

weeds (Bock et al. 1993). The degradation of meadows has an adverse affect on brood rearing habitat from July into September. Habitat fragmentation has been shown to result in predation on an number of wildlife species (Johnson and Temple 1986, Dobkin 1994). Hunters may also have more of an impact on sage grouse populations in fragmented habitats. Sage grouse numbers seem to be highest in areas where large expanses of native range is least fragmented and degraded.

### **Black Swift (*Cypseloides niger*)**

#### Description:

Black swifts are nearly all black except for a light marking from the upper mandible to just above the eye (Peterson 1990). Udvardy (1977) commented that this mark is visible only at close range. Black swifts have a slightly forked tail which is slightly spread during flight (Peterson 1990, Udvardy 1977). The sexes are similar in appearance and size, which ranges from 7 to 7.5 inches (Udvardy 1977). Like other swifts the wing shape is rounded or sickle shaped (Udvardy 1977). The black swift could be confused with the Vaux's swift which is smaller, has a light gray throat, grayish belly, and a rounded tail (Peterson 1990). With the exception of the barn swallow, all of the swallows in the Jarbidge Resource Area have white on the underside. Barn swallows have a brown belly, a bluish black back, and a deeply forked tail.

#### Distribution:

Winter range is believed to be from Mexico southward to Costa Rica (Udvardy 1977, Ehrlich et al. 1988). Black swift breeding distribution includes the Pacific Coast from southern Alaska to central California, inland to the Idaho panhandle, northwestern Montana (Hunter and Baldwin 1962, Dobkin 1994) and Alberta (Kondla 1973). Disjunct breeding populations in the Southern Rocky Mountains in Colorado (Knorr 1961) and the Sierra Nevada Mountains of California/Nevada (Udvardy 1977). Stephens and Sturts (1991) noted that the black swift is a transient in southwestern Idaho, with breeding only occurring north of the Clearwater River in Idaho. Black swifts may have been observed in the Bruneau River Canyon with some white-throated swifts and in the East Fork of the Bruneau Canyon (Clover Creek) with white-throated swifts, cliff and violet green swallows. However, black swift breeding population has not been confirmed within the Jarbidge Resource Area. Based on the habitat descriptions of Knorr (1961) and Hunter and Baldwin (1962), potential nesting habitat for this species is extremely limited in the Jarbidge Resource Area. Potential black swift nesting habitat is limited to riparian canyons along the Nevada-Idaho state line.

#### Habitat:

Udvardy (1977), Ehrlich et al. (1988) and Dobkin (1994) describe black swift habitat as steep coastal and mountain cliffs or canyons near water. Hunter and Baldwin (1962) commented that in Montana vegetation adjacent to black swift nesting colonies included Douglas-fir, subalpine fir, Engelmann spruce, willow, dogwood, and juniper. Knorr (1961) wrote that black swift habitat had to have steep (verticle) topography from the nesting colony and unobstructed flyways.

#### Biology:

Black swifts perform aerial displays and mate while in the air (Ehrlich et al. 1988). Black swifts nest in small colonies of a few pair (Hunter and Baldwin 1962, Dobkin 1994). Nesting in Montana was initiated in mid-June (Hunter and Baldwin 1962). Nests are anchored high in a rock crevice, ledge, shallow cave or behind a waterfall (Hunter and Baldwin 1962, Kondla 1973, Ehrlich et al. 1988, Dobkin 1994). Females lay a single white egg in a shallow saucer shaped nest made of moss, liverworts, grass and algae (Hunter and Baldwin 1962, Ehrlich et al. 1988). Knorr (1961) commented that all of the black swift nesting colonies located in Colorado were near waterfalls or cascades and the water volume at some colonies was very limited. Both parents incubate the egg which hatches in 24 to 27 days (Hunter and Baldwin 1962). Young black swifts fledge in about 45 to 49 days (Hunter and Baldwin 1962, Ehrlich et al. 1988). Black swifts eat insects captured on the wing usually well above ground and aquatic insects emerging from the water surface (Udvardy 1977, Ehrlich et al. 1988, Dobkin 1994). Black swifts forage in loose flocks from the same black swift colony or with other species of swifts or swallows (Udvardy 1977). Udvardy (1977) comments that the adults forage quite a distance from the nest. During storms that last three days or more, they may fly hundreds of miles from the nest to avoid chilling rain. Udvardy (1977) suspects that the young survive without food for a few days by becoming torpid and that the lowered metabolic rate prevents starvation. Black swifts often nest in the same place in subsequent years with a new nest being constructed on the old nest (Ehrlich et al. 1988). Nestling black swifts appear to develop slower than other swifts (Hunter and Baldwin 1962, Stokes and Stokes 1996). Dobkin (1994) noted that the black swift is one of the least known and most elusive of the North American migratory landbirds.

