

# Terrestrial Birds in the Lower Coos Watershed



## Summary:

- Since 1980, some terrestrial bird species have become more abundant while others have declined. However, most birds show no clear trend, suggesting that local bird populations are generally stable.
- Neotropical migrants may be overwintering in the Coos system more frequently, a trend that could be correlated with changing climate.
- Conservation efforts appear to have enhanced local populations for some key bird species (e.g., ospreys and bald eagles).
- Some highly adaptable, “synanthropic” species such as crows, ravens, pigeons, and doves may benefit from habitat created by human development



## Evaluation

Most terrestrial bird populations appear to be stable, displaying neither increasing nor decreasing trends.

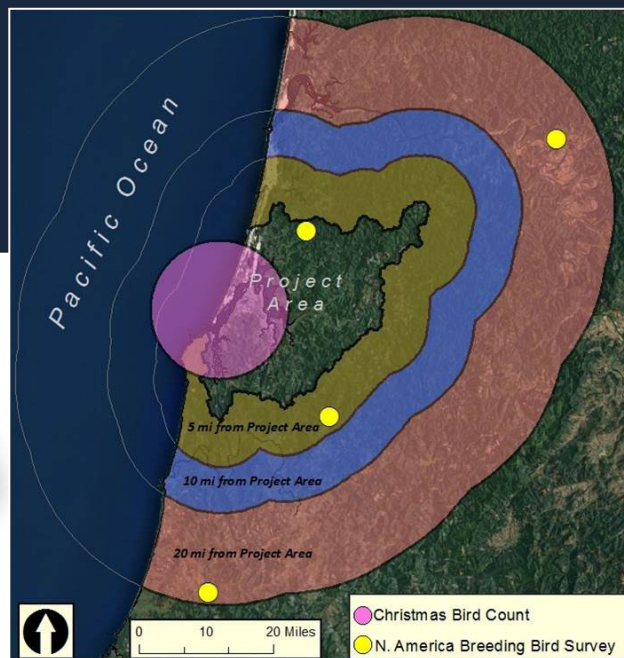


Figure 1. Terrestrial bird survey sites in and near the project area. Data: Rodenkirk n.d., USGS 2014

## What's happening?

### Raptors

This section summarizes the status and trends of raptor populations, including hawks, eagles, and other birds of prey. Regional data are presented at a statewide level using breeding population estimates as a proxy for abundance. A discussion of Coos estuary data, which use Audubon Christmas Bird Count (CBC) sightings to project trends in local raptor abundance, follows (Figure 1). The Local Raptor Trends section describes the status of raptor species that display the most apparent abundance trends since the 1980s.

#### *Statewide Raptor Trends*

The United States Geological Survey (USGS) Patuxent (MD) Wildlife Research Center (2014) conducts the North American Breeding Bird Survey (BBS), which includes 144 survey sites in Oregon. One of the Oregon sites is located within the project area and three sites

are located near the project area (Figures 1 and 2). This survey is conducted annually along preselected observational “routes.” The BBS data are used here as indices of relative bird species abundance and should not be interpreted as estimates of the total population size (D. Ziolkowski, pers. comm., November 24, 2014).

Figure 3 displays the BBS abundance data for six raptors species that have displayed clear trends (1966-2012) in Oregon. It should be noted that some of these trends are subject to data limitations (e.g., small sample size) that can reduce the reliability of the results. Please see the chapter summary for more information about these limitations.

#### *Local Raptor Trends*

Below we focus on raptor species in the Coos estuary that show strong evidence of changing populations:

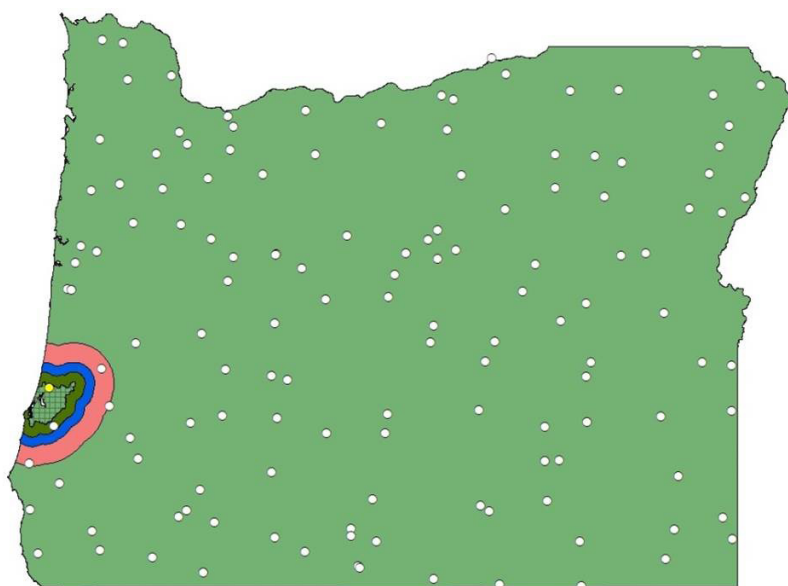
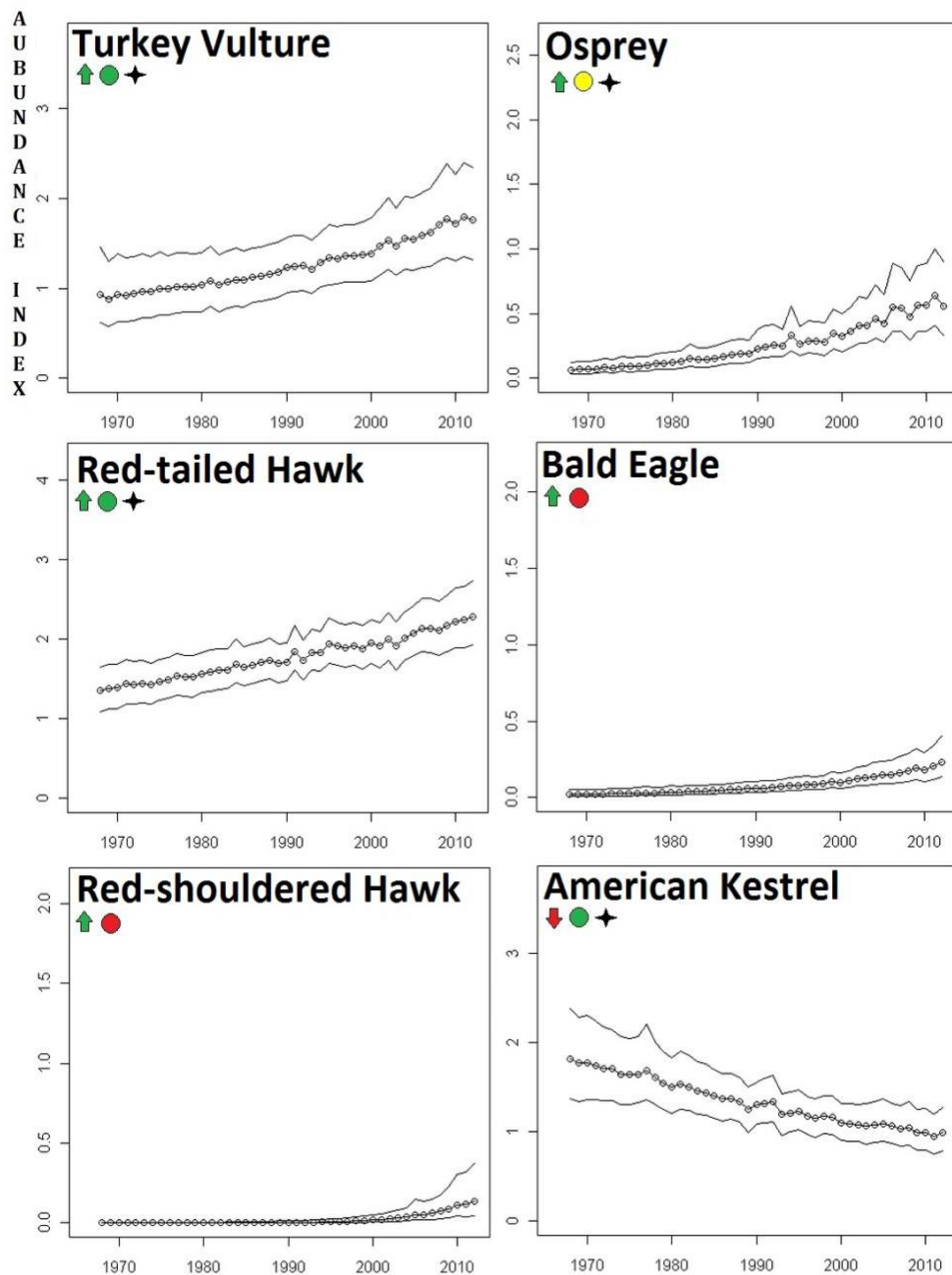


