

Dobkin (1994) wrote that MacGillivray's warblers have specialized habitat use or narrow habitat requirements in riparian zones. Finch and Reynolds (1988) found a similar narrow habitat requirement for MacGillivray's warblers in aspen/shrub forests. Mosconi and Hutto (1982) stated that riparian populations are adversely impacted by heavy livestock grazing due to overall habitat degradation. Douglas et al. (1992) commented that improper livestock grazing could alter riparian habitats used by this species. Bock et al. (1993) included the MacGillivray's warbler with those neotropical birds that are negatively impacted by grazing because of the reduction in some shrub species.

Virginia's warbler (*Vermivora virginiae*)

Description: Virginia's warbler is a 4.25 inch grayish songbird with a white belly, throat, and eye-ring (Udvardy 1977, Stokes and Stokes 1996). Males have a rusty patch on their crown, a yellowish breast, and a yellow to yellowish green rump (Stokes and Stokes 1996). This yellowish tint is also on the under tail feathers (Udvardy 1977, Peterson 1990). Females are more gray in appearance and lack the red patch on the crown. Their breast is light gray and the base of the tail is a muted yellow-gray (Peterson 1990). Virginia's warblers could be confused with the more common orange-crowned warbler, which lacks any white and has an eye stripe rather than an eye ring. Overall the orange-crowned warbler is more of a greenish gray. Ruby-crowned kinglets are similar to Virginia's warblers, however, kinglets are smaller, have an incomplete eye ring and have distinct wing bars. Virginia's warblers lack wing bars.

Distribution:

Virginia's warblers winter in southern and central Mexico (Ehrlich 1988). Their breeding range includes eastern California, Nevada, Utah, western Colorado, south to southern New Mexico and Arizona (Udvardy 1977). Stephens and Sturts (1991) indicated that Virginia's warblers are believed to breed in the very southern part of the Idaho, probably near the City of Rocks. In the Jarbidge Resource Area there have been two observations of Virginia's warblers. One observation was in Cedar Draw near Devil Creek and the other observation was near Shack Creek.

Habitat:

Virginia's warblers are known to nest in a variety of habitats including scrub oak, chaparral, and pinyon-juniper (Udvardy 1977, Stokes and Stokes 1996). Bent (1953) and Sedgwick (1987) listed habitats occupied by Virginia warblers as including juniper/pinyon and mountain mahogany with sagebrush and other shrubs. Ritter (1996) lists the primary habitat in Idaho for Virginia's warbler to be juniper. In the Jarbidge Resource Area only two Virginia's warblers have been observed. One observation was in a mountain mahogany community, whereas the second observation was in a western juniper habitat. No nests were detected in either location.

Biology:

Virginia's warblers arrive from their winter habitat in late spring. Arrival times in Nevada and Colorado are late April and early May (Bent 1953). Fischer (1978) reported that Virginia's