#### Status:

Black swifts were placed on the Idaho BLM Sensitive Species list in fall of 1996. Saab and Groves (1992) did not comment on the status of black swifts. Dobkin (1994) noted that black swifts are found only on two BBS routes in Idaho and two in Montana. He comments that there is not enough data to determine a population trend in Idaho or the West in general. Ritter (1996) wrote that causes of concern for the black swift were due to decreased winter distribution, threats to winter habitat, low global abundance, and a decrease in breeding distribution. Stokes and Stokes (1996) noted a significant downward trend on BBS routes for black swifts.

#### Threats:

No specific threats to black swifts or their habitat were listed by Dobkin (1994). However, Hunter and Baldwin (1962) noted that black swifts have a low reproductive rate and low survival rates for the young. There are no references that discuss human disturbance such as recreation on nesting black swifts. Neither Bock et al. (1993) nor Hutto et al. (1993) commented on the impacts of grazing or logging on this species, respectively.

### **Vaux's Swift (*Chaetura vauxi*)**

#### Description:

A small (4 to 4.5 inches) dark gray brown swift with a paler chin and throat, a gray belly, and a short rounded tail (Udvardy 1977, Peterson 1990, Bull and Collins 1993). Udvardy (1977)

commented that all of the tail feathers end in a bare shaft with a stiff spine that supports this swift while it perches on vertical surfaces. Both sexes are similar in appearance (Udvardy 1977, Peterson 1990). Vaux's swift could be confused with black swifts, even though black swifts are about 3 inches larger, darker, and have a long, slightly forked tail.

#### Distribution:

The winter distribution of the Vaux's swift occurs from central Mexico south to Venezuela (Ehrlich et al. 1988). Vaux's swift breeding distribution is from the southern part of the Alaska panhandle south to northern California, inland to Alberta and northwest Montana (Udvardy 1977). A disjunct population is found the Sierra Nevada in California/Nevada (Stokes and Stokes 1996). Vaux's swifts breeding north of California are considered migratory (Bull and Collins 1993). In Idaho Stephens and Sturts (1991) indicate that most of the Vaux's swifts breeding occurs north of the Salmon River and considered it transient in the southern part of the state. There are no reports of Vaux's swifts breeding within the Jarbidge Resource Area.

#### Habitat:

Habitat for Vaux's swift is generally listed as old growth coniferous forest (Bull 1991, Bull and Cooper 1991, Bull and Hohmann 1993) or deciduous forest mixed with coniferous forest (Bull and Collins 1993). Ehrlich et al. (1988) commented that old burns or cut over areas were used if there were a number of suitable snags left for nesting. Suitable nest trees are either snags or hollow, large live trees with a 19 inch diameter at breast height containing woodpecker holes or cavities (Bull and Cooper 1991). Saab and Groves (1992) list coniferous forest as the only habitat, however, Dobkin (1994) notes that in some areas of western Montana Vaux's swifts are found in old cottonwood forests. The only potential habitat for Vaux's swift in the Jarbidge Resource Area is some cottonwood riparian zones along the Jarbidge River.

#### Biology:

Vaux's swifts arrive in northeastern Oregon in late April and early May (Bull and Collins 1993). Courtship and mating are performed while in flight (Baldwin and Zackowski 1963, Ehrlich et al. 1988). A "V"-glide aerial display has been reported as a courtship display by Vaux's swift (Bull and Cooper 1991, Bull and Collins 1993). Bull and Collins (1993) remark that chasing may also be a part of courtship. Following courtship the Vaux's swifts attach a saucer shaped nest to a wall in an old hollow tree with a woodpecker hole, usually that pileated woodpecker or northern flicker (Baldwin and Hunter 1963, Bull and Cooper 1991). The nest is made from twigs, pine needles, and weed stems which are glued together by saliva (Baldwin and Hunter 1963, Ehrlich et al. 1988, Bull and Cooper 1991, Bull and Collins 1993). Nest building and incubation occurs in June (Bull and Cooper 1991, Bull and Collins 1993). Vaux's swift females lay a clutch of 3-7 white eggs which are incubated about 3 weeks ((Baldwin and Zackowski 1963, Ehrlich et al. 1988, Stokes and Stokes 1996). Both sexes brood the young (Baldwin and Zackowski 1963, Bull and Collins 1993). Young Vaux's swifts fledge in about 4 weeks, however, they may climb out of the nest and cling to the side of the cavity after the third week (Baldwin and Zackowski 1963, Ehrlich et al. 1988, Bull and Cooper 1991, Bull and Collins 1993). Both adults feed the young (Bull and Beckwith 1993). The diet of Vaux's swifts consists exclusively of flying insects which are caught on the wing (Udvardy 1977, Dobkin 1994). Bull and Beckwith (1993) and Bull and Collins

