CHAPTER 5

BROWN-HEADED COWBIRD TRAPPING

INTRODUCTION

During 2003, we initiated intensive Brown-headed Cowbird trapping at all the life history study areas. From 1997 to 2001, willow flycatcher nest success and brood parasitism rates have been documented at the life history study areas (McKernan and Braden 2002), with no cowbird trapping conducted in the proximity of the breeding sites. We will compare willow flycatcher life history data under the influence of cowbird trapping with the data gathered at the life history study areas from 1997 to 2001 to determine if cowbird trapping and removal affects brood parasitism rates and willow flycatcher nest success and productivity.

METHODS

We conducted Brown-headed Cowbird trapping at each of the four life history study areas, with the number of traps set in each area determined by landscape characteristics and acreage of the site. Each trap has an effective trapping radius of 0.4 km (John Griffith, GWB, pers. comm., March 2002), and we deployed as many traps as needed at each site such that all the areas of occupied willow flycatcher habitat were under the influence of trapping. USBR biologists approved trap numbers and locations, and trapping methods followed those outlined in Griffith Wildlife Biology (1994a). To minimize the number of parasitism days (the number of days a host population is exposed to each female cowbird), cowbird traps were deployed at least two weeks prior to the initiation of flycatcher nesting (mid-May) and continually operated until all nests were at least past the egg stage (mid-August).

We used a variation of the Australian crow trap (Figure 5.1) to capture Brown-headed Cowbirds. These portable, wood-framed traps were 4 feet high, 4 feet wide, and 8 feet long, with a door located on one end. The panels consisted of 2-inch by 2-inch wood supports covered with 0.5-inch wire mesh. A piece of plywood, with two 1.25-inch slots down the middle, was attached to the top of each trap for cowbird entry. Signs were posted on each trap door to inform the public of the nature and relevance of the trapping program. The signs were clearly marked and laminated to maintain legibility over the season. Padlocks were used on the doors to discourage vandalism. Each trap was situated in an accessible location and was visible from above with some natural tree cover. To attract cowbirds, a ratio of two male and three female live-decoy cowbirds were maintained in each trap each day. Each trap was leveled, and the wire mesh floor covered with a thin layer of soil to encourage natural foraging and social behavior among the decoy birds.

Figure 5.1. Brown-headed Cowbird trap used at life history study areas, 2003.

Six or more horizontal perches were provided in the trap corners, and shadecloth was attached to the outside of each trap to provide adequate shade. An abundant supply of wild birdseed (not containing sunflower seeds, which attract non-target species) and a 1-gallon guzzler of water were kept in each trap and replenished daily.

Each trap was checked every 24 hours, and findings were recorded on an individual daily data sheet (Appendix A). Each day we recorded the number of cowbirds captured and removed, including sex and age, the number of non-target birds captured and released, and any pertinent notes. Upon entering a trap, field personnel carefully flushed out any non-target birds noting species, sex, and, when possible, age. We clipped the wings of all cowbirds at the edge of the secondary feathers, removing the primary feathers and thus lowering the probability of injury in the trap and the likelihood that any escaped bird would be able to survive. Newly trapped cowbirds were removed, placed in a small holding cage, and then euthanized off-site using carbon monoxide. We deposited all cowbirds with the U.S. Geological Survey Southwest Biological Science Center at Northern Arizona University for serological studies, in particular to examine for the occurrence of the West Nile Virus.

RESULTS

BROWN-HEADED COWBIRDS

From 20 May to 11 August 2003, we deployed and continuously operated two cowbird traps at Pahranagat, two at Mesquite, four at Mormon Mesa, and six at Topock (see Figures 5.1–5.4 for trap locations). We captured and removed 115, 6, 3, and 113 Brown-headed Cowbirds, respectively, at each study area (Table 5.1).

NON-TARGET SPECIES

Eight non-target species (excluding unidentified sparrow species) were captured at Pahranagat, Mormon Mesa, and Topock during cowbird trapping; no non-target species were captured at Mesquite (Table 5.2). Non-target species captures included Loggerhead Shrike (*Lanius ludovicianus*), Northern Mockingbird (*Mimus polyglottos*), Lucy's Warbler (*Vermivora luciae*), Blue Grosbeak (*Guiraca caerulea*), Abert's Towhee (*Pipilo aberti*), Red-winged Blackbird (*Agelaius phoeniceus*), House Sparrow (*Passer domesticus*), and House Finch (*Carpodacus mexicanus*). Because the same individual(s) may be captured and released on consecutive days, the total number of individuals of each species captured cannot be accurately determined. Mortalities included four individuals of four species (Northern Mockingbird, Lucy's Warbler, Blue Grosbeak, Abert's Towhee), with cause of death undetermined.