Figure 2. USGS Patuxent Wildlife Research Center conducts the North American Breeding Bird Survey (BBS) along observational routes at 144 sites in Oregon (white), including one site within the study area (yellow). The project area (cross hatch) has been highlighted for reference. Habitat within proximity to the project area (< 20 miles) is also highlighted (see Figure 1 for reference). Data: USGS 2014



## Legend

- Important Data Deficiencies
- Some Data Deficiencies
- Robust Data
- ↑ Increasing Abundance
- ↓ Decreasing Abundance
- Annual Abundance Index
- Confidence Interval
- ✦ Statistically Significant Trend

Figure 3. North American Breeding Bird Survey (BBS) data for state-wide abundance trends (1966-2012). The BBS data show six raptor species exhibiting clear trends over time. The American kestrel (*Falco sparverius*) has shown a statistically significant decline, while the Turkey Vulture (*Cathartes aura*), osprey (*Pandion haliaetus*), and Red-tailed Hawk (*Buteo jamaicensis*) have shown significant increases. Data: USGS 2014

### *Osprey (Pandion haliaetus)*

From 1980-1997, there were no Osprey sightings in the Coos estuary during the CBC (Audubon 2014, Rodenkirk 2012b, Cornu et al. 2012). However, since 1997, Ospreys have been sighted consistently, with 1-3 birds wintering annually (Audubon 2014; Rodenkirk 2012; T. Rodenkirk, pers. comm., January 19, 2012; Cornu et al. 2012, )(Figure 4).



Figure 4. Osprey are commonly found in the Coos estuary during summertime, but CBC data indicate that the wintering population of osprey has increased over time. Photo Credit: B.N. Singh taken from Cornell 2014

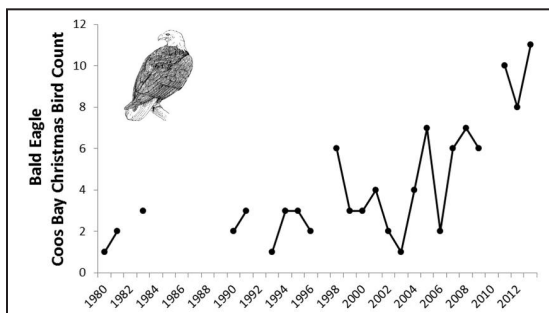


Figure 5. Coos Bay CBC data indicate that local midwinter bald eagle abundance has generally increased since 1980. Some data gaps occur during years in which the CBC was not conducted (2010) or not reported (1987-89). Data: Audubon 2014, Rodenkirk 2012

### *Bald Eagle (Haliaeetus leucocephalus)*

Historically, bald eagle populations were in danger of extinction throughout their range, but they have since recovered (USFWS 2013). The CBC data, which show a generally increasing trend of midwinter eagle abundance in the Coos estuary, suggest that the overall recovery of this species may be mirrored by the recovery of local bald eagle populations (Figure 5).

### *Red-shouldered Hawk (Buteo lineatus)*

Red-shouldered hawks were not sighted during the Coos Bay CBC until 1993. Sightings have generally increased since then, averaging nearly 12 sightings annually from 2006-2013 alone (Figure 6).

### *Other Raptors*

Many raptors species are abundant in the Coos estuary, but most of these birds have displayed neither clearly increasing nor clearly decreasing population trends over time. Figure 7 summarizes CBC data for commonly sighted raptors in Coos Bay.

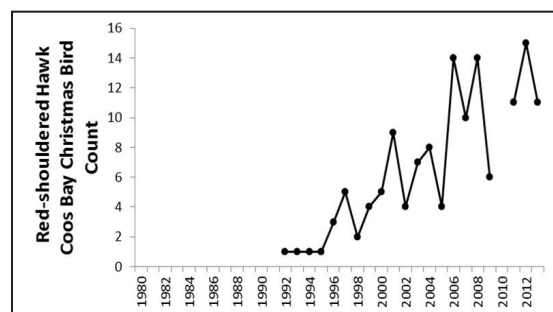


Figure 6. Coos Bay CBC data indicate that local midwinter red-shouldered hawk abundance has generally increased since 1980. Some data gaps occur during years in which the CBC was not conducted (2010) or not reported (1987-89). Data: Audubon 2014, Rodenkirk 2012



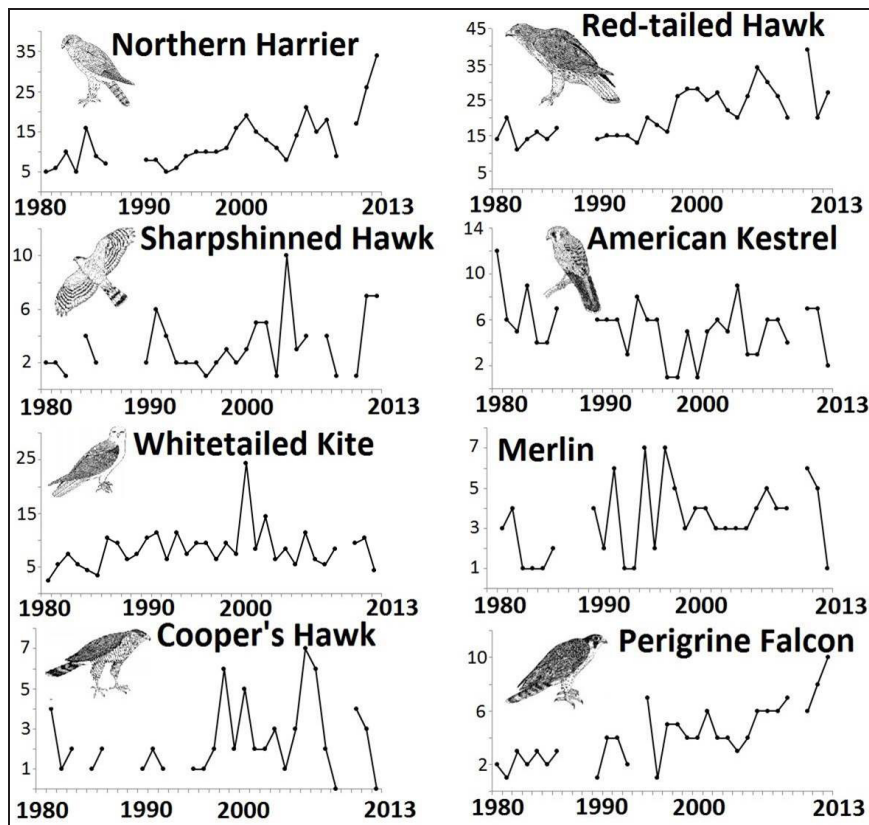


Figure 7. Common raptor species that display neither clearly increasing nor clearly decreasing population trends in the Coos estuary (1980-2013). Data: Audubon 2014, Rodenkirk 2012; Bird Sketches: Csuti et al. 1997

## Owls

This section discusses trends in owl abundance at a statewide level as well as locally. Emphasis is given to species whose populations have displayed clear trends over time.

The northern spotted owl (*Strix occidentalis caurina*) and the northern barred owl (*Strix varia varia*) are mentioned here briefly. Trends for these species are discussed in further detail in the Birds of Special Concern data summary.

### Statewide Owl Trends

The great horned owl (*Bubo virginianus*) is the only owl species surveyed by BBS to exhibit a clear trend (Figure 8). It appears

great horned owl populations are decreasing, though the trend is not statistically significant.

