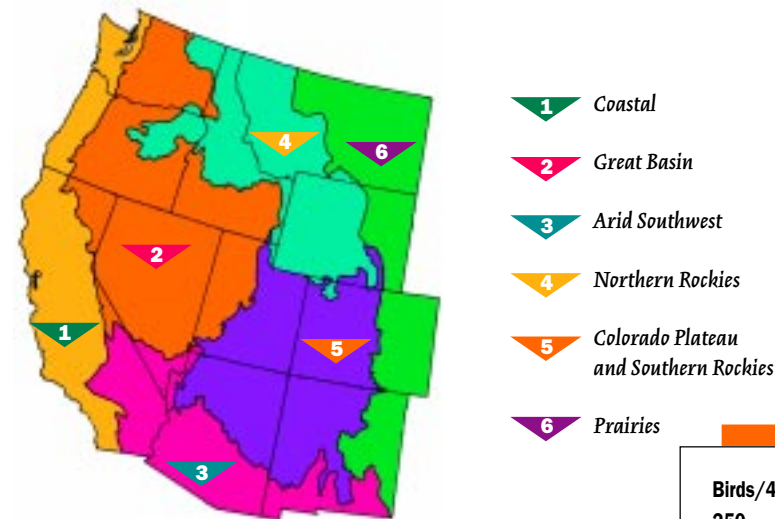


# BIRDS AS INDICATORS OF RIPARIAN VEGETATION CONDITION IN THE WESTERN U.S.

The Western Working Group of Partners in Flight has defined six general geographic regions with inherent commonalities in the occurrence of riparian bird species. These correspond with groups of physiographic areas defined for the Breeding Bird Survey.



1. **Yellow Warbler** - A widespread riparian obligate most often found in mid-story and canopy vegetation. Song and appearance are distinctive. Photo © Ron Spomer.

2. **Willow Flycatcher** - A widespread riparian obligate most often found in the understory and mid-story. Call is distinctive. Photo © Brian E. Small.

3. **Yellow-breasted Chat** - A widespread riparian obligate most often found in the understory and mid-story. Song is loud and distinctive. This secretive warbler is one of the best indicators of riparian health in the West. Photo © 1997 Wendy Shattil/Bob Rozinski.

4. **Song Sparrow** - A widespread riparian obligate that uses understory vegetation almost exclusively. Song is distinctive. This common sparrow is one of the best indicators of riparian health in the West. Photo © Dave Maslowski.

5. **Bell's Vireo** - A riparian obligate in some geographic areas and a dependent in others. Uses the understory and mid-story. Photo © Brian E. Small.

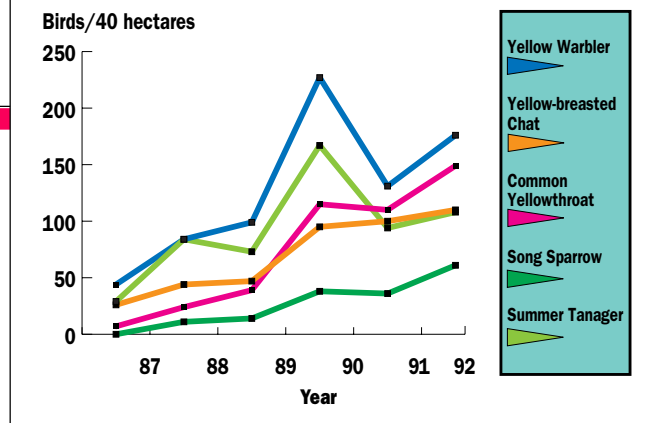
6. **Violet-crowned Hummingbird** - A riparian obligate in the Southwest that uses mostly understory and mid-story vegetation. This bird is eagerly sought by birders. Hummingbirds are not easily monitored due to their small size, quickness and lack of loud song. Photo © Brian E. Small.

7. **Swainson's Thrush** - A widespread dependent of riparian understories. This thrush is an excellent indicator of riparian health but also occurs in moist, non-riparian habitats where vegetation cover is good. Song is distinctive. Photo © Dave Maslowski.

8. **Bullock's Oriole** - A widespread riparian dependent most often found in mid-story and canopy vegetation. Song not as distinctive as some species but it can be readily learned. Photo © Sherm Spoelstra.

9. **Calliope Hummingbird** - A riparian dependent of the understory and mid-story. Hummingbirds are not easily monitored due to their small size, quickness and lack of loud song. Photo © Ron Spomer.

10. **Warbling Vireo** - A widespread riparian dependent found almost exclusively in canopy vegetation. It has a nondescript appearance but distinctive song. Photo © Tom J. Ulrich.



Populations of five riparian obligate species increased dramatically on the San Pedro River in Arizona following the complete removal of livestock.



