ARIZONA BALD EAGLE 1995 NEST SURVEY

James T. Driscoll, Nongame Biologist
Gregory L. Beatty, Bald Eagle Management Coordinator
John G. Koloszar, Nongame Biologist
Nongame Branch, Wildlife Management Division

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ARIZONA BALD EAGLE NEST SURVEY: 1995

James T. Driscoll, Gregory L. Beatty, and John G. Koloszar

INTRODUCTION

The bald eagle (*Haliaeetus leucocephalus*) was classified by the U.S. Fish and Wildlife Service (USFWS) in 1978 as endangered in 43 states (including Arizona) and threatened in 5 others. It is not federally listed in Alaska and does not occur in Hawaii. In August 1995, the USFWS downlisted the bald eagle in all recovery regions in the lower 48 states to threatened (USFWS 1995). In addition to continued protection under the Endangered Species Act, the bald eagle is protected by the Migratory Bird Treaty Act and by the Bald and Golden Eagle Protection Act. A recovery plan (USFWS 1982) guides management of the southwestern population, which includes Arizona, New Mexico, and Texas and Oklahoma west of the 100th meridian.

Historical records for the bald eagle in Arizona are sparse. The first breeding record occurred in 1890 (Mearns 1890). Breeding was later documented in the 1930s and 1940s (Phillips et al. 1964). Permanent records on bald eagle productivity were not kept until 1971, when two eaglets fledged from the Breeding Area (BA) at Saguaro Lake (Blue Point).

The first bald eagle nest survey in Arizona was conducted from 1972-1975 by Rubink and Podborny (1976). In 1978, Grubb (1986) performed aerial surveys. From 1979-1984, nests were discovered after state and federal biologists followed up on eagle sightings and during searches near Central Arizona Project (CAP) reservoirs. The discovery of an active BA near the proposed New Waddell Dam in 1984 resulted in formal consultation between the Bureau of Reclamation (USBR) and USFWS under Section 7 of the Endangered Species Act. The subsequent Biological Opinion included a conservation measure to identify important bald eagle nesting habitat through a five-year survey. A cooperative survey effort among SRP, USBR, and AGFD ensued that was reevaluated and extended in 1989, 1992, and 1994. Annual reports summarizing survey results were written by AGFD (Glinski 1985, 1986; Hildebrandt and Glinski 1987; Gooch et al. 1988; Tibbitts et al. 1989; Tibbitts et al. 1990; Corman et al. 1991; Driscoll et al. 1992; Driscoll and Beatty 1994; Driscoll et al. 1995).

The annual bald eagle nest search is intended to refine knowledge of the distribution of breeding Arizona bald eagles. It focuses on areas where bald eagles have been observed and/or where habitat appears adequate for nesting but where nests are yet unknown. In addition, BAs where current occupancy is unknown are searched for new or previously undetected alternate nests. We also inspect historical BAs for occupancy. Discovery of new sites, alternate nests, and the status of known BAs contributes to accurately describing the distribution, status, and annual productivity (Appendix A) of Arizona's breeding population. Timely discovery of BAs also identifies sensitive areas that may have special

management needs.

Since initiation of this cooperative effort in 1985, 16 BAs have been discovered. Presently 36 bald eagle BAs are known in Arizona. In 1995, we discovered three new BAs: San Carlos, Box Bar, and Winkelman. We also found alternate eagle nests at the Pleasant, Tower, and Horse Mesa BAs and potential alternate nests constructed by unknown species at the Cliff and Canyon BAs. Monthly Occupancy and Reproduction Assessment (ORA) helicopter flights provided by SRP and USBR (Appendix B), and coordinated by AGFD, were a valuable tool in locating known and alternate nests in existing territories and exploring for new territories.

This year's survey effort was administered and performed by AGFD in cooperation with USBR, SRP, U.S. Forest Service (USFS), USFWS, BLM, SCAGF, and WMAGF.

SURVEY AREA

We searched for nests along selected river and stream drainages, and around reservoirs throughout Arizona. Surveys were conducted as far north as Nankoweap Creek along the Colorado River in Marble Canyon and as far south as Parker Canyon Lake. The western survey boundary occurred at the Colorado River in Lake Havasu. The eastern boundary was the Black River in the White Mountains. Elevations of the areas surveyed ranged from approximately 480 ft (146 m) at Topock Marsh, Lake Havasu, to 7500 ft (2286 m) along the Black River.