Research suggests that the northern barred owl and northern spotted owl have exhibited clear trends at a regional level. Since the early 1990s, the barred owl has expanded its range into southwestern Canada, the northern Rockies, and Pacific Northwest, while the spotted owl has declined throughout its range (Courtney et al. 2004, Davis et al. 2011, Zabel et al. 1996, Forsman et al. 2013).

### Owls in the Lower Coos Watershed

Few owl species appear to exhibit either clearly increasing or clearly decreasing population trends in the project area. The exceptions are the northern spotted and barred

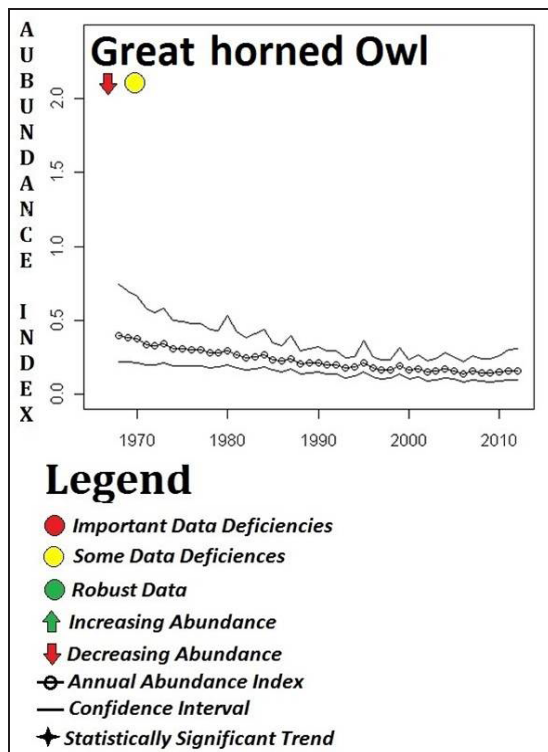


Figure 8. Data from the BBS suggest that great horned owl populations statewide have declined over time, although this trend is not statistically significant. Data: USGS 2014

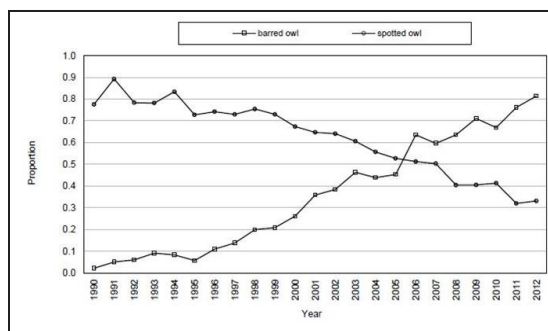


Figure 9. Proportion of spotted owl sites in which barred owls and spotted owls were detected on the Oregon Coast Ranges Study Area, 1990-2012 Caption and Figure: Forsman et al. 2013

owls. In upland habitats associated with the lower Coos watershed, spotted owl populations have declined while barred owl populations have grown (Figure 9).

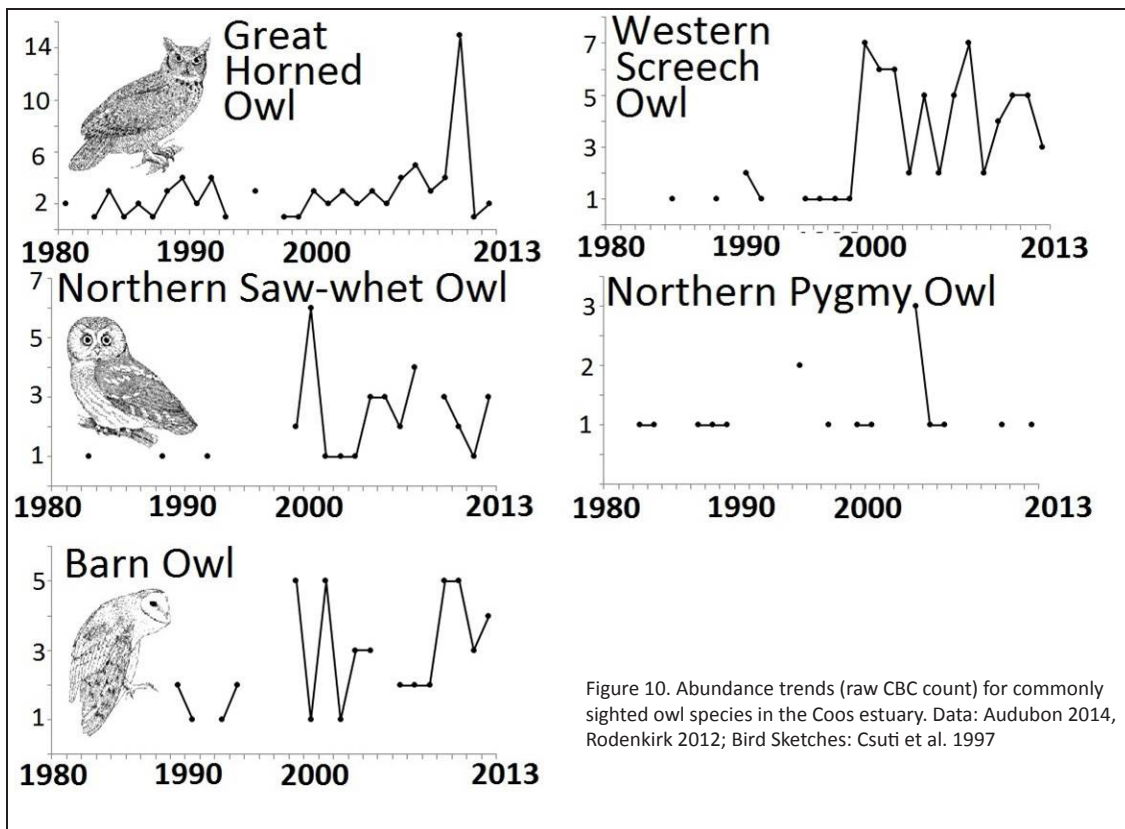
Common Name	Scientific Name	Abundance Index
Great Horned Owl	<i>Bubo virginianus</i>	27
Barn Owl	<i>Tyto alba</i>	22
Western Screech-Owl	<i>Megascops kennicottii</i>	21
Northern Saw-whet Owl	<i>Aegolius acadicus</i>	16
Northern Pygmy-Owl	<i>Glaucidium gnoma</i>	14
Barred Owl	<i>Strix varia</i>	4
Short-eared Owl	<i>Asio flammeus</i>	4

Table 1. List of commonly observed owl species in the lower Coos watershed. Abundance index shows the number of years that the species was observed during the CBC (1980-2013). The CBC was not conducted from 1987-1989 and again in 2010. Therefore, if a species is present every year since 1980, the corresponding abundance index is 30. Data: Audubon 2014, Rodenkirk 2012

Table 1 summarizes local CBC count data for the most commonly observed owl species. In some cases, the CBC owl species data are relatively sparse, because not all owls are observed every year (e.g., northern saw-whet owl, northern pygmy owl). Available data indicate no clear abundance trend for commonly sighted owl species (Figure 10).

## Songbirds

This section summarizes data for “passerines,” meaning bird species of the order Passeriformes, commonly referred to as “songbirds.” Songbirds comprise a diverse group of many recognizable bird species (e.g., chickadees, tits, warblers, finches, thrushes, sparrows, etc.). Statewide abundance trends are presented briefly followed by a discussion of local songbird population trends. Emphasis is given to species that have displayed clear trends over time.



### Songbirds in Oregon

The BBS indicates that 21 songbird species have shown statistically significant declines since 1966. Only 2 species have had statistically significant increase. Figure 11 summarizes the BBS data for 27 passerine species exhibiting clear population trends in Oregon since 1966.

### Songbirds in the Lower Coos Watershed

Below we focus on passerine species in the lower Coos watershed that show strong evidence of changing populations:

### Black Pheobe (*Sayornis nigricans*)

Black pheobes were not sighted during the local CBC from 1980-1995. However, starting in 1996, this species has been sighted every year and has become increasingly abundant (Figure 12).

### Common Yellowthroat (*Geothlypis trichas*)

From 1980-2001, the Coos Bay CBC did not record any common yellowthroat sightings. Since 2002, the species has been sighted in the Coos estuary 5 times during the local CBC, and is now frequently found overwintering in several Coos County locations (Audubon 2014, Rodenkirk 2012)(Figure 13).