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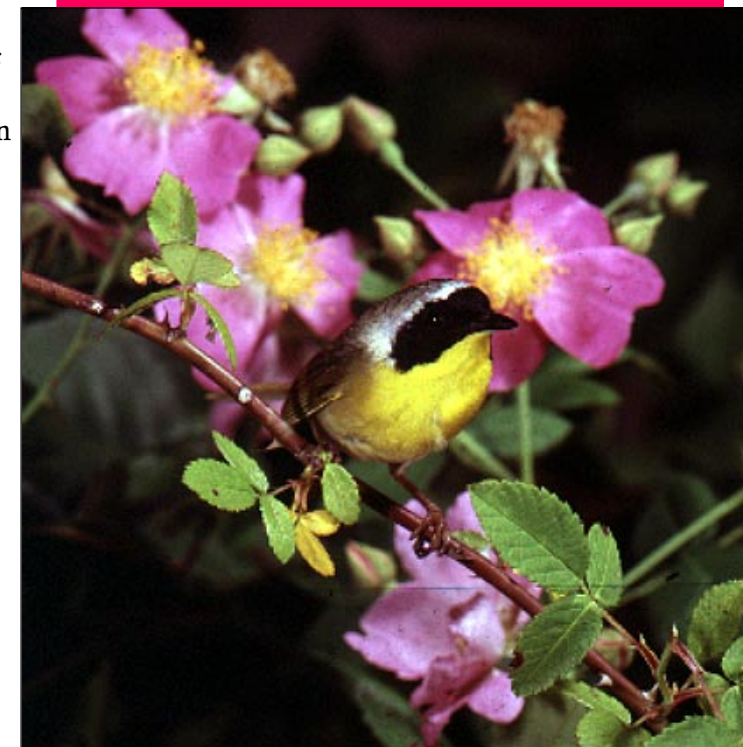
For further information, contact: Nongame Program Manager, Bureau of Land Management, 1387 S. Vinnell Way, Boise, Idaho 83703, 208-373-4043, or your Partners in Flight State Working Group Chair.

Wetlands and riparian areas comprise <1% of the land area in the western U.S., yet they support a tremendous diversity and abundance of wildlife.

For example, in Arizona and New Mexico, at least 80% of all animals use riparian areas at some stage of their lives. In the Interior Columbia River Basin, 64% of neotropical migratory landbirds depend on riparian

vegetation during the breeding season. This habitat may harbor from 2-10 times as many individual birds as does adjacent, non-riparian, vegetation.

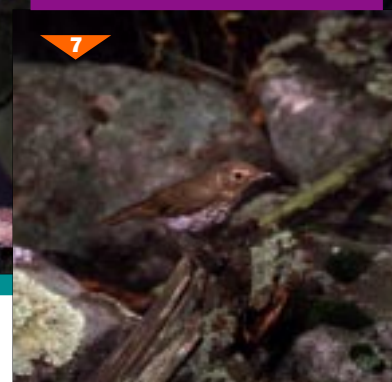
Monitoring the health of riparian ecosystems involves the measurement of several different variables. For example, channel characteristics and vegetation age-class distribution are currently evaluated under the Proper Functioning Condition process (TR 1737-9, BLM, 1993).



Common Yellowthroat - A widespread riparian obligate that uses understory vegetation almost exclusively. This distinctive looking and sounding warbler is one of the best indicators of riparian health in the West. Photo © Dave Maslowski.

Additional monitoring to assess the occurrence of riparian obligate or dependent bird species will provide a fuller picture of ecosystem health. Experience on the San Pedro River in Arizona shows that the Common Yellowthroat and Song Sparrow, among other species, are excellent indicators of ecosystem recovery following the cessation of livestock grazing (see graph).

Those monitoring riparian systems can readily learn the distinctive songs of species that should be present and thereby help assess the health of riparian vegetation. Some good indicators, such as the Song Sparrow, are widespread and still reasonably common. Others, such as the Willow Flycatcher, require conservation action now to prevent further losses of habitat and population numbers (see table).



## Riparian dependent species

These are species that place 60%-90% of their nests in riparian vegetation or for which 60%-90% of their abundance occurs in riparian vegetation during the breeding season. Riparian dependents might still occur in an area if riparian vegetation were seriously degraded but their populations would be greatly reduced and they might not persist in the long-term. Some species may be classified as dependents in one geographic area but not another.

## Evaluate your riparian habitat

If you have a riparian area and do not have obligate and dependent birds, particularly understory species that should occur in your geographic area during the breeding season, then your riparian vegetation may not be in as good a condition as it could be.

Although a large number of bird species use riparian vegetation at some time during the year, it is possible to define two sub-groups of landbird species that are especially reliant on riparian habitats during the breeding season.

## Riparian obligate species

These are species that place >90% of their nests in riparian vegetation or for which >90% of their abundance occurs in riparian vegetation during the breeding season. They may forage outside riparian vegetation. Without riparian vegetation in good ecological condition, these species will not occur in a given area. Some species may be classified as obligates in one geographic area but not another.