warblers arrived by early May in Arizona. The two observations of this species in the Jarbidge were in June. Ehrlich et al. (1988) comment that little is known about the breeding biology of Virginia's warbler. Male Virginia's warblers sing 2 to 3 times from a perch then move to a new perch to sing (Fischer 1978). Courtship includes males singing and chasing the female (Fischer 1978). Morse (1989) notes that male warblers defend a territory and that female warblers likely select the nest site. Bent (1953) reviewed records for Virginia warblers, indicating that they nest on the ground. This warbler makes a cup shaped nest of coarse grass and bark strips lined with fine material with the rim of the cup at ground level (Bent 1953, Ehrlich et al. 1988). Fischer (1978) reported that nests adjacent to clumps of grass were often roofed with grass similar to meadowlarks rather than open. Fischer (1978) commented that the male participates with nest building. It is not known if males help with incubation once the eggs are laid. The female Virginia's warbler lays 3 to 5 eggs (Bent 1953, Stokes and Stokes 1996). Egg color varies from white to creamy and the eggs are marked with reddish brown to brown speckles (Ehrlich et al. 1988, Stokes and Stokes 1996). Days that the eggs are incubated and the days from hatching to fledging are not known, however, many warbler incubate their eggs for 11 to 14 days and typical fledging time is 9 to 14 days (Morse 1989). Male Virginia's warblers help feed the nestlings and remove fecal sacs (Fischer 1978). Stokes and Stokes (1996) remark that Virginia's warblers may raise 2 broods per year, however, at higher elevations only 1 brood per year is raised (Fischer 1978). The Virginia's warbler is insectivorous and gleans insects from the ground or foliage, and hawks flying insects from perches (Ehrlich et al. 1988). Adults also feed their young caterpillars (Bent 1953). Virginia's warblers forage by probing along the ground early in the season and switch to more gleaning late June. Little is known about migration from Idaho, but it is likely to occur in early September and is highly influenced by the weather. Friedmann and Kiff (1985) and Ehrlich et al. (1988) noted that Virginia's warbler is a rare host to brown-headed cowbirds. Fischer (1978) reported that 33% of the nests in her study area had been parasitized by brown-headed cowbirds. Virginia warbler territories vary in size from 2 to 5.5 acres. Information on territory fidelity and longevity for this species is lacking.

Status:

Virginia's warblers were added to the Idaho BLM Sensitive Species list in the fall of 1996. Saab and Groves (1992) commented that there were inadequate data to determine if Virginia's warbler populations were declining or increasing. Ritter (1996) noted that the winter distribution of Virginia's warblers was decreasing. Stokes and Stokes (1996) commented that BBS data shows an increasing population trend in the West. Virginia's warblers are at the northern edge of their breeding distribution in Idaho.

Threats:

Possible threats to Virginia's warbler habitat include habitat conversion from chaining (Sedgwick 1987), spraying, or prescribed fire and subsequent seeding to exotic grass species. Virginia's warblers could be impacted by habitat conversion because of the loss of overall canopy cover of junipers, pinyon pine, mountain mahogany or oaks and a reductions in foraging areas provided by other shrubs including sagebrush, snowberry, willow, and chokecherry. The invasion of juniper and some other vegetation communities may be partially responsible for the increase in Virginia's warblers. The increase reported by Stokes and Stokes (1996) could also be an artifact of the addition of BBS routes in Virginia's warbler habitats and not a population increase. Bock et al. (1993) did not note any research on the impacts of grazing on Virginia's warbler.

Wilson's warbler (*Wilsonia pusilla*)

Description:

At 4.5 inches Wilson's warblers are slightly smaller than most other warblers and sexes are somewhat similar in appearance (Udvardy 1977, Peterson 1990, Stokes and Stokes 1996). Males are generally bright yellow on the head and belly, with a brownish to olive green on the back (Stokes and Stokes 1996). There is a black patch on the crown (Peterson 1990). Females lack the black crown patch or have a grayish crown patch, lack the bright yellow coloration, and are more olive green to grayish on the back (Udvardy 1977, Stokes and Stokes 1996). Males could be confused with the American goldfinch. Male goldfinches have a black forehead rather than crown, black wings, and white a whitish rump (Peterson 1990, Stokes and Stokes 1996). Females Wilson's warblers are similar to female yellow as well as orange-crowned warblers. Female yellow warblers have yellow tail spots which female Wilson's warblers lack. Female Wilson's warblers are more yellow and have yellow over the bill when compared to more grayish the orange-crowned warbler.

Distribution:

Winter distribution of Wilson's warblers is from Mexico south to Panama (Udvardy 1977, Ehrlich et al. 1988). The breeding range extends from Alaska and the Northwest Territories, across Canada to Nova Scotia, and then south to Maine. In the West breeding habitat extends southward along the California coast eastward through the Rocky Mountains of northern Nevada to Colorado (Udvardy 1977). In Idaho Wilson's warblers are believed to breed in most of Idaho (Stephens and Sturts 1991). Wilson warblers have been seen in Clover Creek, Cedar Creek, and Salmon Falls Creek.