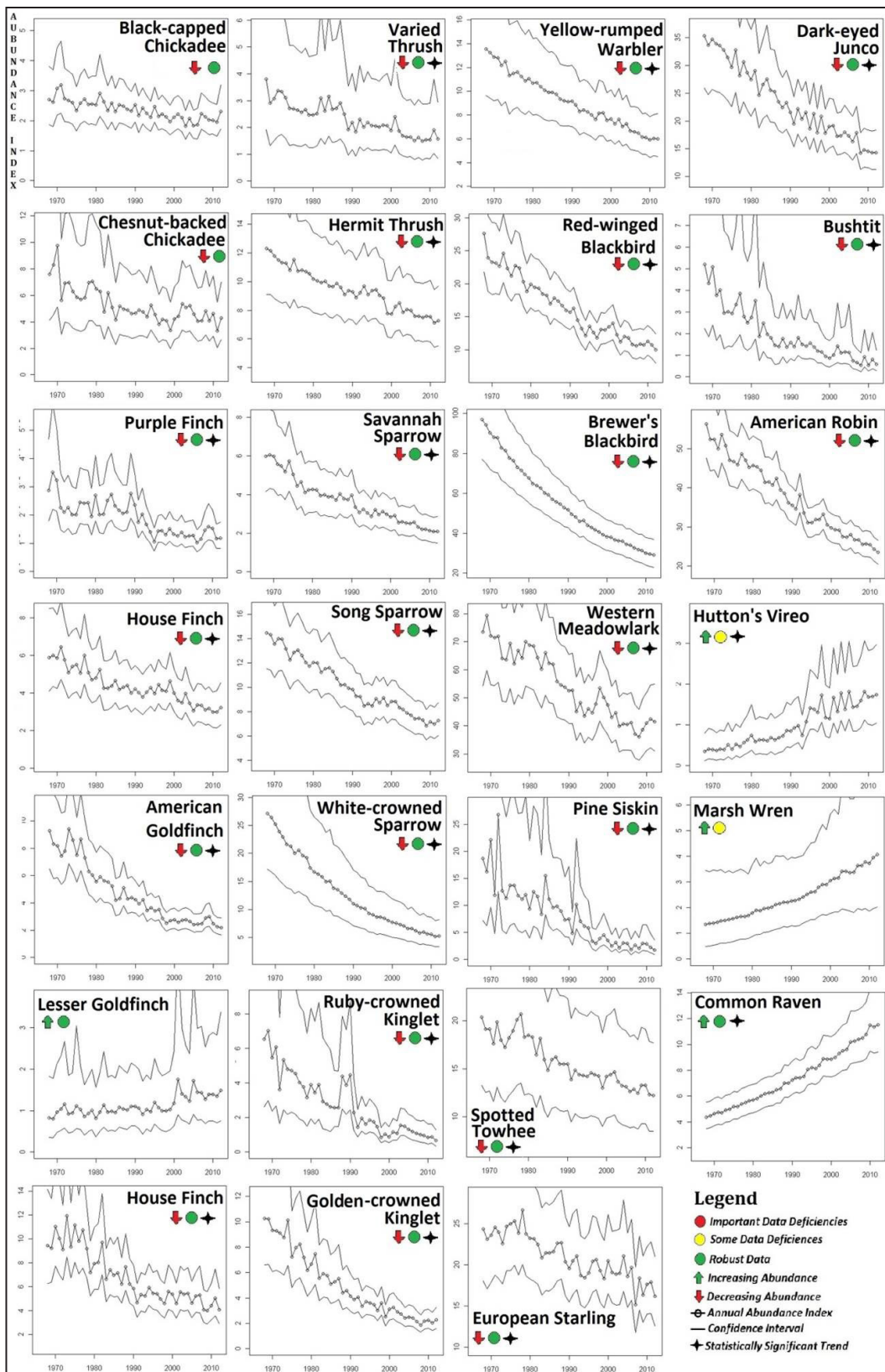


Figure 11. BBS abundance data for songbird populations in Oregon showing clear abundance trends (1966-2012). Data: USGS 2014



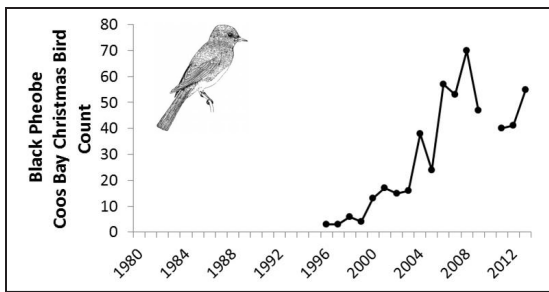


Figure 12. Coos Bay CBC data indicate that local midwinter black phoebe abundance has increased, with consistent sightings beginning in 1996 and increasing since then. Data gaps occur during years in which the CBC was not conducted (2010) or not reported (1987-89). Data: Audubon 2014, Rodenkirk 2012; Bird Sketch: Csuti et al. 1997



Figure 13. Historically, the common yellowthroat has not been observed overwintering in the Coos estuary. However, the Coos Bay CBC has recorded a single sighting of common yellowthroat in 2002, 2003, 2006, 2008, 2011, and 2012. Data: Audubon 2014, Rodenkirk 2012; Photo credit: Gerrit Vyn taken from Cornell 2014

#### *Yellow-breasted Chat (Icteria virens)*

In 2012, a yellow-breasted chat was sighted at a feeder in Coos Bay, representing the first winter record of this species in Oregon (Cornu et al. 2012). This bird is a neotropical migrant, which means that its midwinter presence may be indicative of a changing climate, although more data are needed to determine if a cause and effect relationship exists (see Why is it happening?)

#### *Cedar Waxwing (Bombycilla cedrorum)*

The CBC has sighted cedar waxwings periodically from 1980-2005. However, beginning in 2006, local midwinter sightings have become more consistent and often more frequent (Figure 14).

#### *Swamp Sparrow (Melospiza georgiana)*

The local CBC rarely sighted swamp sparrows prior to 1996, but volunteers have recored sightings every year since then (Figure 15).

#### *Red-winged Blackbird (Agelaius phoeniceus)*

Red-winged blackbirds are historically abundant in the Coos estuary. This species has been sighted every year during the local CBC since 1980, but the frequency of sightings has increased overtime (Figure 16).

#### *Sparrow species*

Many sparrow species have been historically abundant in the Coos estuary. Six sparrow species have been sighted with increasing frequency during the local CBC, including the golden-crowned sparrow (*Zonotrichia atricapillia*), house sparrow (*Passer domesticus*), song sparrow (*Melospiza melodia*), white-crowned sparrow (*Zonotrichia leucophrys*), white-throated sparrow (*Zonotrichia albicollis*), and Lincoln's sparrow (*Melospiza lincolnii*). Summary statistics describing trends in the raw CBC count for these six species are found in Table 2.

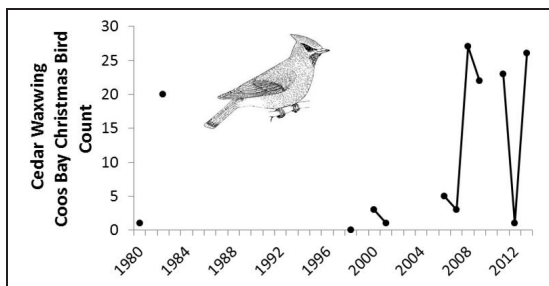


Figure 14. Cedar waxwings have been sighted in the Coos estuary during the CBC since 2006. Sightings have often occurred in greater numbers in recent years than they have in the past. Data gaps occur during years in which the CBC was not conducted (2010) or not reported (1987-89). Data: Audubon 2014, Rodenkirk 2012; Bird Sketch: Csuti et al. 1997

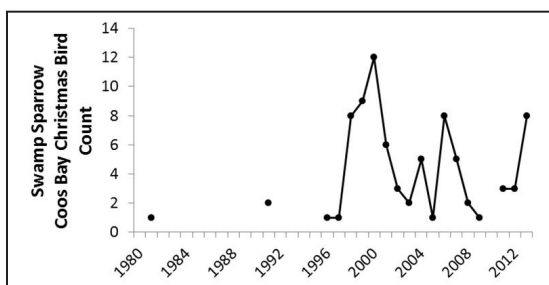


Figure 15. Coos Bay CBC swamp sparrow sightings have become more common since 1996. Data gaps occur during years in which the CBC was not conducted (2010) or not reported (1987-89). Data: Audubon 2014, Rodenkirk 2012