Table 5.1. Summary of Brown-headed Cowbirds trapped and removed at Pahranagat NWR, Mesquite, and Mormon Mesa, NV and Topock Marsh, AZ, 2003.

Study area	Trap #	# Males	# Females	# Juveniles	Total # Brown-headed Cowbirds
Pahranagat	1	25	27	0	52
	2	28	33	2	63
	Total	**53**	**60**	**2**	**115**
Mesquite	1	0	0	0	0
	2	4	0	2	6
	Total	**4**	**0**	**2**	**6**
Mormon Mesa	1	0	0	0	0
	2	3	0	0	3
	3	0	0	0	0
	4	0	0	0	0
	Total	**3**	**0**	**0**	**3**
Topock	1	6	8	3	17
	2	5	6	4	15
	3	7	8	8	23
	4	13	14	3	30
	5	2	3	1	6
	6	14	6	2	22
	Total	**47**	**45**	**21**	**113**

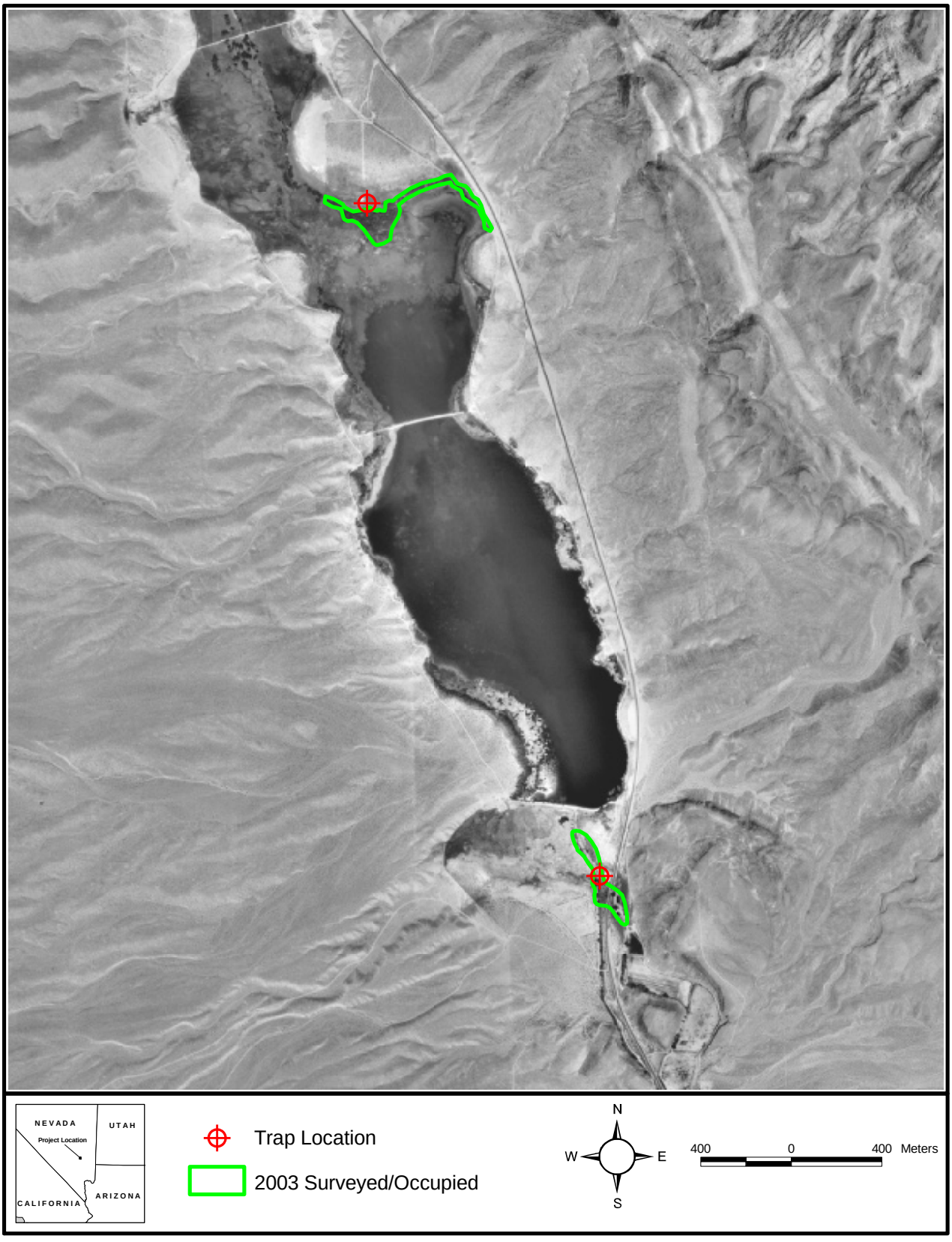

Figure 5.2. Cowbird trap locations at Pahranagat NWR, NV, 2003.