Habitat:

Wilson's warbler habitat is usually willow and riparian thickets as well as brushy patches at the edge of meadows, ponds and boggy areas (Stewart et al. 1977, Morrison 1981, Ehrlich et al. 1988, Finch 1989, Raley and Anderson 1990, Douglas et al. 1992, Dobkin 1994). Finch (1989) commented that Wilson's warblers seemed to be habitat specialists within riparian communities using areas with few trees and dense shrub cover. In eastern Canada they may inhabit moist riparian woods (Ehrlich et al. 1988).

Biology:

Like other warblers, the Wilson's warbler migrates back to its breeding habitat during the spring. In southern Idaho Wilson's warblers have been observed in late May. Males establish territories which are defended by singing. Stewart (1973) described some of the breeding behavior of Wilson's warblers in California. Wilson's warblers are usually monogamous, however, males have been observed with 2 females nesting in their territory (Stewart et al. 1977). The nest is cup shaped and built of dead leaves, grass and moss. It is lined with fine material and usually located on the ground or less frequently low in a shrub (Stewart 1973, Ehrlich et al. 1988, Dobkin 1994). Nests are usually constructed in 5 days (Ehrlich et al. 1988). Females typically lay 4 to 6 eggs, which she incubates for up to 13 days (Stewart 1973, Stewart et al. 1977, Ehrlich et al. 1988). Nestlings fledge in 8 to 12 days (Stewart et al. 1977). Wilson's warblers are not believed to renest after depredation or raise more than single brood at higher elevations (Stewart et al. 1977), however, renesting and second broods have been documented in coastal California (Stewart 1973). The diet of Wilson's warblers is primarily insects (Raley and Anderson 1990) with some berries being eaten in the late summer and fall (Dobkin 1994). Insects are caught by gleaning foliage, branches or in flight (Morrison 1981, Raley and Anderson 1990, Dobkin 1994). A wide variety of arthropod adults and larvae were consumed (Raley and Anderson 1990). Both males and females feed the young following hatching, but only the females brood the nestlings (Stewart et al. 1977). Territory sizes vary from less than 1 to nearly 5 acres depending upon the vegetation community (Stewart et al. 1977). Nearly 50% of the male Wilson's warblers banded by Stewart et al. (1977) returned to the same nesting territory the following year, whereas, the rates for females returning to the same territory was lower (Stewart et al. 1977). Females were not found to use the same nest in subsequent years. Wilson's warblers are rarely parasitized by cowbirds (Dobkin 1994). Stewart et al. (1977) observed instances where adult Wilson's warblers did not feed cowbird young and acted aggressively to young cowbirds after their young had fledged. Wilson's warblers are known to start migration southward late in the summer (August and September). Hutto (1981a) suggests that Wilson's warblers defend foraging territories during the winter.

Status:

Saab and Groves (1992) wrote that there was not enough data to determine the population trend for Wilson's warbler. By 1994 Dobkin reported that Idaho populations exhibit a sharp and significant declining trend. Montana populations are also declining (Dobkin 1994), but numbers in the West are relatively stable. Ritter (1996) noted that Wilson's warbler populations has been declining for the past 26 years. Stokes and Stokes (1996) noted that Wilson's warbler populations

were declining across their range based on BBS route data. Idaho BLM has placed the Wilson's warbler on the Sensitive Species list.

Threats:

Wilson's warblers are relatively specialized in the type of riparian habitat used (Raley and Finch 1989, Raley and Anderson 1990, Douglas et al. 1992). Knopf et al. (1988) reported riparian populations are adversely affected by livestock grazing. Because Wilson's warblers are strongly associated with willow riparian communities, management activities that alter or degrade the communities are likely to have adverse affects on this species (Douglas et al. 1992).