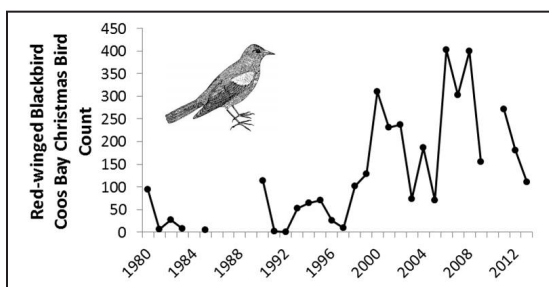


Figure 16. Red-winged blackbirds continue to be abundant in the Coos estuary. Midwinter sightings have become more common, suggesting that the species may be increasing abundant over time. Data gaps occur during years in which the CBC was not conducted (2010) or not reported (1987-89). Data: Audubon 2014, Rodenkirk 2012; Bird Sketch: Csuti et al. 1997

*American Crow (Corvus brachyrhynchos), Common Raven (Corvus corax), and Stellar's Jay (Cyanocitta Stelleri)*

These three species belong to the family Corvidae and have shown clear increasing trends since 1980. All three birds are historically abundant in the Coos estuary, with multiple sightings occurring every survey year since 1980. CBC sightings are becoming more frequent and may indicate increasing abundance in the project area (Figure 17).

#### *Other Common Songbirds*

In addition to the songbird species mentioned above, there are many other passerines commonly found locally. Most of these species do not exhibit a clear abundance trend over time. Table 3 summarizes raw CBC data (1980-2013) for 27 of the most commonly counted songbirds in the lower Coos watershed.

#### Fowl-like Birds

This section summarizes data for fowl-like birds of the order Galiformes that are closely associated with terrestrial habitats, including quail, pheasant, grouse, and turkey species. Statewide abundance trends are presented, followed by a discussion of songbird population patterns in the Coos estuary. Emphasis is given to species that have displayed clear trends over time.

#### *Fowl-like Birds in Oregon*

The BBS data indicate that two fowl-like bird species, including the wild turkey (*Melegris*




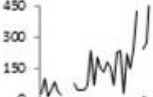

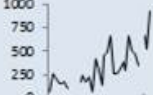

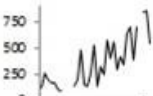



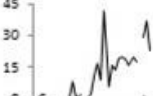
			Abundance Index, Raw Christmas Bird Count (1980-2013)		
Common Name	Scientific Name	Photo	Average Count (1980-1994)	Average Count (1995-2013)	Abundance Trend
Golden-crowned Sparrow	<i>Z. atricapilla</i>	 Photo: Gerrit Vyn	18	177	
House Sparrow	<i>P. domesticus</i>	 Photo: Raymond Belhumeur	52	210	
Song Sparrow	<i>M. Melodia</i>	 Photo: Christine Haines	167	447	
White-crowned Sparrow	<i>Z. leucophrys</i>	 Photo: Jim Ellis	185	483	
White-throated Sparrow	<i>Z. albicollis</i>	 Photo: Kelly Colganazar	3	13	
Lincoln's Sparrow	<i>M. lincolni</i>	 Photo: Kelly Azar	2	18	

Table 2. Six species of commonly occurring sparrow species have been counted with increasing frequency during the Coos Bay CBC. This table summarizes that trend by comparing average raw CBC count for two time periods (1980-1994 and 1995-2013). Time series graphs (right) showing increasing trends (1980-2013) are also presented. Data: Audubon 2014, Rodenkirk 2012; Photos: Cornell 2014

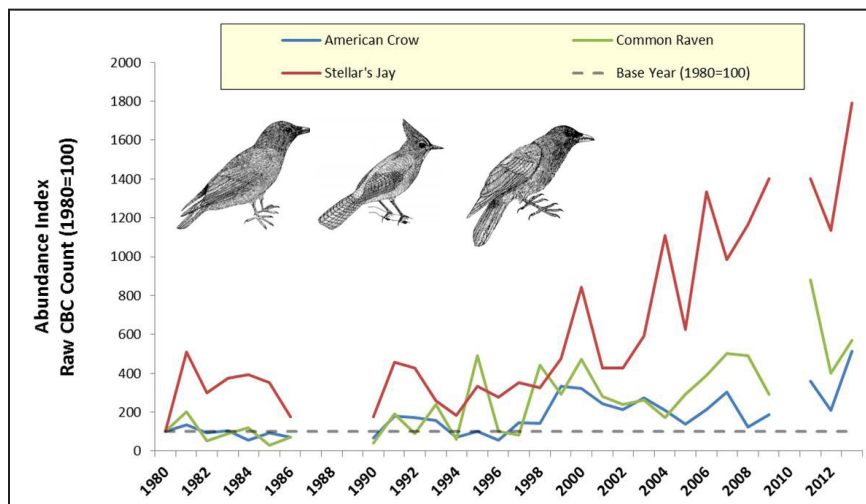





























Figure 17. Coos Bay CBC data indicate that local midwinter abundance of three "corvids," including the American crow, common raven, and Stellar's jay, has shown a clearly increasing trend since 1980. Raw CBC count for these species is indexed relative to 1980-levels above (1980=100). Data gaps occur during years in which the CBC was not conducted (2010) or not reported (1987-89). Data: Audubon 2014, Rodenkirk 2012; Bird Sketches: Csuti et al. 1997

			Abundance Index, Raw Christmas Bird Count (1980-2013)		
Common Name	Scientific Name	Photo	Average Count	Maximum Count	Abundance Trend
American Robin	<i>T. migratorius</i>	 Photo: Christopher L. Wood	699	1,745	
Black-capped Chickadee	<i>P. atricapillus</i>	 Photo: Christopher L. Wood	122	337	
Brewer's Blackbird	<i>E. cyanocephalus</i>	 Photo: Jamie Chavez	83	314	
Bushtit	<i>P. minimus</i>	 Photo: Gerrit Vyn	74	188	
Chesnut-backed Chickadee	<i>P. rufescens</i>	 Photo: cdbtr	118	213	
European Starling	<i>S. vulgaris</i>	 Photo: Finkly	1,354	3,279	
Golden-crowned Kinglet	<i>R. satrapa</i>	 Photo: Kelly Azar	193	562	
Hermit Thrush	<i>C. guttatus</i>	 Photo: Ganesh Jayaraman	47	260	
House Finch	<i>C. mexicanus</i>	 Photo: Maria Coracao/PFW	172	346	
Marsh Wren	<i>C. palustris</i>	 Photo: Andy Johnson	32	148	
Ruby-crowned Kinglet	<i>R. calendula</i>	 Photo: Ken Schneider	257	876	
Townsend's Warbler	<i>D. townsendi</i>	 Photo: Bob Gunderson	33	95	
Varied Thrush	<i>I. naevius</i>	 Photo: Glenn Bartley	174	818	
Western Meadowlark	<i>S. neglecta</i>	 Photo: Robinseng	62	136	



























			Abundance Index, Raw Christmas Bird Count (1980-2013)		
Common Name	Scientific Name	Photo	Average Count	Maximum Count	Abundance Trend
Wrentit	<i>C. fasciata</i>	 Photo: Bob Gunderson	92	266	
American Goldfinch	<i>S. tristis</i>	 Photo: keefee	41	219	
Bewick's Wren	<i>T. bewickii</i>	 Photo: Brian L. Sullivan	12	40	
Pine Siskin	<i>S. pinus</i>	 Photo: Raymond Lee	300	3,7067	
Hutton's Vireo	<i>V. huttoni</i>	 Photo: B.L. Sullivan	5	14	
Red-breasted Nuthatch	<i>S. canadensis</i>	 Photo: aka heehaw	20	184	
Yellow-rumped Warbler	<i>D. coronata</i>	 Photo: Kelly Colgan Azar	388	1,140	
Brown Creeper	<i>C. americana</i>	 Photo: Kelly Colgan Azar	3	10	
Dark-eyed Junco	<i>J. hyemalis</i>	 Photo: Christopher L. Wood	481	973	
Purple Finch	<i>C. purpureus</i>	 Photo: Scott A. Hober	10	31	
Fox Sparrow	<i>P. illaca</i>	 Photo: Gerrit Vyn	264	938	
Red Crossbill	<i>L. curvirostra</i>	 Photo: Ganesh Jayaraman	126	856	
Spotted Towhee	<i>P. maculatus</i>	 Photo: Steve Ting	81	243	

Table 3. Many passerines do not exhibit any clear abundance trends in the lower Coos watershed. This table summarizes raw CBC data for some of the most commonly occurring songbirds in the Coos estuary. Time series graphs (right) showing increasing trends (1980-2013) are also presented. Data: Audubon 2014, Rodenkirk 2012; Photos: Cornell 2014

*gallopavo*) and ring-necked pheasant (*Phasianus colchicus*), show clear abundance trends (1966-2013)(Figure 18). In Oregon, turkeys are becoming more abundant, while pheasants are becoming less abundant.

