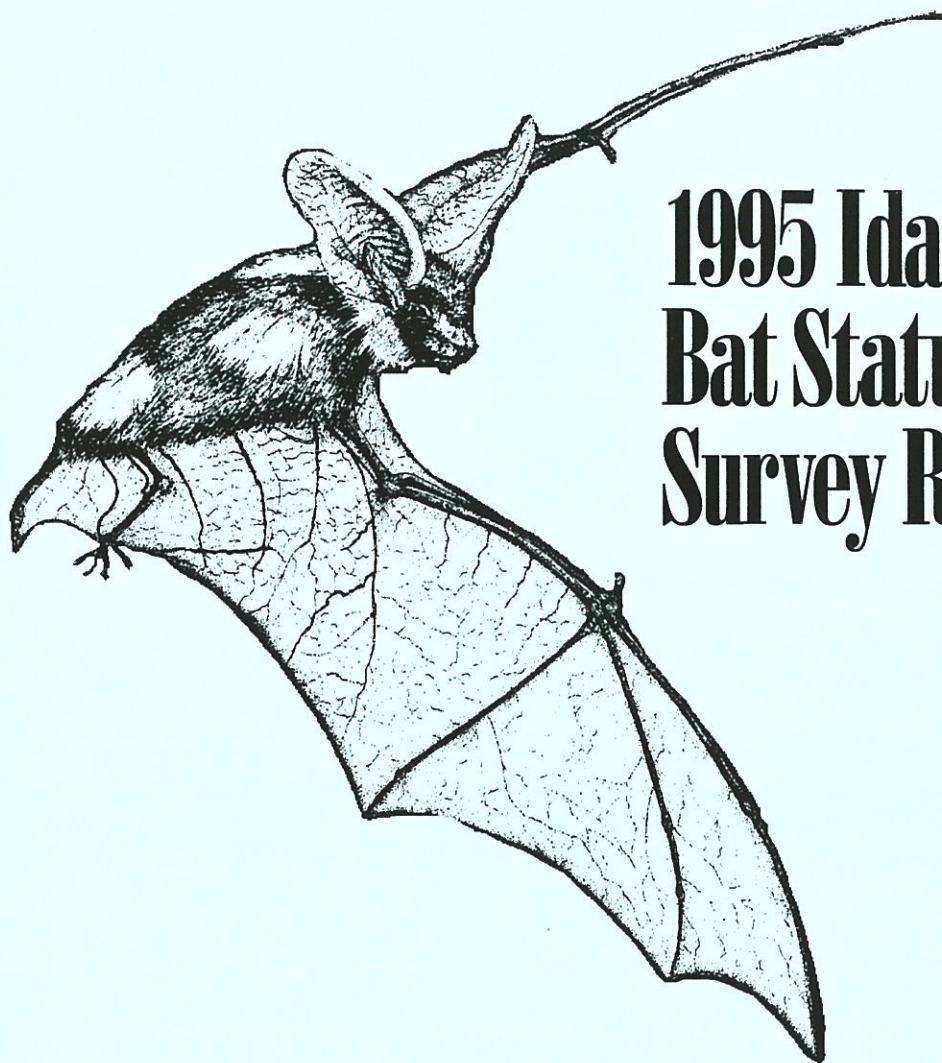
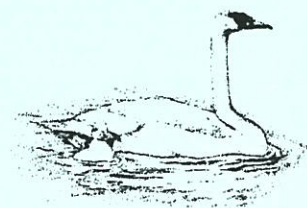
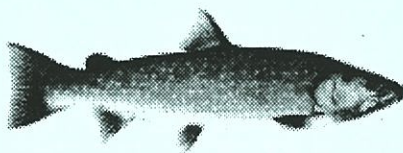




1995 Idaho Bat Status Survey Report



An interagency conservation program (Idaho State Conservation Effort) was initiated in Idaho in late 1993 to remove threats and develop Conservation Agreements for species at risk of being listed as threatened or endangered. An emphasis on early conservation efforts for species at risk allows opportunities for State and Federal agencies and other interested parties to stabilize and recover these species and their ecosystems before listing becomes a high priority. Addressing the conservation needs of at risk species maintains management flexibility, reduces potential conflict and restrictive land use policies, avoids the confrontational atmosphere often associated with listing, and provides an ecologically sound and cost-effective means to conserve species. The primary agencies involved are the U.S. Fish and Wildlife Service, Bureau of Land Management, Regions 1 and 4 of the U.S. Forest Service, Idaho Department of Fish and Game, and Idaho Department of Parks and Recreation.

