed in open pinyon-juniper and oak woodlands often on steep slopes with shrubby ravines throughout most of their range. They also use dense thickets of mountain mahogany in southern Idaho and mixed-evergreen forests on the Mogollon Rim in Arizona. During migration, they tend to gravitate toward pine forests and scrubby or wooded areas adjacent to creeks. On the wintering grounds in Mexico they stick to thorn scrub and tropical deciduous forests.”

##### *Threats*

“Virginia's Warblers are uncommon and their numbers declined by 46% between 1970 and 2014, according to Partners in Flight. They are a Yellow Watch List species with a restricted range, and have a Continental Concern Score of 14 out of 20. Partners in Flight estimates that if current rates of decline continue, Virginia's Warblers will lose another half of their remaining population within the next 61 years. The current estimated global breeding population is 950,000. The causes for decline in Virginia's Warblers are not well understood. In some areas forest management techniques such as controlled burning can reduce available breeding habitat. In other areas where Brown-headed Cowbirds are abundant, cowbirds frequently lay

eggs in the nests of Virginia's Warblers, preventing the warblers from raising offspring of their own. Climate change may also affect these birds as they frequently associate with wet drainages, which may shrink as climate warms. ”

#### Western tanager (MIS on the Fishlake)

##### *Habitat*

“Western Tanagers breed in open coniferous and mixed coniferous-deciduous woodlands up to about 10,000 feet elevation in western North America. These birds are especially common in forests of Douglas-fir, ponderosa pine, and lodgepole pine. They also breed in riparian woodlands, aspen forests, oak and pinyon-juniper woodlands. They usually favor open woods including wetlands, forest edges, and burns as well as suburban parks and gardens. Occasionally they foray into relatively dense forest. During migration, Western Tanagers frequent a wide variety of forest, woodland, scrub, and partly open habitats as well as human-made environments such as orchards, parks, gardens, and suburban areas. Their winter habitat in Middle America is generally in pine-oak woodland and forest edge.”

##### *Threats*

“Western Tanagers are common and their numbers increased between 1966 and 2014, according to the North American Breeding Bird Survey. Partners in Flight estimates the global breeding population at about 11 million individuals, with 68% spending part of the year in the U.S., 32% in Canada, and 75% in Mexico. They rate an 8 out of 20 on the Continental Concern Score and are not on the 2014 State of the Birds Watch List. This species uses open habitats and edges over forest interior and does not require large forest patches to breed. It has therefore fared better than other species in response to forest fragmentation. Because Western Tanagers are closely associated with Douglas-fir forests of the interior West, management practices in these forests will be important to them.”

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