Bald eagle breeding habitat in central Arizona occurs from 1080 to 5640 ft (329 to 1719 m) elevation in riparian areas of the Upper and Lower Sonoran Desertscrub biotic community (Brown 1982) and in the transition area of both zones. In addition to the known bald eagle BAs visited within these zones, the following survey areas also fell within these zones: San Carlos, Winkelman, Box Bar, Upper Verde River, Sawmill Canyon, Patagonia Lake, and Parker Canyon Lake, Lower Thompson Mesa Tank, and Lake Havasu. Representative vegetation within this biotic community consists of blue paloverde (*Cercidium floridium*), mesquites (*Prosopis* spp.) and ironwood (*Olneya tesota*), juniper (*Juniperus* spp.) and pinyon (*Pinus* spp.), saguaro (*Carnegiea gigantea*), teddy bear cholla (*Opuntia bigelovii*), Fremont cottonwood (*Populus fremontii*), Goodding willow (*Salix gooddingii*), Arizona sycamore (*Platanus wrightii*), and introduced tamarisk or salt cedar (*Tamarix pentandra*).

Other biotic communities visited in our searches for nesting bald eagles were Montane-Conifer Forest (Black River), and Great Basin Desertscrub (Nankoweap Creek). Representative plants of the Montane-Conifer Forest are blue spruce (*Picea pungens*), Engelman spruce (*Picea engelmannii*), white fir (*Abies concolor*), Douglas Fir (*Pseudotsuga menziesii*), ponderosa pine (*Pinus ponderosa*), quaking aspen (*Populus tremuloides*), Gambel

oak (*Quercus gambelii*), and common juniper (*Juniperus communis*). Riparian plants in this biotic community are narrowleaf cottonwood (*Populus angustifolia*), thinleaf alder (*Alnus tenuifolia*), Bebb's willow (*Salix bebbiana*) and coyote willow (*Salix exigua*). The Great Basin Desertscrub biotic community consists of desert plants evolved for cold-temperate environments such as sagebrushes (*Artemesia* spp.), rabbitbrushes (*Chrysothamnus* spp.), and saltbushes (*Atriplex* spp.) on top of canyon plateaus. Riparian Great Basin Desertscrub species consist of catclaws (*Acacia* spp.), mesquites (*Prosopis* spp.) and introduced salt cedar (*Tamarix chinensis*).

METHODS

The 1995 nest survey was conducted between January and June by a one to three person team. Survey areas were determined from eagle observations from previous surveys, habitat quality, and proximity to known BAs. Initial surveys in BAs were performed during ORA flights. BAs were foot surveyed for alternate nests if occupancy at all known nests could not be determined from the air. Some eagle-sized nests discovered between 1992-1994 (Driscoll et al. 1992, Driscoll and Beatty 1994, Driscoll et al. 1995) were revisited to determine occupancy and species. Suggestions by other biologists familiar with Arizona bald eagles were also considered. National Biological Service and BLM biologists helped us gain information at Nankoweap Creek in Marble Canyon and Devil's Postpile BA along Burro Creek.

Drainages were hiked, floated, or driven, inspecting all trees and cliffs for nests. Observations were made with 8x35 and 10x50 binoculars and Bushnell (45x), Celestron (25x-45x), and Questar spotting scopes (90x). We plotted all nests on topographic maps and recorded all bald eagle sightings.

Nests discovered were categorized as empty or active (Postupalsky 1974). Since our observations were limited and made during migration and courtship, a raptor sighting near a nest did not mean the nest was occupied (Postupalsky 1974). The observation was simply noted and is included in our text.

Observations of other wildlife, habitat quality, and human activity were also noted. Cliffs and trees were classified as "tall" or "large," indicating the structures appeared suitable for nesting bald eagles (in comparison to known bald eagle nest locations in Arizona), or "short" or "small," cliffs and trees that would not be considered tall or large enough to support a bald eagle nest. Hunt et al.'s (1992) nest and river map atlas and SRP's "Bald Eagle Nesting Areas in Arizona" map assisted us in relocating historical and known nest sites and describing river locations.

