

## **Appendix C**

### Upper Middle Mainstem Columbia River Subbasin

## **Focal Species Information, Red-winged Blackbird**

### **Introduction**

The red-winged black bird is one of the most abundant birds in North America (Marshall et al. 2003). Red-winged Blackbirds are extremely adaptable; successfully colonizing many small wetlands created by human activities (i.e., farming, road building, and industrial wetlands) Loss of natural wetlands has frequently been compensated for by these human activities (UW 1991). The bird is considered a pest species in many areas where huge flocks damage crops.

### **Life History**

#### ***Diet***

About 75% of the annual Red-winged Blackbird diet is seeds. During the breeding season, they also eat insects, especially dragonflies, mayflies, and caddis flies as they emerge from their aquatic larval stage. In winter, grain is an important source of food, and many birds feed on corn stubble and at feedlots (SAS 2002). The species sometimes forms large, sexually separate flocks in wetland herbaceous habitats, trees, brushlands, and feedlots, and may forage on agricultural crops (i.e., corn, rice, oat, wheat, alfalfa, and sunflower) or on understory seed sources (Mott et al. 1972; Johnson and Caslick 1982, Marshall et al. 2003). During nesting season, red-winged blackbirds may forage within the understory, midstory, and overstory canopies of the wetland they are nesting in, or within a nearby wetland (Snelling 1968, Holm 1973).

#### ***Reproduction***

The timing of breeding varies throughout the range of the red-winged blackbird. Nesting frequently begins in March or April and is completed by mid-July in the more temperate habitats (Short 1985). Older males (2+ yr) return to breeding sites first, followed by adult females and younger birds. Females nest as yearlings, males not until the second year (Marshall et al. 2003). Males are highly territorial and polygynous; up to six females commonly nest within a male's territory. Females sometimes mate with several partners during a season or even during a single nesting attempt. Males do not participate in nest building, incubation, or feeding of the incubating female (G.H. Orians, pers. comm., 1984). Males sometimes feed older nestlings and fledglings (Marshall et al. 2003). Most young in North America are fledged by late July (Short 1985).

#### ***Nesting***

The red-winged blackbird nests in fresh-water and brackish herbaceous wetlands, shrubs (Douglas spiraea, small Oregon ash, willow, and alder trees) and small trees (i.e.,

willows) along watercourses (AOU 1983:723, Marshall et al. 2003), in upland habitat (grass, forb, and pasture/hay cover types, roadsides, canals, ditches and parks and suburban habitat) near surface water, and in suitable vegetation distant from free water (Dolbeer 1980, Micacchion and Townsend 1983, Marshall et al. 2003). Herbaceous wetlands or sloughs, with extensive cattails, bulrushes, sedges, reeds (*Phragmites spp.*), or tules (*Scirpus spp.*), historically have provided important nesting habitat for the blackbird (Bent 1958).

Females select the nest sites and build the nests. They are made of grass and are usually lashed to cattails, bulrushes, or other emergent vegetation about 8-32 in (0.2-0.8 m) above water (Marshall et al. 2003). Red-winged blackbirds seem to prefer areas with the densest, tallest herbaceous vegetation for nest placement (trees greater than 5.0 m in height) (Albers 1978). Nests that border areas of open water are placed on the edges of cattail clumps (Wiens 1965), while those in upland sites typically are wound between and attached to stalks of herbaceous vegetation (Bent 1958). Herbaceous wetlands that are dominated by cattails and have open, permanent water have the optimum number of available nest sites (Weatherhead and Robertson 1977). Early nests are placed in robust, dense, old herbaceous growth and are more productive than late nests, which are entwined with stems of the new growth (Meanley and Webb 1963).

Red-winged blackbirds may lay as many as 5 eggs, but usually 3-4. Young fledge 12 days after hatching. Parents feed fledglings for 30 days after fledging (Marshall et al. 2003).

Nest success seems to be related to presence or absence of permanent water, water depth (greater nest success in water up to 50 cm or more) within the wetland, proximity of the nest to water (greater for nests 20 cm above water than those 100 cm above water), relative openness of nesting cover within the wetland, and the type of vegetation holding the nest. Nests placed in herbaceous wetland vegetation fared better when placed where open water, marsh grass and loosestrife (vs. sweet gale and sedges) were present (Weatherhead and Robertson 1977).

Herbaceous wetlands dominated by cattails generally seem to be the most productive habitats for red-winged blackbirds in terms of nests/ha or number of young fledged/ha (Robertson 1972). Favorable herbaceous wetland sites produce more suitable food per unit area and have higher nest densities, highly synchronous nesting, higher nest survival rates, and lower nest predation rates than do upland nest sites (Short 1985).

### ***Migration***

Some populations in the southern parts of the range are nonmigratory, but almost all northern birds winter in the South, forming huge flocks that migrate by day, foraging for grain and seeds in fields with other blackbirds, and roost at night in dense cover in wetland habitats (SAS, 2002). Males migrate to or congregate at future nesting habitats in late winter, and females arrive at the territories in early spring (Case and Hewitt 1963). In areas with resident populations, individuals of both sexes may remain near breeding territories throughout the year, even though the areas are not actively defended or used in winter except, perhaps, as roosting sites (G.H. Orians, pers. comm., 1984).

### ***Mortality***

Marsh wrens peck at red-winged blackbird eggs and the northern harrier, American crow, and raccoon predate the nests. Nesting success increases with nest dispersion and distance from marsh wrens. Nearby nesting females also reduces predation risk (Marshall et al. 2003), and the presence of permanent water within the wetland may reduce mammalian predation on nests (Robertson 1972).