Relatively little is known regarding the distribution and status of most bat species in the state. Additional information will be needed to ensure their conservation. There are currently seven bat species in Idaho that are listed by the U.S. Fish and Wildlife as Species of Concern. During the summer of 1995, an intensive effort to determine status, distribution, and habitat preferences for bat species in Idaho was initiated. This report reflects that effort.

This report should be cited as:

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Spotted bat and trumpeter swan illustrations courtesy of Erica Craig.

1995 Idaho Bat Status Survey Report

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INTRODUCTION

Fourteen species of bats are known to occur in Idaho. Studies and surveys have been conducted in some areas of the state (Genter 1986, Wackenhut 1990, Lengus 1993, 1994, 1995, Keller 1994, 1995, Keller and Saathoff 1994, Lewis 1994, Cassirer 1995, Keller 1995, Lengus 1995), however relatively little is known regarding the distribution and status of most species in the state. During the summer of 1995 the Bureau of Land Management (BLM), U.S. Forest Service (USFS), and the Idaho Department of Fish and Game (IDFG) began an intensive effort to determine status, distribution, and habitat preferences for bat species in Idaho.

METHODS

Mist netting was conducted at 22 sites in eastern and southern Idaho (Fig. 1, Appendix A). Mist nets were placed near or over still or slow moving water prior to dusk. Nets were left up for a period of 1 to 8 hours. Nets were 7 to 10 feet in height, mesh size was 1 1/2", and length varied from 18 to 60 feet depending on location. Harp traps were set up in conjunction with mist nets on several occasions. Two nets were placed at angles to the trap to form wings with the intent of funneling bats into the harp trap.

Bats were removed from the net immediately and identified to species, sex, age (juvenile or adult), a forearm measurement was taken, and the time and date of capture was recorded. When several bats were captured simultaneously they were removed from the net and held in a cloth bag until all bats were removed then data were recorded. Other information recorded included number of nets set up, cloud cover, location, elevation, wind speed and direction, moon phase, published sunset, actual sunset, starting temperature, ending temperature, when nets were opened, when nets were closed, and habitat information.

RESULTS

A total of 59 individual bats representing 10 species were caught and released. The following species were captured during the 1995 surveys: little brown myotis (*Myotis lucifugus*), yuma myotis (*Myotis yumanensis*), long-eared myotis (*Myotis evotis*), long-legged myotis (*Myotis volans*), small-footed myotis (*Myotis ciliolabrum*), silver-haired bat (*Lasionycteris noctivagans*), western pipistrelle, (*Pipistrellus hesperus*), big brown bat (*Eptesicus fuscus*), hoary bat (*Lasiurus cinereus*), pallid bat (*Antrozous pallidus*). This information has been summarized by survey location (Table 1). The number of sites at which a species was captured and the sex and age composition of each species are included in Table 2. Little brown myotis, long-eared bat, yuma myotis, and big brown bat were netted in multiple locations. These species along with western pipistrelle were netted in the greatest number. Forearm lengths have been summarized by mean length and range (Table 3).

There were cursory efforts made to locate Spotted bats on the Main Salmon River below Corn Creek, the Middle Fork of the Salmon River, and Bruneau Canyon. A possible audible identification was made by an individual in Bruneau Canyon in late June (Ridenhour pers. comm.).

All data has been summarized and sent to the Conservation Data Center (CDC) for inclusion in their data base. Additionally, all field survey forms are on file at the CDC.