ORA flights provided by USBR and SRP occurred monthly from February through June. The flights were scheduled to correspond with observation of important breeding activities (i.e. incubation, nestlings, fledgling). During these flights we inspected habitat between

known BAs, historical BAs, and locations where we had previously observed eagles. To examine habitat and search for new nests, we flew over drainages at approximately 200 feet (61 m) above ground level at 45 knots (50 mi/hr). Speed and elevation were modified to accommodate safety concerns associated with wind speed, high tension wires, and drainage topography. Winter count flights in January also assisted in examining BAs.

RESULTS

Thirty-five of the 36 known bald eagle breeding areas were searched for nesting activity in 1995 (Appendix A). Only Devil's Post was not searched; nesting has not been documented there since 1977 (Hunt et al. 1992). The 1995 nest search helped document 30 occupied breeding areas, at which 22 pairs of eagles laid eggs. Sixteen pairs of eagles were successful in fledging 25 young.

Three new BAs were discovered in 1995: San Carlos, Winkelman, and Box Bar (Figs. 1, 2, 3). The San Carlos BA is located along the San Carlos River, near its confluence with San Carlos Reservoir. The Winkelman BA is located near the confluence of Gila and San Pedro rivers. The Box Bar BA is located on the lower Verde River, near Rio Verde. All sites had nests built in cottonwood trees. Only the San Carlos BA was active in 1995, producing two young.

Three alternate eagle nests, a pinnacle that previously held a nest (species unknown), and two potential alternate nests (species unknown) were discovered in known breeding areas in 1995 (Figs. 4-9). An active pinnacle nest in the Horse Mesa BA was discovered along the Painted Cliffs, Apache Lake. At the Pleasant BA, an alternate cliff nest was discovered along the Agua Fria River, upriver from cliff nest #2. Eagles at Tower BA built a nest in a cottonwood tree along the Verde River, below cliff nest #1. A small nest was discovered at Cliff BA in a crack below pinnacle nest #4. We also discovered an alternate nest and a pinnacle that had previously held a nest in the Canyon BA.

One known nest was destroyed in 1995. Fort McDowell nest tree #12 toppled into the Verde River after releases exceeding 60,000 cubic feet per second (cfs) from Bartlett Dam undercut the bank supporting the tree.

We searched without success to find alternate eagle-sized nests or nesting activity in ten breeding areas. ORA helicopter flights were used to help search for nesting activity in the Ash, Camp Verde, Cedar Basin, Cliff, Lone Pine, Mule Hoof, and Perkinsville BAs, but no new nests or nesting were observed. Without success, we examined the confluence of the Salt River and Pinal Creek to find the Pinal BA eagles. Later, in April, the Pinal eagles were found incubating in nest #3 along Pinal Creek. We discovered eagles at the Ladders BA building on cliff nest #5, but no eggs were laid. The Sheep BA was searched for new tree nests, but none were found.

No new eagle-sized nests or nesting eagles were found in seven locations where we searched for breeding bald eagles. No nesting eagles were found above Tower BA and in the Coldwater Creek/Childs area along the upper Verde River. No nesting eagles were discovered in Sawmill Canyon on the upper Salt River, or in known osprey nests along the West and East Fork and main stem of the Black River. In southern Arizona, Parker Canyon Lake and Patagonia Lake were searched, but no eagle-sized nests or eagles were found. Topock Marsh near Lake Havasu along the Colorado River was also searched for nesting eagles without success.

DISCUSSION

SURVEY SITES

San Carlos Breeding Area

The San Carlos River has long been considered a potential bald eagle breeding location, due to nearby San Carlos Reservoir. Department biologists believed the reservoir could support more than just the one known breeding pair of eagles (Coolidge BA). The San Carlos River area was surveyed from 1985 to 1989 by helicopter (Glinski 1985, 1986, Hildebrandt et al. 1987, Gooch et al. 1988, Tibbitts et al. 1989) and by foot from 1992 to 1994 (Driscoll et al. 1992, Driscoll and Beatty 1994, Driscoll et al. 1995). No nesting eagles were discovered.

In 1993, adult bald eagles were observed on the San Carlos River near Talkalai Lake and below the town of Peridot near the railroad trestle crossing the river. Following these sightings, five eagle-sized nests were discovered above Talkalai Lake, which led to discovery of the Talkalai BA in early 1994 (Driscoll et al. 1995). After discovering the Talkalai BA, we believed the second eagle territory near San Carlos Reservoir had finally been found.