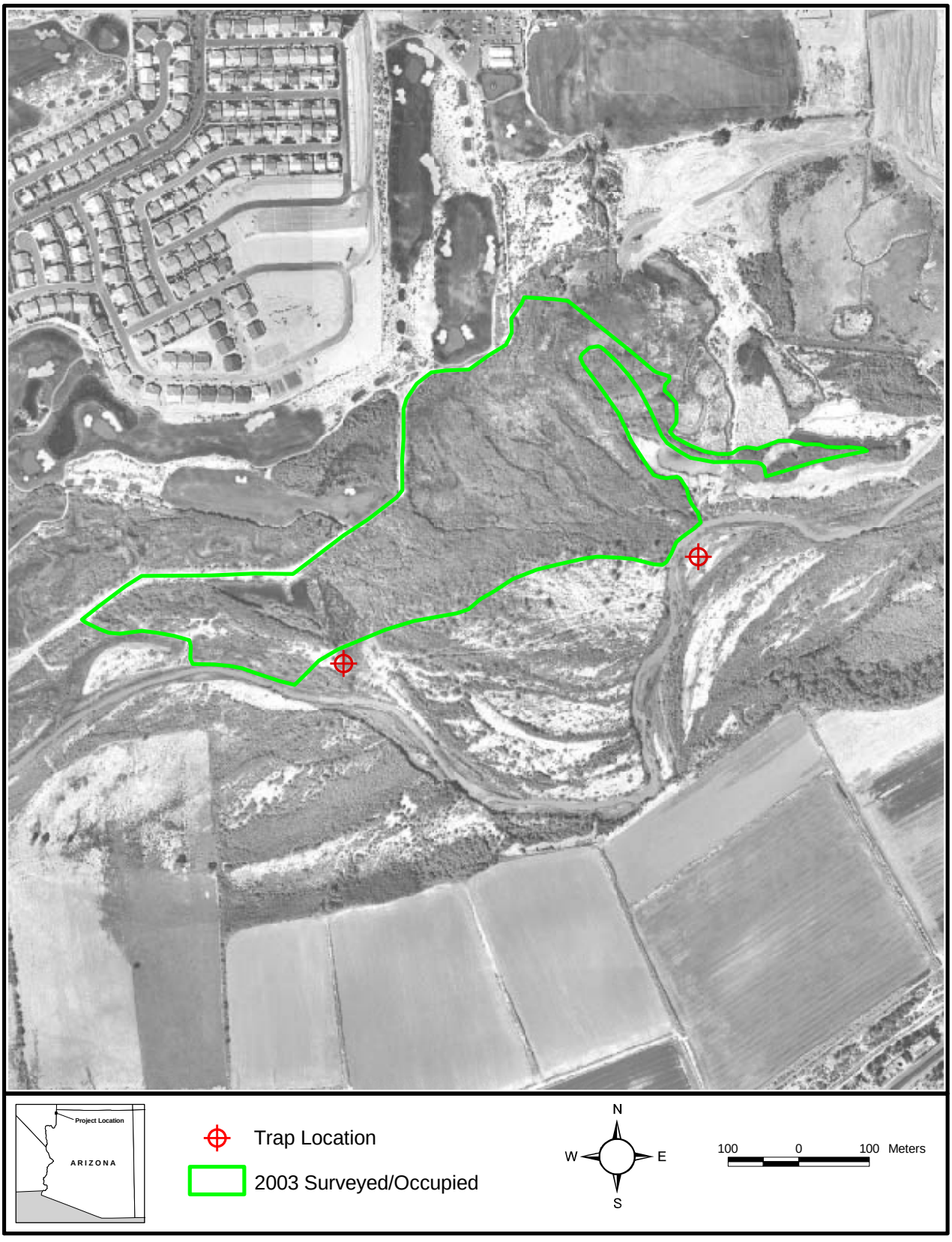

Figure 5.3. Cowbird trap locations at Mesquite, NV, 2003.