#### *Fowl-like birds in the Lower Coos Watershed*

The California quail (*Callipepla californica*) is the only fowl-like bird that is sighted nearly every year during the local CBC. Raw CBC counts for this species indicate no clear

abundance trend (Figure 19). In addition to the California quail, ring-necked pheasant and ruffed grouse (*Bonasa umbellus*) have been sighted on rare occasions (i.e., 1-3 sightings periodically from 1983-2003). Mountain quail (*Oreortyx pictus*) was counted in 2006-2008 (< 10 sightings annually). Historically, wild



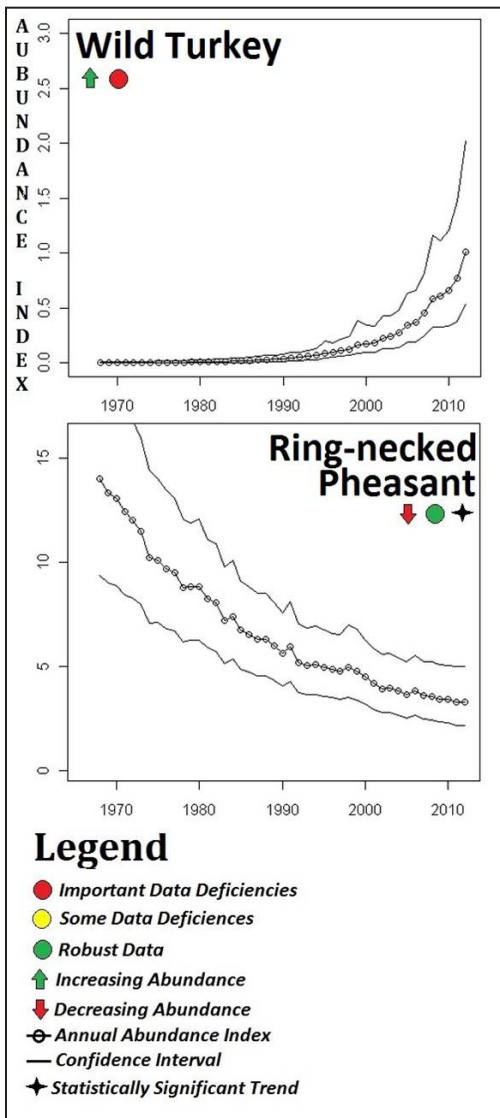


Figure 18. BBS abundance data for fowl populations in Oregon showing clear trends (1966-2012). Data: USGS 2014

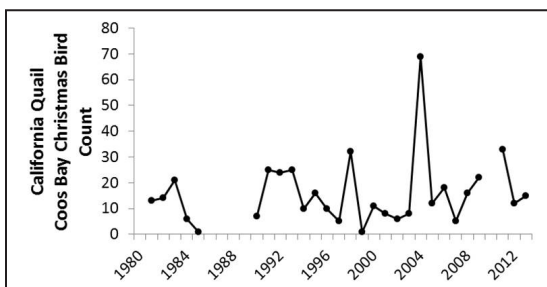


Figure 19. Raw CBC count for California quail in the lower Coos watershed. Data gaps occur during years in which the CBC was not conducted (2010) or not reported (1987-89). Data: Audubon 2014, Rodenkirk 2012

turkeys have not been counted during the local CBC. However, the CBC in 2011, 2012, and 2013 reported 28, 10, and 12 turkey sightings, respectively. More data are needed to determine if these sightings are indicative of a trend (e.g., increasing local abundance or range expansion). Figure 20 summarizes the raw CBC data for all fowl-like birds observed in the study area from 1980-2013.

### Doves and Pigeons

This section summarizes data for birds of the order Columbiformes, which are commonly known as doves and pigeons. Regional data are presented at a statewide level using breeding population estimates as a proxy for abundance, followed by a discussion of Coos estuary data, which use CBC sightings to project trends in local abundance. The local data section highlights dove and pigeon species that display the most apparent trends since the 1980s.

### *Doves and Pigeons in Oregon*

The BBS data indicate that only the mourning dove (*Zenaida macroura*) shows a clear abundance trend (decreasing abundance) at the regional level (1966-2013)(Figure 21).

### *Doves and Pigeons in the Coos Estuary*

Below we focus on Dove and Pigeon species in the lower Coos watershed that show strong evidence of changing populations:

Yr	Mountain Quail	California Quail	Ring-necked Pheasant	Ruffed Grouse	Wild Turkey
1980			1		
1981		13			
1982		14			
1983		21		2	
1984		6		1	
1985		1		1	
1986			3	1	
1987					
1988					
1989					
1990		7	2	1	
1991		25	3		
1992		24	3		
1993		25	3		
1994		10	1	CW	
1995	1	16	1	1	
1996		10	CW		
1997		5	1		
1998		32	1	2	
1999		1	3		
2000		11		1	
2001		8	1		
2002		6		2	
2003		8		1	
2004		69	CW	CW	1
2005	CW	12	2		
2006	4	18		0	
2007	1	5	CW		
2008	10	16			
2009	CW	22			
2010					
2011	CW	33			28
2012		12			10
2013		15			12


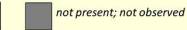


Legend			
			
present; not observed	> 10 sightings	≥ 10 sightings	not present; not observed
			CBC not conducted; no data

Figure 20. Observations of fowl-like species during the CBC (1980-2013). More frequent observation corresponds to darker blue. Raw count data for each year are indicated (number). "CW" means the species was present during the CBC week, but it was not observed during the count. Data: Audubon 2014, Rodenkirk 2012

### *Eurasian Collared Dove (Streptopelia decaocto)*

The Eurasian Collared Dove was first sighted during the CBC in 2007 (Audubon 2014, Rodenkirk 2012). Since then, they have become increasingly abundant; CBC sightings have increased notably (Audubon 2014, Rodenkirk 2012)(Figure 22).

### *Band-tailed Pigeon (Patagioenas fasciata)*

Band-tailed pigeons were sighted in three mid-1980s CBC's and again from 1998-2009 (Aubon 2014). They have not been counted during the CBC since 2009; scientists indicate they're very rarely sighted in the winter (Audubon 2014, Rodenkirk 2012).

## Hummingbirds

This section summarizes available data for hummingbird species of the order Apodiformes that have shown clear abundance trends either statewide or locally.

### *Hummingbirds in Oregon*

The BBS data show a clear abundance trend over time for the rufous hummingbird (*Selasphorus rufus*), which appears to be decreasing in abundance (Figure 23).