On 20 January 1995, during a bald eagle winter count flight, we discovered an adult incubating two eggs in a new cottonwood tree nest along the San Carlos River. This nest was in a great blue heron rookery at the top of a small crotch in a tree a few miles upriver from San Carlos Reservoir (Fig. 1). Two eaglets successfully fledged.

Winkelman Breeding Area

A canoer and a local Winkelman resident separately reported seeing an individual bald eagle and a pair of bald eagles perched near the confluence of the San Pedro and Gila rivers. These reports were investigated on 24 April; a bald eagle feather was found under a snag tree. No adults or new nests were observed.

We flew over the Gila/San Pedro confluence on 9 May and found an adult bald eagle perched in a snag near a new cottonwood tree nest (Fig. 2). The nest was large, but poorly constructed. Bald eagle feathers and droppings were also found under the nest tree and

nearby snags. On 13 May and 9 June, no eagles were seen, nor were any additional new nests found.

The habitat surrounding the Winkelman BA is dense along the San Pedro River and sparse along the Gila River. The San Pedro River is lined by clumps of large cottonwoods, with dense cottonwood saplings in the understory. Highway 77 parallels the Gila River drainage for about 9 mi (14.5 km) upstream (east) of the San Pedro/Gila River confluence. Along this stretch of the Gila River, only large single cottonwood trees are present near the tributaries. Most of the vegetation along the Gila River is mesquite and salt cedar. Mine tailings form the bank of the north side of the Gila River, west of its confluence with the San Pedro River for approximately 3 mi (5 km).

The Gila/San Pedro River confluence attracts a variety of human activities, due to easy access and proximity to Winkelman. Many houses border the San Pedro from the confluence upstream. Off-road vehicle (ORV) tracks were observed within 100 ft (30 m) of the new nest tree. People were observed swimming and fishing near a washed out bridge crossing the Gila, and walking across the nearby railroad trestle.

Box Bar Breeding Area

In early March, a volunteer from the AGFD Breeding Bird Atlas project reported a pair of bald eagles building a nest near Rio Verde Ranch on the Verde River. Nestwatchers were dispatched to confirm what we believed would be the Fort McDowell eagles building an alternate nest. The nestwatchers observed two eagles building a nest, but reported that one was in near-adult plumage and wore a colored leg band. It was clearly not one of the unbanded adult bald eagles that occupied the recently failed Fort McDowell BA (3 mi [5 km] downstream).

On 20 March, we visited the Rio Verde area and found a new pair of bald eagles interacting with eagles from both the Fort McDowell and Bartlett BAs. These interactions were associated with the Box Bar eagles' attempt to place a nest between two established eagle territories. A nest was constructed in a cottonwood tree on the east side of the river across from Rio Verde Ranch (Fig. 3). These same new eagles were found in the area on subsequent visits on 24 March, 10 May, and 18 May. Stumph and Creighton (1977) reported that bald eagles once nested in a saguaro here in 1937, naming the area "Box Bar" after a nearby ranch.

The habitat at the Box Bar BA is sporadically distributed cottonwood and sycamore trees. Most trees are too small to support a large nest. A large sandy beach and rock bar separates the grove of trees with the nest from the river.

Nestwatchers briefly stationed at the site were moved due to unsafe conditions associated with high levels of human activity. The high levels of recreation were due to the easy river access from Dynamite Road, the town of Rio Verde, and new desert communities being

built close to the river. Nestwatchers regularly observed ORVs flush eagles by driving under snag perches and within 200 feet (61 m) of the nest. Other human activities observed included rapid surfing (with a rope tied to the bumper of a truck), fishing, camping, shooting, and swimming.

Upper Verde River
Eagle-sized nests on the upper Verde River near the Granite, Hell Point, and Hell Canyon areas (Driscoll et al. 1992) were checked on the January winter count flight and the February ORA flight. Golden eagles have occupied the Granite nest area since 1992. An adult bald eagle was observed flying near the Granite nest area near Stewart Ranch in February, 1995. The Hell Point nests and nests in Hell Canyon were empty when checked in January, although one adult bald eagle was observed just downstream of Hell Point along the Verde River.

Coldwater/Childs Area
The Coldwater/Childs nests (Driscoll and Beatty 1994) were checked on the January winter count flight, and the February, March, and May ORA flights. No bald eagles were observed. A golden eagle and a small cliff nest were found on an upland cliff about 2 mi (3 km) northeast of the Verde River at river kilometer 153.0.