Yellow warbler (*Dendroica petechia*)

Description:

Yellow warblers are 4.5 to 5.25 inches in size (Udvardy 1977, Stokes and Stokes 1996). Male yellow warblers have a bright yellow on the breast marked with reddish or rusty streaks (Stokes and Stokes 1996). They also have a yellowish gray back and wings (Udvardy 1977, Peterson 1990). The overall impression is of a bright yellow bird. Male yellow warblers are the only all yellow bird in Idaho. Other yellowish birds have black markings, such as gold finches (black on head, wings and tail) or Wilson's warbler (black patch on head). Yellow warblers have yellow spots near the tip of their tails, which are not very visible when perching. Females are duller in appearance, but still retain an overall yellow appearance (Udvardy 1977, Peterson 1990). In deciduous vegetation the plumage may take on a greenish cast. Males and females both have two yellowish wing bars. Female yellow warblers can potentially be confused with the females of a number of other warbler species particularly orange-crowned and Wilson's warblers. The females of both species lack yellow spots in the tail (Peterson 1990).

Distribution:

Yellow warblers winter from the Amazon Basin northward to northern Mexico and the Bahamas (Ehrlich et al. 1988). The yellow warbler is the most widely distributed warbler in the United States (Schroeder 1982a) and has been documented breeding in a variety of habitats across its range. Stephens and Sturts (1991) report yellow warblers nest throughout most of Idaho.

Habitat:

In the West yellow warblers are often associated with deciduous riparian habitats (Douglas et al. 1992, Dobkin 1994). Riparian habitats used by yellow warblers are shrub communities, particularly willows, alder, and birch (Schroeder 1982a, Dobkin 1994). Knopf et al. (1988) considered the yellow warbler a riparian habitat generalist. Yellow warblers are also known to inhabit aspen and cottonwood riparian habitats, but are found less often nesting in aspen or other deciduous woodlands (Dobkin 1994), or coniferous forests (Hebard 1961). Specific areas in the Jarbidge Resource Area where yellow warblers have been documented include Salmon Falls Creek, Cedar Creek, Deer Creek, Flat Creek, Clover Creek, Devil Creek, and the East Fork of the Jarbidge River.

Biology:

Yellow warblers arrive in Idaho occasionally in late April, but more often in May depending on weather conditions. Males begin defending territories soon after arrival. Territory size averages about 0.4 acres for yellow warblers (Kammeraad 1964). Female warblers typically arrive up to two weeks after the males arrive (Morse 1989). Female yellow warblers construct a neat strong cup type nest out of weed stems, shreds of bark, and grass, usually lined with down or feathers (Udvardy 1977, Ehrlich et al. 1988). Nests are usually located within 15 feet of the ground (Schroeder 1982a). After breeding the female lays a clutch of 3 to 6 eggs which she incubates for 11 to 12 days. Eggs are off white to pale green in color with a varied amount of brown-gray spotting or blotching (Ehrlich et al. 1988). The young fledge about twelve days after hatching, but continue to beg food from the parents for a while after fledging (Busby and Sealy 1979). Yellow warblers are known to renest if their first nest fails (Ehrlich et al. 1988), however, they only raise one brood per year (Stokes and Stokes 1996). Yellow warblers feed primarily on a variety of insects, spiders, and other invertebrates, but consume fruit when available in the late summer (Ehrlich et al. 1988, Morse 1989). Males forage higher in trees and shrubs than females (Busby and Sealy 1979). Yellow warbler foraging techniques include gleaning insects from foliage and branches and hawking flying insects (Dobkin 1994). Yellow warblers likely migrate from their breeding habitat in late August through September. Yellow warblers are one of the 3 most frequent hosts of brown-headed cowbirds (Dobkin 1994). Yellow warblers respond to cowbird nest parasitism, when they detect it, by either abandoning their nest or burying the entire clutch under more nest material (Graham 1988).

Status:

Numbers appear to be declining in Idaho (Dobkin 1994). Saab and Groves (1992) and Ritter (1996) report that yellow warbler populations have been declining for the past 26 years. Dobkin (1994) commented that overall in the West yellow warbler populations appear to have stabilized after sharp declines in the previous decades. Yellow warbler populations remain substantially lower than 20 years ago (Dobkin 1994). BBS route data indicates that yellow warbler populations trends are slightly increasing in the West, but decreasing in the Midwest (Stokes and Stokes 1996). Idaho BLM incorporated the yellow warbler into the Sensitive Species list in the fall of 1996.