### *Hummingbirds in the Coos Estuary*

Anna's hummingbird (*Calypte anna*) is the only hummingbird species regularly sighted during the Coos Bay CBC. The frequency of

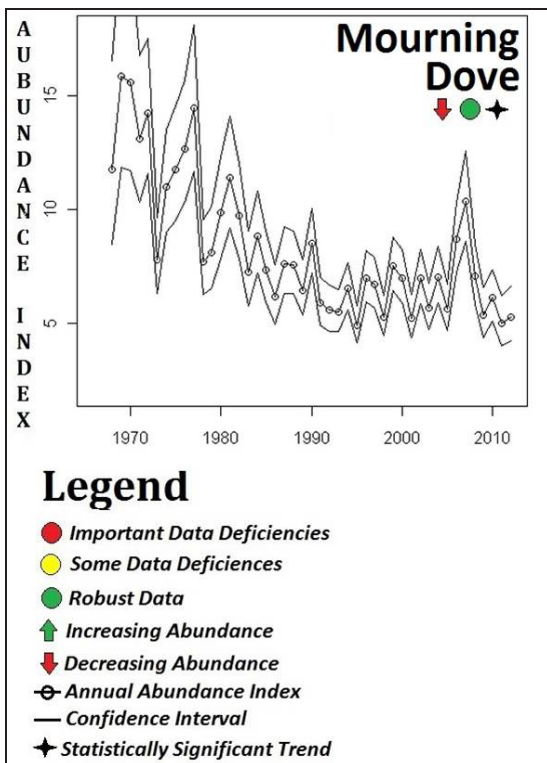


Figure 21. BBS abundance data for the mourning dove (*Zenaida macroura*) in Oregon. This species is the only dove species showing a clear abundance trend (1966-2012) in the BBS data. Data: USGS 2014

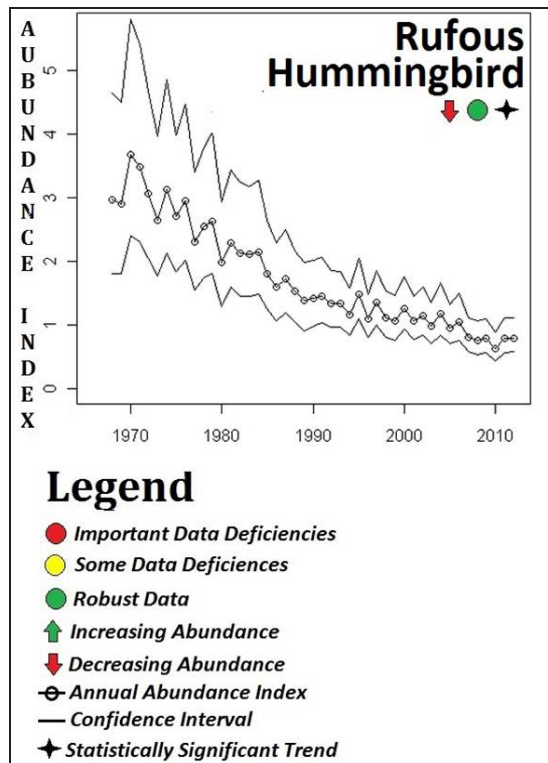


Figure 23. BBS abundance data for the rufous hummingbird, the only hummingbird species showing a clear abundance trend statewide (1966-2013). Data: USGS 2014

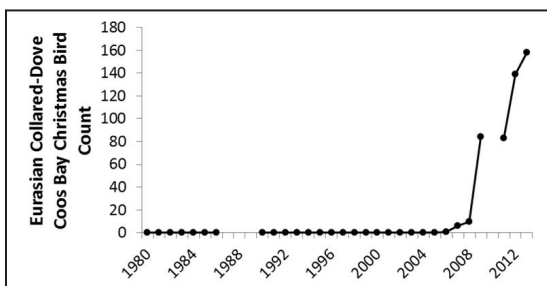


Figure 22. Raw CBC count for Eurasian collared-dove (1980-2013). Data gaps occur during years in which the CBC was not conducted (2010) or not reported (1987-89). Data: Audubon 2014, Rodenkirk 2012

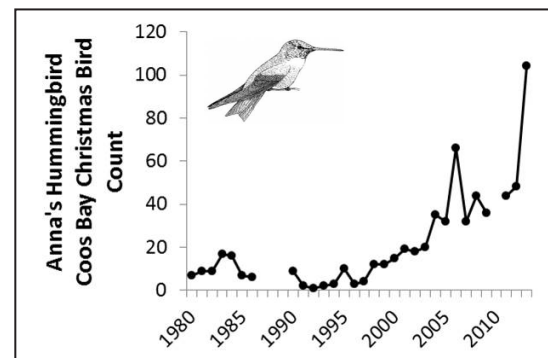


Figure 24. Raw CBC data (1980-2013) suggest that local populations of Anna's hummingbird may be increasingly abundant. Data gaps occur during years in which the CBC was not conducted (2010) or not reported (1987-89). Data: Audubon 2014, Rodenkirk 2012; Bird Sketch: Csuti et al. 1997

Anna’s hummingbird midwinter sightings has increased over time, suggesting the species is becoming more locally abundant (Figure 24).

### Woodpeckers

This section summarizes available data for birds of the order Piciformes, which are commonly referred to as woodpeckers, sapsuckers, and flickers. The data summary focuses on birds that have shown clear abundance trends either statewide or locally.

#### *Woodpeckers in Oregon*

The BBS data indicate that five woodpecker species of have shown clear abundance trends statewide since 1966 (Figure 25). Pileated woodpeckers, yellow-bellied sapsuckers, and re-breasted sapsuckers appear to be increasing in abundance over time, while northern flickers, and red-naped sapsuckers appear to be decreasing in abundance in Oregon.

#### *Woodpeckers in Lower Coos Watershed*

Several woodpecker species are commonly sighted in the Coos estuary. However, it’s difficult assess any abundance trends. CBC sightings of some species (e.g., northern flicker) are rare and do not show any apparent trend. Table 4 summarizes the raw CBC data for woodpecker species in the Coos estuary.

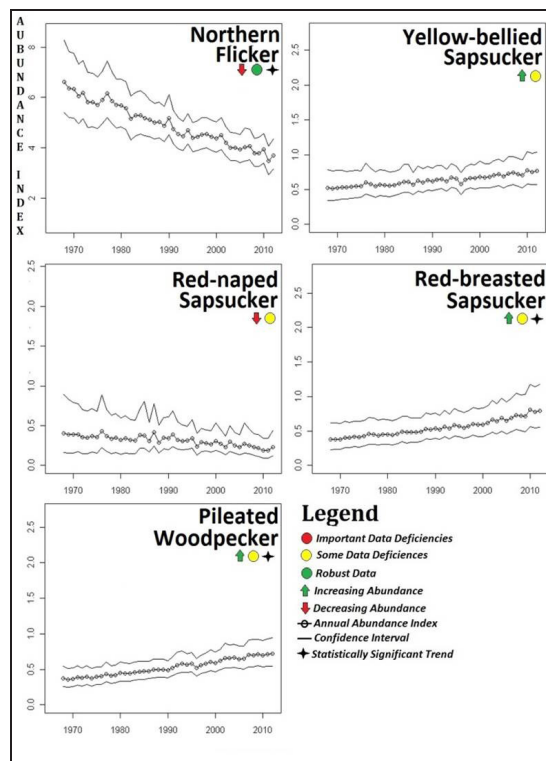


Figure 25. BBS abundance data for woodpecker species that have shown clear abundance trends statewide (1966-2013). Data: USGS 2014

### **Why is it happening?**

Multiple factors can often work together to determine local bird abundance trends (e.g., land use changes occurring simultaneously with climate anomalies may work to the detriment of some species while favoring others). Similar to aquatic birds, some terrestrial bird species are highly migratory. Therefore, factors affecting distant habitats may affect bird species survival rates which will be reflected in local abundance data.

Birds expand their ranges when the resources they rely on for survival become available to them in different geographic areas (Cornu et al. 2012). Habitat alterations related to human activities and climate change are



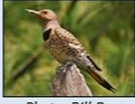
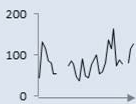

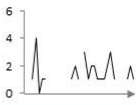
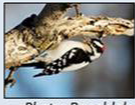
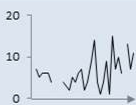

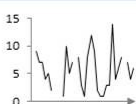
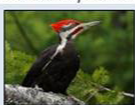

Common Name	Scientific Name	Photo	Abundance Index, Raw Christmas Bird Count (1980-2013)		
			Average Count	Maximum Count	Abundance Trend
Northern Flicker	<i>C. auratus</i>	 Photo: Bill Bunn	83	163	
Red-breasted Sapsucker	<i>S. ruber</i>	 Photo: Lois Manowitz	2	4	
Downy Woodpecker	<i>P. pubescens</i>	 Photo: Ronaldok	6	15	
Hairy Woodpecker	<i>P. villosus</i>	 Photo: Christopher L. Wood	6	14	
Pileated Woodpecker	<i>D. pileatus</i>	 Photo: Gerrit Vyn	3	8	

Table 4. This table summarizes raw CBC data for some of the most commonly occurring woodpeckers in the Coos estuary. Time series graphs (right) showing increasing trends (1980-2013) are presented. Data: Audubon 2014, Rodenkirk 2012; Photos: Cornell 2014

also leading factors in bird range expansions (Askins 2000). This might explain the range expansions of black pheobes and red-shouldered hawks, which have moved northward toward Tillamook County and east to the Willamette Valley over the past 30 years (T. Rodenkirk, pers. comm., January 19, 2012).