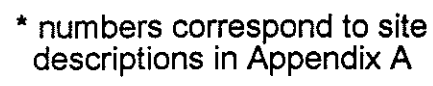


Fig.1. Bat Survey Sites, Idaho 1995.

Table 1. Survey dates, survey locations, species netted and numbers of individuals of each species netted, Idaho, 1995.

Date	Location	Species	n
13 Jun	City of Rocks	Big brown bat	7
		Long-eared myotis	1
		Long-legged myotis	2
14 Jun	Little City of Rocks	Small-footed myotis	2
		Silver-haired bat	1
22 Jun	Yankee Fork of the Salmon R.	Yuma myotis	1
29 Jun	Thorn Cr. Res.	Yuma myotis	2
		Long-eared myotis	1
		Big brown bat	1
6 Jul	Little City of Rocks	Small-footed myotis	1
7 Jul	Macon Lake	None	
21 Jul	Thorn Cr. Res.	None	
24 Jul	Hayden Cr.	Yuma myotis	2
	Hatchery Ponds		
27 Jul	Tower Cr. Slough	None	
28 Jul	Hughes Creek Pond	Hoary bat	1
29 Jul	Upper Silver Ck.	None	
31 Jul	Haynes Ck. Pond	Big brown bat	1
2 Aug	Clover Cr.	Hoary bat	1
8 Aug	U. Yearian Creek	Little brown myotis	1
9 Aug	Shorock Hydro	None	
10 Aug	L. Yearian Creek	None	
12 Aug	U. Yearian Creek	None	
13 Aug	Hughes Creek Pond	None	
14 Aug	Egin Lake	None	
18 Aug	Chilly Slough	None	
19 Aug	Whiskey Spring-Chilly Slough	None	
19 Aug	Shoshone Wildlife Pond	None	
21 Aug	Reynolds Creek	Western pipestrelle	12
		Little brown myotis	1
		Pallid bat	1
		Big brown bat	1
24 Aug	Three Creek	None	
24 Aug	Hayden Cr.	Little brown myotis	1
	Hatchery Ponds		
25 Aug	South Leigh Creek	Little brown myotis	7
		Long-eared myotis	1
		Long-legged myotis	1
		Yuma myotis	2
		Hoary bat	2
6 Sep	Pine Creek	Silver-haired bat	1
		Little brown myotis	2
		Long-eared myotis	2

Table 2. Sex and age composition by species and the number of different sites an individual species was captured, Idaho, 1995.

Species	<i>n</i>	Sex ¹	Age ²	No. of sites
Big Brown bat	10	9-M, 1-F	10-A	4
Hoary bat	4	4-M	2-A	3
Little brown bat	12	6-M, 5-F	3-J, 3-A(1-L)	5
Long-eared myotis	5	3-M, 2-F	4-A	4
Long-legged myotis	3	1-M, 2-F	2-A(1-L)	2
Pallid bat	1	1-F	1-A	1
Silver-haired bat	2	1-M, 1-F	1-A, 1-J	2
Small-footed myotis	3	3-M	2-J, 1-A	1
Western pipistrelle	12	5-M, 7-F	7-J, 5-A	1
Yuma myotis	7	6-M, 1-F	5-A, 2-J	4

¹ F = Female, M = Male

² A = Adult, J = Juvenile, L = Lactating

Table 3. Forearm length (mm) of bat species captured, Idaho, 1995.

Species	n	$\bar{x}$	Range
Big brown bat	10	47.8	45.3, 50.7
Hoary bat	2	51.1	51.0, 51.2
Little brown bat	12	37.6	33.2, 40
Long-eared myotis	4	39	37.3, 40.8
Long-legged myotis	3	40.7	39.6, 42.0
Pallid bat	1	53.6	53.6
Silver-haired bat	2	41.3	41, 41.6
Small-footed myotis	3	32.0	30.8, 33.8
Western pipistrelle	12	29.7	27.4, 34.6
Yuma myotis	7	35.9	34.6, 37.9

DISCUSSION

The sample size of bats collected this first field season is too small to draw any conclusions regarding distribution, relative abundance, and habitat associations. However, when combined with other information can offer insights that will allow land management agencies to begin the process of taking measures to protect sensitive bat species in Idaho.