In addition, the abundance of red-winged blackbirds is negatively correlated with the presence and abundance of carp, along with disturbances such as grazing, mowing, burning, and tilling of potential upland nest sites. Carp disturb submerged wetland vegetation and destroy food sources (aquatic insects) for the blackbird. Activities such as grazing and mowing destroy potential nesting habitat and interfere with nesting birds.

### **Habitat Requirements**

Red-winged blackbirds need tall, dense, persistent herbaceous vegetation reasonably close to water for nesting, foraging, and cover requirements, whether it be in a wetland or upland environment. The bird readily uses midstory and overstory layers of habitat at times but does not seem to be dependent on the presence of these layers (Short 1985). In a wetland environment, blackbirds prefer patchy stands of cattails interspersed with areas of open water, over dense homogeneous stands of cattails (Robertson 1972). An important characteristic of upland nest sites is the availability of fence posts and other structures that serve as display perches for males and as observation posts for both males and females (Joyner 1978).

Blackbirds also require an abundant supply of aquatic insects for foraging in the spring and early summer. Wetlands that are permanently flooded, or intermittently exposed, with water usually present throughout the year are necessary to support persistent populations of submergent vegetation and benthic invertebrates (Orians 1980).

The red-winged blackbird does not require large territories and are often seen in very small patches of habitat (SAS 2002). In winter they often congregate in agricultural areas. Short (1985) surmised that a wetland area must contain at least 0.10 ha in emergent herbaceous vegetation, like cattails, to be considered nesting habitat for the blackbird. Several studies have described the minimum territory for male red-winged blackbirds as 0.02 ha (Weatherhead and Robertson 1977; Orians 1980). Territories in upland habitats are much larger, requiring at least 1.0 ha in area to provide adequate breeding habitat for the bird (Short 1985).

### **Focal Species Population and Distribution**

#### ***Population***

##### **Current**

The red-winged blackbird is one of the most abundant species of bird in North America, with an estimated 190 million-winter population. The red-winged blackbird breeds from southeast Alaska across Canada to south central Quebec, and south to the Caribbean, Mexico, and Middle America. It winters from southeast Alaska and Canada, south to the Gulf Coast and Mexico. It is also a widespread and abundant breeder throughout

Washington's lowlands. There are sixteen subspecies in North America (Marshall et al. 2003) and two poorly distinguished subspecies in Washington: *A.p. caurinus* of western Washington and *A.p. nevadensis* of eastern Washington (UW 1991).

### ***Distribution***

#### Current

This aggressive species is widespread and abundant at lower elevations of the State of Washington, including the UMM Subbasin, in virtually every habitat as long as a suitable microhabitat with emergent vegetation is available. It can also be found along roads where ditches have created suitable habitat. They rarely nest in upland shrubby areas (UW 1991). In winter they are often less widespread, but can be found year round on the Columbia River (BirdWeb 2003)

In a University of Washington study, core areas of habitat were all water / wetlands (including estuaries) below the subalpine fir zone. All other habitats except bare ground were suitable if small pockets of wetland occurred within the larger mapped habitats (UW 1991).

The red-winged blackbird is distributed throughout the UMM Subbasin with confirmed, probable and possible breeding sites. Confirmed sitings are primarily along the Columbia River (near cities of Vantage, Wenatchee, Pateros, Bridgeport and Rocky Butte), Banks Lake, and Lake Lenore State Wildlife Recreation Area (WDFW 1999). Nesting red-winged black birds are abundant on herbaceous wetlands in the northern portion of the UMM (Braaten, pers. comm., 2004).

### **Focal Species Status and Abundance Trends**

#### ***Status***

The red-winged blackbird is one of the most abundant species in North America with an estimated winter population of 190 million (Marshall et al. 2003). This species is also a common summer resident in the wetlands and marshes of Washington State and is a common winter visitor on farmlands (SAS 2002). In the Dakotas, redwings have declined because of drought and tilling of breeding areas (Marshall et al. 2003). This species is not currently listed as endangered or threatened by the federal or state government.

The blackbird is highly efficient in adapting to anthropogenic environments and has had a significant impact on agricultural crops. Winter roosts can be huge, especially in major grain-producing areas like Washington. Costs related to their consumption of grain (wheat, barley, corn, sunflower and rice) can become high and may exceed the benefits of insect control related to their foraging habits during fledging (Bendell et al. 1981). Grain fields closest to blackbird roost areas have comparably greater economic losses. Poisoning, trapping, shooting, or flock harassment by loud noises is allowed by an amendment to the Federal Migratory Bird Treaty Act of 1918. Other means of population control include reducing grain waste, using resistant cultivars and crops less favorable to blackbirds, and timing of agricultural activities (Marshall et al. 2003).

## *Trends*

The North American BBS trend estimates for the red-winged blackbird within the state of Washington are .5% (1966-2002), -2.2% (1996-1979), and .1% (1980-2002) change in population per year. BBS data indicate there is a less than 1.5% decreasing trend (1966-1996) in red-winged blackbird populations within the UMM (Sauer et al. 2003).

## **Key Factors Inhibiting Populations and Ecological Processes**

Activities, such as intensive livestock grazing, mowing, burning, and tilling of old growth stubble, make herbaceous uplands unavailable for early nest placement. Mowing hayfields during the nesting season disrupts nesting success on upland sites (Albers 1978).

The presence and abundance of carp within a wetland may inhibit red-winged blackbird populations. Carp disturb submergent vegetation within the wetland, which may destroy habitat for emergent aquatic insects (like Odonates) and reduce food sources for blackbirds (Short 1985).

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