(1993) list prey as including flies, ants, bees, aphids, bark beetles, mayflies, moths, beetles, and spiders. Vaux's swift drinks by dipping its beak in water, while flying just above the surface (Bull and Collins 1993). Bull and Cooper (1991) and Bull and Hohmann (1993) report that the majority of the nest trees used in their Oregon study area were grand firs. Nests built over 25 feet above the ground in old pileated woodpecker nests (Bull and Cooper 1991, Bull and Hohman 1993). Vaux's swifts spend most of their time within 0.25 miles of the nest tree, however, they have been located over 3.3 miles from the nest tree (Bull and Beckwith 1993). During post breeding season, Vaux's swifts are known to roost communally in hollow trees (Bull 1991). Communal roosting is likely influenced by temperature (Bull 1991). Migration southward takes place in autumn (Bull and Collins 1993, Dobkin 1994) and is likely triggered by freezing weather which reduces insect prey.

#### Status:

Saab and Groves (1992) indicated that there was not enough data to determine a population trend for Vaux's swift. Dobkin (1994) wrote that although the BBS numbers for Vaux's swift are infrequent, the general trend for Idaho, Montana, and the West is declining. Ritter (1996) lists decreases in winter and breeding distribution, as well as an overall low global abundance, as concerns for the long term survival of this species. In contrast Stokes and Stokes (1996) reported an increase in Vaux's swift in the West. This species was added the Idaho BLM's Sensitive Species list in 1996.

#### Threats:

Because this species depends upon other species (pileated woodpeckers or red-shafted flickers) to excavate cavities, Vaux's swifts appear to be associated with old-growth forests (Bull and Cooper 1991, Bull and Hohmann 1993) and snags (Mannan and Meslow 1984). Continued harvest of these habitats and the removal of snags may result in continued declines of Vaux's swift. Bull and Collins (1993) suggest that silvicultural practices should be modified to provide for large diameter snag recruitment and retention of snags for Vaux's swifts.

### **Calliope Hummingbird (*Stellula calliope*)**

#### Description:

In hummingbird species, the sexes are similar in size and general appearance, however, male hummingbirds have a brightly colored chin and throat patch called a gorget. Female hummingbirds in Idaho are green backed and whitish on the throat and belly. They have white, green, and rust colored markings in their tails. Calliope hummingbirds are the smallest hummingbirds north of Mexico (Udvardy 1977, Ehrlich et al. 1988) approximately 3 inches in length (Stokes and Stokes 1996). Male Calliope hummingbird gorgets are white striped with a reddish purple (Udvardy 1977, Stokes and Stokes 1996). Females lack the colored gorget (Peterson 1990). Female Calliope hummingbirds are smaller (Ehrlich et al. 1988, Udvardy 1977) than similar looking female rufous and the locally more common female broad-tailed hummingbirds. The females both of these species have a little more rusty coloration on the sides and in the tail than the female Calliope hummingbird.

### Distribution:

The winter distribution of the Calliope hummingbird is from northwest Mexico south to central Mexico (Johnsgard 1983b, Tyrrell and Tyrrell 1984, Ehrlich et al. 1988). Its breeding range includes interior British Columbia and Alberta, Canada, south down the Sierra Nevada Mountains to northern Baja California, Mexico, eastward to Montana, Wyoming, and Colorado (Udvardy 1977). Calliope hummingbirds are distributed throughout most of Idaho in the appropriate habitats (Stephens and Sturts 1991). There have been no Calliope hummingbirds documented nesting in the Jarbidge Resource Area. A male Calliope hummingbird was observed performing a display flight near the headwaters of Cedar Creek. This observation in late July may have been of a migrating individual defending a nectar source, or a possible summer resident.

### Habitat:

Calliope hummingbirds are more often associated with riparian zones (Ritter 1996) than other Idaho hummingbird species. However, Medin (1990) reported Calliope hummingbirds being present at low numbers in non-riparian habitat. Other habitats where Calliope hummingbirds are found include open conifer forest, aspen, mountain shrub, mountain meadows, and old burns (Armstrong 1987, Ehrlich et al. 1988, Tamm et al. 1989, Saab and Groves 1992, Dobkin 1994, Ritter 1996).