Experience gained and observations made this field season will be important in future efforts to help make survey efforts more effective. Two specific situations which should be considered in subsequent survey efforts are as follows:

1. It was noted that bats were often observed using the deeper areas of ponds and reservoirs, rather than the shallow perimeter where nets were set up. Netting the deeper areas will present a challenge to the surveyor.

Where possible, deeper portions of ponds (usually waist deep) can be accessed by individuals using chest waders by raising nets up on additional pole segments. Several individuals will be required to raise and lower nets and remove bats. The use of boats and floattubes might be an option to consider for making this procedure work.

2. Mist netting in or near forested habitats in central Idaho produced few results. In colder climates and northern latitudes bats will come to streams and ponds to forage and drink at dusk for 30 to 60 minutes. Bats apparently move to these areas immediately after leaving day roosts because they are warmest at dusk and quickly cool. There is anecdotal evidence that bats move from these riparian areas to habitats between cliff or steep rocky areas and forested habitats. The rock faces absorb the heat during the day and keeps air warmer well into the night. This would attract both bats and their prey, thus might provide good survey sites.

Agency personnel floating rivers that are adjacent to large (>75 foot) cliff faces where overnight camping occurs may be helpful in locating Spotted bats. These bats are the only consistently audible bat in Idaho and their echolocation sound is fairly easy to describe.

1995 efforts were mostly in the southern and central part of the state, however the project is expected to expand into the entire state as more individuals receive training in survey methodologies, species identification, and safety. Due to limited resources and large areas that are unsurveyed this effort will continue until sufficient information is available to manage and conserve sensitive bat species. Annual reports will be published through the Idaho State Conservation Effort. The priority survey areas in the state will be dictated by this state group in coordination with local biologists, resource specialists, and other interested parties.

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APPENDIX A

(1) Chilly Slough (Thousand Springs)

This site is located 18 miles Northwest of Mackey, Idaho. The mist net site is the uppermost spring in the main channel of Thousand Springs. The riparian vegetation associated with the site is mainly sedges. The riparian area has "duck bumps". The valley floor is comprised of big sagebrush/Idaho fescue. There are some cliffs 1/2 mile from the mist net site on Willow Creek divide. No bats were observed.

(2) Chilly Slough (Whiskey Springs)

This site is located 15 miles Northwest of Mackey, Idaho. The mist net site is located at the new BLM interpretive turnout. The mist net site is a riparian springs/marsh at the foot of Mt. Borah. Upland vegetation is comprised of sagebrush/grass immediately grading into mountain mahogany. Large cliff faces are present within a mile of the mist net site. Twenty to thirty bats were seen, but most of their activity was over open water which is very deep. There was some activity around the nets, but bats avoided them with ease.

(3) City of Rocks

This site is located 27 miles South of Burley, Idaho. It is within the City of Rocks National Reserve. The park has numerous large rocks with 200-250 foot vertical faces popular with rock climbers. The area has a diversity of vegetative plant communities. They include aspen, juniper, and sagebrush-grass. The mist-net site was a small livestock watering pond.

(4) Clover Creek

This site is located 12 miles Northwest of Gooding, Idaho. The site is characterized by a canyon approximately 300-400 ft. deep in sagebrush-grass habitat. There are no large vertical cliffs, but some small ones (approx. 25 feet) with an abundance of steep boulder, scree-type walls. The riparian vegetation is largely comprised of willow. Overutilization by livestock has resulted in considerable stream downcutting and the loss of trees and native grasses and forbs. About 25 bats were observed from the mist net site.

(5) Egin Lake

This site is located 10 miles North of Rexburg, Idaho. It is part of the large sand-dune complex called St. Anthony Sand Dunes. Although a lot of the area is dominated by sand dunes, mixed shrub-grass communities are interspersed throughout the area. No vertical rock walls are known in the vicinity. Several bats were seen foraging on insects attracted to lights in the parking lot.