OBLIGATE SPECIES <sup>1</sup>	CONSERVATION ACTION REQUIRED IN GEOGRAPHIC REGION <sup>3</sup>						VEGETATION LAYER(S) USED <sup>4</sup>			DEPENDENT SPECIES <sup>2</sup>	CONSERVATION ACTION REQUIRED IN GEOGRAPHIC REGION <sup>3</sup>						VEGETATION LAYER(S) USED <sup>4</sup>		
	COASTAL	NORTHERN ROCKIES	GREAT BASIN	ARID S.WEST	CO. PLAT./ S. ROCKIES	PRAIRIES	UNDER-STORY	MID-STORY	CANOPY		COASTAL	NORTHERN ROCKIES	GREAT BASIN	ARID S.WEST	CO. PLAT./ S. ROCKIES	PRAIRIES	UNDER-STORY	MID-STORY	CANOPY
Abert's Towhee				•			•			American Goldfinch						•	•	•	
American Dipper							•			Bank Swallow	•					•	•	•	
American Redstart							•	•	•	Bewick's Wren			•	•	•	•	•	•	
Bald Eagle							•		•	Black-billed Cuckoo								•	
Bell's Vireo	•		•	•			•	•	•	Black-capped Chickadee							•	•	
Belted Kingfisher							•	•		Black-chinned Hummingbird						•	•	•	
Black Swift					•				•	Black-headed Grosbeak	•					•	•	•	
Broad-billed Hummingbird				•			•	•		Blue Grosbeak	•					•	•	•	
Brown-crested Flycatcher								•		Blue-throated Hummingbird						•	•	•	
Common Blackhawk				•	•			•	•	Bronzed Cowbird						•	•	•	
Common Yellowthroat	•				•		•		•	Bullock's Oriole						•	•	•	
Elegant Trogon				•				•	•	Calliope Hummingbird						•	•	•	
Gila Woodpecker				•				•	•	Cooper's Hawk						•	•	•	
Gray Hawk								•	•	Cordilleran Flycatcher		•				•	•	•	
Green Kingfisher							•	•		Eastern Kingbird						•	•	•	
Lincoln's Sparrow							•		•	Elf Owl				•		•	•	•	
Lucy's Warbler			•	•			•	•		Ferruginous Pygmy-owl				•		•	•	•	
Northern Beardless-tyrannulet							•	•	•	Fox Sparrow						•	•	•	
Orange-crowned Warbler			•				•	•		Gray Sparrow						•	•	•	
Orchard Oriole				•		•	•	•	•	Gray Catbird						•	•	•	
Painted Bunting				•		•	•	•	•	Harris' Hawk				•		•	•	•	
Rose-throated Becard							•	•	•	Hooded Oriole						•	•	•	
Song Sparrow	•						•		•	House Wren						•	•	•	
Streak-backed Oriole								•	•	Indigo Bunting						•	•	•	
Sulphur-bellied Flycatcher								•	•	Lazuli Bunting	•					•	•	•	
Summer Tanager				•	•			•	•	Lesser Goldfinch						•	•	•	
Thick-billed Kingbird				•				•	•	Lewis' Woodpecker			•			•	•	•	
Tropical Kingbird								•	•	MacGillivray's Warbler						•	•	•	
Varied Bunting							•	•	•	Mississippi Kite						•	•	•	
Veery		•	•				•	•	•	Northern Goshawk			•			•	•	•	
Vermillion Flycatcher							•	•	•	Painted Redstart						•	•	•	
Violet-crowned Hummingbird				•			•	•	•	Phainopepla				•		•	•	•	
Willow Flycatcher	•	•	•	•	•	•	•	•	•	Red-eyed Vireo						•	•	•	
Wilson's Warbler	•	•	•	•	•	•	•	•	•	Red-faced Warbler				•		•	•	•	
Yellow Warbler	•	•	•	•	•	•	•	•	•	Red-headed Woodpecker				•	•	•	•	•	
Yellow-billed Cuckoo	•	•	•	•	•	•	•	•	•	Red-naped Sapsucker						•	•	•	
Yellow-breasted Chat	•	•	•	•	•	•	•	•	•	Swainson's Hawk	•		•			•	•	•	
							•	•	•	Swainson's Thrush	•					•	•	•	
										Tree Swallow						•	•	•	
										Warbling Vireo	•					•	•	•	
										Western Wood-pewee						•	•	•	
										White-eared Hummingbird				•		•	•	•	
										Zone-tailed Hawk						•	•	•	

<sup>1</sup> Species is considered to be Obligate (see definitions) in at least one geographic region (see map).  
<sup>2</sup> Species is considered to be Dependent (see definitions) in at least one geographic region (see map).

<sup>3</sup> The Western Working Group of Partners in Flight determined that conservation action is needed now for the species in the geographic region(s) indicated.  
<sup>4</sup> The vegetation layer(s) used most by the species. The species is most useful as an indicator of the ecological condition of the layer(s) used.