### Biology:

Calliope hummingbirds migrate to Idaho in mid to late May (Bent 1940, Johnsgard 1983b, Tyrrell and Tyrrell 1984). Males typically arrive in the breeding areas a week or more prior to the females (Calder and Calder 1994). Tamm et al. (1989) remarked that dive displays in hummingbirds were species specific. Male Calliope hummingbirds perform a more shallow "U" dive display than rufous hummingbirds and are not known to perform an oval display (Johnsgard 1983b, Ehrlich et al. 1988). Other courtship displays performed by Calliope hummingbirds include a circle dance performed by the male and female, hover displays, and buzzing (Tamm et al. 1989). Chasing is used in courtship and also to defend the territory from other Calliope hummingbirds, other hummingbirds and occasionally bumble bees (Tamm et al. 1989, Calder and Calder 1994). Nests are located on horizontal branches with overhanging protection (Calder 1971) and may be made on the nests from the previous year (Ehrlich et al. 1988, Calder and Calder 1994, Dobkin 1994). Eggs are laid in a small cup nest made from moss, leaves, shreds of bark, and cones bundled together with cocoon and spider silk, and lined with plant down (Ehrlich et al. 1988, Calder and Calder 1994). The clutch consists of 2 white eggs (Calder and Calder 1994). The peak of egg laying is likely to be mid June (Brunton et al. 1979). Incubation lasts around 16 days and the young fledge about 3 weeks later (Johnsgard 1983b). Female and male Calliope hummingbirds tend to have separate habitats during the breeding season, with the female more associated with partially wooded areas and the males defending more open areas (Armstrong 1987, Tamm et al. 1989). Males of this species leave the breeding area before the eggs hatch (Calder 1971). The diet of calliope hummingbirds includes nectar (Armstrong 1987), insects, and sap (Calder and Calder 1994). Some insects are captured by gleaning foliage and aerial pursuit (Dobkin 1994). Plants frequently used by foraging Calliope hummingbirds include scarlet gilia, larkspur, currant, snowberry, Oregon-grape, columbine, penstemons, and paintbrush (Johnsgard

1983b, Armstrong 1987, Calder and Calder 1994). Calliope hummingbirds begin migration back to wintering areas by late August to early September (Johnsgard 1983b, Tyrrell and Tyrrell 1984) with adult males leaving before females and juveniles (Johnsgard 1983). Tamm et al. (1989) describes the mating system of Calliope hummingbirds as an exploded lek. This implies that the most of females breed with the males with the best food resources which are defended (Tamm et al. (1989). Territory size for Calliope hummingbirds varies from 0.5 to 0.8 acres (Calder and Calder 1994). Tamm et al. (1989) noted 60% of male Calliope hummingbirds show territory fidelity between years. Calder and Calder (1994) reported that banding information from recaptured individuals indicates that the life span of wild Calliope hummingbirds can exceed 5 years.

#### Status:

Idaho BLM added Calliope hummingbirds to the Sensitive Species list in the fall of 1996. Saab and Groves (1992) found inadequate data to determine the population trend of Calliope hummingbirds. Dobkin (1994) mentioned that populations in the northwest appeared stable, but sample sizes are small. However, Dobkin (1994) reported that Calliope hummingbirds have declined significantly in British Columbia. Ritter (1996) listed concerns for the Calliope hummingbird as decreases in both breeding and winter distribution. According to BBS data for the western United States, Calliope hummingbird populations are increasing (Stokes and Stokes 1996).

#### Threats:

Mosconi and Hutto (1982) and Bock et al. (1993) mention that Calliope hummingbird numbers are reduced in heavily grazed areas. Season long or summer long grazing in riparian zones, meadows, and under aspen stands reduces the amount of nectar producing plants (Bock et al. 1993). Nectar sources are reduced through plant consumption, trampling of existing vegetation, or in long term shifts in plant species composition. Changing the grazing season from season long to other time periods could make livestock grazing more compatible with this species. Hutto et al. (1993) commented that Calliope hummingbirds responded positively to partially cut timber stands. This positive response could be attributed to a possible increase in nectar producing forbs or shrubs.

### **Rufous Hummingbird (*Selasphorus rufus*)**

#### Description:

Rufous hummingbirds are relatively large about 4 to 4.5 inches in size (Johnsgard 1983b). Male rufous hummingbirds have brownish backs and sides, a whitish belly, and an orange-red solid colored gorget (Udvardy 1977). In shadows the gorget appears a dark dull brown. Male rufous hummingbirds can not be confused with any other male Idaho hummingbird species (broad-tailed, black-chinned, and Calliope) which all have green backs. Females have a green back and have rusty colored sides and at base of their tail (Udvardy 1977, Peterson 1990). Female hummingbirds are very difficult to identify to species. Female broad-tailed hummingbirds are nearly the same color and size as female rufous hummingbirds.