(6) Hayden Creek Hatchery Ponds

This site is located 25 miles South of Salmon, Idaho. The mist nets were placed in areas between or adjacent to man-made ponds. The ponds are immediately adjacent to Hayden Creek. Cottonwood and willows comprise the riparian area on Hayden Creek. Adjacent uplands are moderately steep with some vertical rock faces of approximately 75 feet. Vegetation in uplands is comprised of sagebrush-grass. Bats appeared to be abundant when scouted the night before mist nets were used. Less than 10 were observed the first mist net night.

(7) Haynes Creek Pond

This site is located 13 miles Southeast of Salmon, Idaho. This 2-3 acre pond is located on the BLM/USFS boundary on Haynes Creek. The mist net site was in a shallow area of the pond. The pond is near an ecotone between Wyoming big sagebrush and Douglas fir vegetative types. There are large vertical cliffs (approximately 200 feet) within one to two miles of the mist net site.

(8) Hughes Creek Barn Pond

This site is located 22 miles North of Salmon, Idaho. The pond is adjacent to the North Fork of the Salmon River and is near the Hughes Creek Ranger Station. The riparian vegetation is comprised of cottonwood, alder and willow. Upland vegetation is comprised of Douglas fir and Ponderosa pine. Rock cliff faces are abundant. The first mist net night approximately 35 bats were seen. Bats were active the entire time (until 1:00 a.m.). The second mist net night approximately 5 bats flew from about 21:20 until 22:00. None were seen after that time.

(9) Little City of Rocks

This site is located 13 miles North of Gooding, Idaho. The mist net site was immediately inside a BLM Wilderness Study Area. The area has numerous rocks with vertical faces of up to 75 feet. The uplands are dominated by sagebrush-grass. The riparian area is subtle due in part to historic and current overgrazing. There is very little in the way of riparian plant species at the site. Water may be scarce to nonexistent in years with normal or below normal precipitation. The area appears to be very important for small-footed myotis (Myotis ciliolabrum). Several hundred bats were seen the first mist net night and about 25 the second.

(10) Macon Lake

This site is located 25 miles North of Shoshone, Idaho. The actual lake is about an acre in size, but there is a considerable shallow wetland associated with this lake. There is almost no physiographic relief within two miles of this lake. The upland vegetation surrounding the lake is comprised of sagebrush-grass. Approximately 5 bats were foraging over the deeper part of the lake.

(11) Pine Creek

This site is located 5 miles North of Swan Valley, Idaho. The mist net site is located in the canyon area of Pine Creek. Nets were set up across the stream in two locations. The riparian vegetation at the mist net site is comprised of willow and dogwood. Upland vegetation is comprised of conifer forest. Cliff faces of 20-70 feet are present adjacent to the riparian area.

(12) Reynolds Creek

This site is located 16 miles Southwest of Nampa, Idaho. The mist net site is in a narrow rocky canyon that has vertical rock faces of up to 250 feet about a mile upstream of the mist net site. A tunnel that accommodated an irrigation canal was within 300 yards of the mist net site, but was not physically inspected. Reports to area biologists of bats in this tunnel had been made. The riparian area was narrow and comprised largely of willow. Upland areas adjacent to the site were comprised of sagebrush-grass. One bat began flying before the sun went down. A number of bats were observed that were not captured. There were a number of nighthawks flying at dusk of which several were caught in the mist nets and subsequently released.

(13) Shorrock Hydropower Plant

This site is located two miles Northwest of Shoshone, Idaho. Construction work on the hydropower plant immediately adjacent to the mist net site was ongoing during the day. The riparian area vegetation was comprised of cottonwood and willow. Upland area vegetation in the vicinity of the mist net site were comprised of sagebrush-grass and irrigated cropland. No bats were seen.