Threats:

Threats to yellow warblers include habitat fragmentation, habitat conversion, and channel straightening (Dobkin 1994), habitat degradation from drought (Dobkin 1994) or livestock overgrazing (Taylor and Littlefield 1986), and nest parasitism by brown-headed cowbirds (Friedmann and Kiff 1985, Ehrlich et al. 1988, Graham 1988, Dobkin 1994). Morse (1989) commented that changes in winter habitat and along migration routes could also be impacting a number of warbler species. Bock et al. (1993) stated that more research on the impacts of livestock grazing on yellow warblers was needed because the results of existing research was contradictory.

Yellow-headed blackbird (*Xanthocephalus xanthocephalus*)

Description:

Male yellow-headed blackbirds have a yellow head except for a black mask from the eyes to the bill and yellow breast (Peterson 1990). Their belly and back are black, and on the upper wing surface a white patch is visible in flight (Peterson 1990, Udvardy 1977, Stokes and Stokes 1996). Female yellow-headed blackbirds are a dull dark brown with a buffy stripe above the eye, a buffy to dirty yellow throat and breast (Peterson 1990). The female lacks white on the wing (Peterson 1990, Udvardy 1977). Male yellow-headed blackbirds are not easy to confuse with any other bird in freshwater marsh habitats. Female yellow-headed blackbirds can be separated from female red-winged blackbirds which have a streaked breast and throat. Female Brewer's blackbirds are almost a uniform gray brown on the head, throat, and breast, and darker on the back.

Distribution:

Winter distribution for yellow-headed blackbirds is from the Central Valley in California and southern Arizona south to southern Mexico (Udvardy 1977, Ehrlich et al. 1988). In Idaho wintering yellow-headed blackbirds have been reported in several locations, the majority of which are in the Snake River Plain (Stephens and Sturts 1991). Wintering blackbirds in Idaho are often associated with livestock feed lots. Breeding distribution includes inland California north to British Columbia, east to Manitoba, then south to Minnesota and western Texas (Udvardy 1977). Stephens and Sturts (1991) indicate that yellow-headed blackbirds are known to breed in all but the mountainous central portion of Idaho. Yellow-headed blackbirds are found in scattered areas primarily along the Snake River where islands or the shore has bulrush or cattails in the Jarbidge Resource Area and at a few scattered wetlands with bulrush further south.

Habitat:

Yellow-headed blackbirds are usually found in freshwater marshes, wetlands or riparian areas with tall emergent vegetation (Udvardy 1977, Schroeder 1982b, Ehrlich et al. 1988, Saab and Groves 1992). Tall emergent vegetation is considered to be cattails, bulrush, or reeds. Twedt and Crawford (1995) report that yellow-headed blackbirds also are found in mountain meadows and parklands.

Biology:

Following their return from their wintering area males establish a territory in the emergent vegetation in a marsh. Yellow-headed blackbird males arrive about a week before the females (Twedt and Crawford 1995). Males have been observed near C. J. Strike Reservoir in early May. A number of flight and perched displays were described by Twedt and Crawford (1995) which are involved in courtship, territory defense, nest defense, and predation alert. During courtship a cup type nest is built over water in emergent vegetation. Females select the nest site and construct the nest without assistance from the male (Twedt and Crawford 1995). The nest is anchored by weaving wet vegetation that shrinks as it dries, drawing the nest and supports tight (Ehrlich et al. 1988). Nests are lined with fine grass and construction takes from 2 to 4 days (Ehrlich et al. 1988). The female yellow-headed blackbird lays 3 to 5 grayish white to pale bluish white eggs which she incubates for 11 to 13 days (Ehrlich et al. 1988, Stokes and Stokes 1996). Young yellow-headed blackbirds fledge approximately 12 days after hatching (Ehrlich et al. 1988, Stokes