Human population growth and urban development may benefit birds in some cases (Cornu et al. 2012). Peery and Henry (2010) explain that “The expansion of human activities into rural areas and natural landscapes has resulted in widespread increases in the abundance of synanthropic species (birds that live near humans and benefit from an

association with human habitat).” In fact, some birds that have the ability to adapt to a wide range of habitat conditions (e.g., crows, ravens) have been observed in higher density in urban settings (Kelly et al. 2002). Doves and pigeons are also famously synanthropic species. The Eurasian collared-dove, an introduced species, was first recorded in Oregon in 1999 (Cornu et al. 2012). By 2006, Eurasian collared-doves had established themselves in all 36 Oregon counties, including Coos (R. Namitz, pers. comm., January 19, 2012; T. Rodenkirk, pers. comm., January 19, 2012).

In some cases, active habitat management and restoration have resulted in species

recoveries. Similar to the brown pelican (see Aquatic birds), the bald eagle and peregrine falcon have benefited from the efforts of volunteers and avian professionals alike (Cornu et al. 2012). In both cases, the effort has been substantial enough to remove the species from the federal Threatened and Endangered Species List (USFWS 2014).

Some evidence suggests that the overwintering population of neotropical migrants (e.g., common yellowthroats, orange-crowned warblers, and yellow-breasted chats) in Coos County may be increasing (R. Namitz, pers. comm., January 19, 2012; T. Rodenkirk, pers. comm., January 19, 2012; Rodenkirk 2012a; Audubon 2014). Neotropical migrants are birds that spend the summer in the northern temperate and polar latitudes and migrate south to the tropics where climate and food availability is more agreeable in the winter months (Cornu et al. 2012). This trend could be indicative of a general warming pattern in the temperate latitudes, although more data are needed to determine the exact correlation between climate change and neotropical migrant abundance.

Habitats availability also influences local abundance trends. The Coos estuary and associated uplands represent important breeding, foraging, and roosting habitats for many bird species. As habitats are lost or restored, bird distributions may shift to reflect changes in the availability of important resources (e.g., food/prey, cover, etc.) and changes in the presence/absence of predators.

## Background

Oregon's total wildlife diversity accounts for more than 42% of all terrestrial vertebrates in the United States and Canada (Csuti et al. 1997). Birds species comprise much of that diversity; many remain in Oregon year-round and others visiting the state during migration.

Because birds use the lower Coos watershed and estuary for a variety of activities (breeding, nesting, roosting, foraging, etc.), trends in local bird abundance and migration timing can signal important changes to habitat availability or suitability; these habitat changes have the potential to affect both birds and other wildlife (Cornu et al. 2012). Birds can often be considered "indicator species," because changes in their status can provide an early warning about less detectable trends in local environmental conditions.

Changes in the abundance of one bird species can sometimes directly affect other species. For example, the range expansions of the northern barred owl are likely to negatively affect local populations of northern spotted owls (see Birds of Special Concern data summary in this chapter). However, this kind of direct cause/effect relationship doesn't always exist. In the case of the Eurasian collared-dove, some concern exists about competitive pressures on native mourning doves (*Zenaida macroura*). However, research suggests that although the two species have similar diets, the Eurasian collared-dove "does not appear more behaviorally aggressive or competitively successful than mourning doves" (Poling and Hayslette 2006).

## References

- Askins, R. A. 2000. *Restoring America's Birds: Lessons from Landscape Ecology*. New Haven and London: Yale University Press.
- Cornell University (Cornell). 2014. All About Birds: Your Online Guide to Birds and Bird Watching. [An interactive tool from the Cornell Lab of Ornithology]. Accessed 25 November 2014. Available online [www.allaboutbirds.org](http://www.allaboutbirds.org)
- Cornu, C. E., J. Souder, J. Hamilton, A. Helms, R. Rimler, B. Joyce, F. Reasor, T. Pedersen, E. Wright, R. Namitz, J. Bragg, and B. Tanner. 2012. Partnership for Coastal Watersheds State of the South Slough and Coastal Frontal Watersheds. [Report prepared for the Partnership for Coastal Watersheds Steering Committee]. South Slough National Estuarine Research Reserve and Coos Watershed Association. 225 pp.
- Courtney, S. P., J. A. Blakesley, R. E. Bigley, M. L. Cody, J. P. Dumbacher, R. C. Fleischer, A. B. Franklin, J. F. Franklin, R. J. Gutiérrez, J. M. Marzluff, and L. Sztukowski. 2004. *Scientific Evaluation of the Status of the Northern Spotted Owl*. Sustainable Ecosystems Institute. Portland, OR.
- Csuti, B. A., T. A. O'Neil, M. M. Shaughnessy, E. P. Gaines, J. C. Hak. 1997. *Atlas of Oregon Wildlife*, first edition. Corvallis: Oregon State University Press.
- Davis, R. J., K. M. Dugger, S. Mohoric, L. Evers, and W. C. Aney. 2011. *Status and Trends of Northern Spotted Owl Populations and Habitats*. [Technical Report from the United States Department of Agriculture, United States Forest Service, and Pacific Northwest Research Station].
- Forsman, E. D., C. McCafferty, E. Divine, S. Kane, J. Mowdy, T. Plawman, A. Price, and M. Sullivan. 2013. *Demographic Characteristics of Spotted Owls in the Oregon Coast Ranges, 1990-2012*. [Wildlife Ecology Team: Wildlife Habitat Relationships in Washington and Oregon FY 2012].
- Kelly, J. P., K. L. Etienne, and J. E. Roth. 2002. Abundance and Distribution of the Common Raven and American in the San Francisco Bay Area, California. *Western Birds* 33(3): 202-217.
- National Audubon Society (Audubon). 2014. Audubon Christmas Bird Count: Historical Results by Count. [Coos Bay Sitkum Dock Count ORCB]. Accessed 04 November 2014. Available online <http://netapp.audubon.org/CBCObservation/Historical/ResultsByCount.aspx>
- Peery, M. Z. and R. W. Henry. 2010. Recovering Marbled Murrelets via Corvid Management: A Population Viability Analysis Approach. *Biological Conservation* 143: 2414-2424.
- Poling, T. D. and S. E. Hayslette. 2006. Dietary Overlap and Foraging Competition between Mourning Doves and Eurasian Collared-Doves. *The Journal of Wildlife Management* 70(4): 998- 1004.
- Rodenkirk, T. J. 2012. *Birds of Coos County, Oregon: Status and Distribution*. [Unpublished Manuscript].
- Rodenkirk, T. J. n.d. Map of Christmas Bird Count Coverage Area. [Unpublished Data].
- United States Fish and Wildlife Service (USFWS). 2013. Bald Eagle Fact Sheet: Natural Historical, Ecology, and History of Recovery. Accessed 08 December 2014. Available online <http://www.fws.gov/Midwest/eagle/recovery/biologue.html>
- United States Fish and Wildlife Service (USFWS). 2014. Endangered Species. Accessed 06 October 2014. Available online <http://www.fws.gov/endangered/>
- United States Geological Survey Patuxent Wildlife Research Center (USGS). 2014. North American Breeding Bird Survey data set 1966-2013, version 2014.0. [Access to raw data via link to FTP site]. Available online <https://www.pwrc.usgs.gov/bbs/RawData/Choose-Method.cfm>

Zabel, C. J., S. E. Salmons, and M. Brown.  
1996. Demography of Northern Spotted Owls  
in Southwestern Oregon. *Studies in Avian  
Biology* 14: 77-82.