(14) Shoshone Wildlife Pond

This site is located 23 miles Southeast of Twin Falls, Idaho. The pond (about 5 acres) has been fenced to exclude livestock. Timothy and sagebrush dominate the plant community within the enclosure. The uplands adjacent to the enclosure is comprised of sagebrush-grass, but conifers and aspen are nearby. Small vertical cliffs (approx. 15 feet) and boulder areas are in the vicinity of the enclosure (within a half mile). Mist nets were placed in shallow portions of the pond, on an earthen dam creating the pond, and in an aspen riparian zone about 2 miles upstream from the pond. Bats were seen at all sites (15-20 at each), but dispersed into other areas at dark.

(15) South Leigh Creek

This site is located 6 miles Northeast of Driggs, Idaho. The mist net site is located one-half mile West of the Wyoming border. The nets were set up across the creek in two locations. The mist net site is in the South Leigh Creek riparian area. The riparian vegetation is comprised of cottonwoods and conifers with a willow understory. Upland vegetation is comprised of pasture and hay.

(16) Thorn Creek Reservoir

This site is located 18 miles North of Gooding, Idaho. The reservoir itself is approximately 200 acres in size, but has gone completely dry during periods of drought. The actual mist net site was a small pond below the earthen dam creating the reservoir. The area is extremely rocky, but does not have any vertical rock formations. Upland vegetation is comprised of sagebrush-grass. Much of the area was recently burned in a wildfire and has been seeded with non-native grass and forbs. Approximately 100 bats were seen the first mist net night and one was seen on the second.

(17) Three Creeks

This site is located 45 miles Southwest of Twin Falls, Idaho. The mist net site is in a small narrow canyon (approx. 75 feet). The riparian vegetation is comprised of willow. Beaver activity was in evidence with one beaver actually observed. Rock faces were small (approx. 10 feet). Upland vegetation was dominated by sagebrush-grass. Two bats were observed.

(18) Tower Creek Slough

This site is located along the Salmon River, 12 miles North of Salmon, Idaho. Several shallow, old gravel pit ponds are surrounded by cottonwood, willow, alder and dogwood. All contain cattails. Much exposed rock is present along the river bluffs both upstream and downstream from the site. Approximately 25 bats were observed from 21:40 until the nets were closed at 24:00.

(19) Upper Silver Creek

This site is located 33 miles Southwest of Salmon, Idaho. The mist net site was a beaver pond on upper Silver Creek near the mouth of Birdseye Creek. Mixed Douglas-Fir, Lodgepole pine and Ponderosa pine are present on adjacent uplands. Lodgepole pine and willow dominate the riparian area. Rock cliffs are abundant approximately one mile downstream from the site. Only one bat was observed at 22:30.

(20) Yankee Fork of the Salmon River

This site is located 14 miles Northeast of Stanley, Idaho. The mist net site was on the lower dredge pond. Riparian vegetation was comprised of Booth willow and Geyer willow and water sedge. Upland vegetation was comprised of lodgepole pine on west facing slopes and Douglas fir on North facing slopes. Some cliffs and vertical rock faces (approx. 25 feet) were present in the vicinity of the mist net site. About 6-8 bats were observed.

(21) Yearian Creek (Frog Lake)

This site is located 25 miles Southeast of Salmon, Idaho. The mist net site is in the shallow portion of a relatively high elevation (7600 feet) small lake about one acre in size. The vegetative community immediately adjacent to the lake is Douglas-fir/pinegrass. There is a sagebrush/grass meadow nearby. Approximately 15-20 bats were observed the first night and only a couple of bats were observed the second. No vertical cliff faces were in the near proximity of this pond.

(22) Yearian Creek (Lower Frog Pond)

This site is located 25 miles Southeast of Salmon, Idaho. The mist net site is a small pond about 80 feet in diameter. The upland vegetation adjacent to the pond is big sagebrush/bluebunch wheatgrass. The small amount of riparian vegetation adjacent to the pond is Kentucky bluegrass. The site is in rolling hills. Vertical cliff faces occur within a mile of this site. No bats were observed.