Sawmill Canyon
Sawmill Canyon, on the upper Salt River just upstream from the Highway 60 bridge, is a potential bald eagle nest area, possibly connected with the long unoccupied Mule Hoof or Ash BAs. Its remote location, tall cliffs, and large trees appear similar to the Canyon BA. The headwaters of Sawmill Canyon originate from Tanks Canyon, where we consistently observed bald eagles in the winters of 1993 and 1994 (Driscoll and Beatty 1994, Driscoll et al. 1995). On 18 March 1994, we observed an adult perched near the mouth of Sawmill Canyon along the Salt River.

We continued to investigate this area in 1995 on our January winter count flight, and during ORA flights in January, February, March, and May. We paid particular attention after a SCAT contractor reported eagles (unknown species) nested in the canyon about 10 years ago in a cottonwood tree. The nest tree was reported to be in the middle of the drainage, about 0.5 mi (1 km) from the Salt River. We did not discover any eagles or eagle-sized nests in Sawmill Canyon, but did find nesting common black-hawks in the area described by the contractor.

Black River Osprey nests
Due to discovery of bald eagles nesting in an osprey nest at Luna Lake in 1994, we inspected eight osprey nests (nest #s 4, 5, 7, 9, 10, 11, 12, and 13; Vahle and Beatty 1995) along the West and East forks and main stem of the Black River for occupancy by bald eagles. Osprey were found incubating or brooding in all but one (#10) of the nests. Nest #10 was unoccupied and falling from the snag.

Patagonia Lake/Parker Canyon Lake

We began to investigate the lakes of southern Arizona (Parker Canyon Lake and Patagonia Lake) this year after we discovered bald eagles nesting in the previously unoccupied White Mountains habitat in 1994. Bald eagles have never been reported to nest in southern Arizona, but do nest further south in Sonora, Mexico along the Yaqui River (Brown et al. 1987). During recent winter counts, only Parker Canyon Lake has consistently had sightings of bald eagles (Beatty et al. 1994). We searched both Parker Canyon Lake and Patagonia Lake on 22 and 23 May, but did not discover any nesting eagles.

Patagonia Lake, with a surface area of approximately 260 ac (105 ha), is in Sonoran Desertscrub habitat. Tree nesting or perching opportunities for bald eagles around the lake are limited to some 20-30 foot tall cottonwoods at the campgrounds, and a few elsewhere around the lake. The lake has a marina and campground on the southern shore, with boater picnic areas on the north shore. Human activity observed included: fishing, camping, picnicking, canoeing, and jet skiing.

Parker Canyon Lake is a little higher in elevation than Patagonia Lake, in pinyon-juniper habitat. Cottonwoods and willows are sporadically dispersed in small numbers along the lake shore. Pinyon snags on the southern and western shores could be adequate foraging perches. Boulder cliffs to the north are short, with no supporting ledges for a large nest. Some large ponderosa pines occur in the drainage below these cliffs.

Like Patagonia Lake, Parker Canyon Lake was developed for boating and camping. The marina and parking lot are on the eastern shore of the lake, with campgrounds above the lake to the northwest. A hiking trail with benches surrounds the lake. People were observed fishing along the shore and in electric rental boats. An angler reported catching trout, bluegill, and largemouth bass. Marina workers reported watching eagles and an osprey foraging on the south shore of the lake until March 1994.

Topock Marsh/Lake Havasu

Topock Marsh and the Colorado River from Needles to Lake Havasu were surveyed on 17 and 18 July. The historical Havasu nest #1, last occupied by bald eagles in 1979, was relocated, but did not appear occupied. Dense vegetation surrounding the tree kept us from checking under the nest for feathers, prey remains, or droppings. No bald eagles were observed.

Topock Marsh has little suitable nesting habitat for bald eagles. Only a few of the trees scattered along the northern and western sides of the marsh could support a large nest. The western side of the area is covered by cattails, with open water corridors leading to the western bank. The northwestern corner of the marsh is closed off by USFWS as a Wildlife Refuge. The eastern side is open water with abundant mesquite/salt cedar snag tops. Large trees occur only in the area of Five Mile campground and Golden Springs resort on

the eastern shore.

Topock Gorge seems to have the best potential habitat for cliff nesting eagles in the Havasu area. The Colorado River is channelized from Needles to Topock Gorge wildlife area near the I-40 bridge, with only a few small trees. However, Topock Gorge has many canyons with pinnacles and cliffs bordering both sides of the river before opening into the Lake Havasu Valley. A large empty northeast facing cliff nest with mute stains was found (Fig. 4) at the southern end of Topock Gorge, and east of the river by about 1 mi (2 km).

From Needles to Lake Havasu, the entire Colorado River is a National Recreation Area. Watercraft activity observed were jet skiers, boaters, and water skiers. Picnic areas were found throughout the length of our survey. Camping and jet skiing were restricted from Topock Gorge. Fishing occurred at both the marsh and the river.

Nankoweap Creek
The National Biological Service checked the large cliff and pinnacle nests located on the butte separating Little Nankoweap and Nankoweap Creek (Sogge and Tibbitts 1994). No evidence of breeding bald eagles was found (M. Sogge pers. comm.).

Lower Thompson Mesa Tank
An AGFD Breeding Bird Atlas project volunteer observed a subadult bald eagle (age unknown) and a pair of adults near Lower Thompson Mesa tank on 6 May and 20 May respectively. The adults were described as "feeding on a kill." The small tank is east of Salome Creek, near Armer Mountain, and north of Roosevelt Lake by about 6 mi (9.5 km). The tank is in Upper Sonoran desertscrub habitat with large canyons on the east and west sides of the mesa. Bass, minnows, and frogs were observed in the tank and fishing tackle was retrieved from the shore.

We surveyed the tank on 26 May and found large amounts of mute below fence posts around the tank. We also found a common raven feather and a pile of dove feathers around the tank. As with other tanks far away from permanent water, a variety of wildlife find it useful. It is unlikely, however, that nesting eagles use the tank as a regular source of food. A more plausible scenario is that floating or migrating eagles were attracted to the water to drink. No eagles or nests were observed.

BREEDING AREAS

Ash Breeding Area
We searched the Ash BA and nearby Tanks Canyon (northeast of the Ash BA) on the January winter count flight, the February and March ORA flights, and from the ground on 4 May. Consistent with the last three years of observation, we only found eagles at the tanks during the winter months. No other sightings or nests were found near the Ash nest area. Nest #2 was in poor shape, falling out on two sides. Two red-tailed hawk feathers

were found below the nest.

Camp Verde Breeding Area
The Verde River upriver and downriver of the Camp Verde nest area was searched from Beasley Flats to the I-17 bridge on the January winter count flight, and the February and March ORA flights. On the same flights, West Clear Creek was also searched from its confluence with the Verde River upstream to the Highway 260 bridge. Bald eagles were observed on the winter count flight along the Verde, 6 mi (10 km) downstream and 12 mi (20 km) upstream of where the Camp Verde nest tree was located. Five eagles were also found up West Clear Creek on the same winter count flight. No eagles or new nests were observed on the other two ORA flights.

Canyon Breeding Area
The Canyon BA was searched on the January winter count flight and on ORA flights from February to May. The eagle pair was only observed during the January winter count flight. On the May ORA flight, we discovered a new nest (#8) and a pinnacle that previously held a nest (#7) (Fig. 5). Nest #7 is a pinnacle south of nest #6. We observed circular stains on top of this pinnacle, and possibly a few sticks. These remnants are consistent with a location that once held a nest. Nest #8 is on a cliff facing east, across the drainage and downstream of nest #6 and #7. Nest #8 may have been used this year. It looked new and had mute stains on the edges. No nesting activity was observed.

Cedar Basin Breeding Area
The Cedar Basin BA was surveyed on the January winter count flight and on the ORA flights from February to May. On the February flight, an adult eagle was observed perched near nest #2 and a golden eagle was perched nearby. Another adult bald eagle was observed flying near nest #3 on the March ORA flight. No new nests or nesting activity were found.

Cliff Breeding Area
On 27 January, during an initial search of the area, a small cliff nest was found just a few hundred feet downstream of nest #4 (Fig. 6). The nest is difficult to see because it is in a crack. The nest is probably too small for bald eagles, but adds another place to search for nesting eagles. Two adult eagles (one with a transmitter), believed to be the pair that has occupied the site for many years, were observed flying in the nest area.

On the ORA flights, we searched from the north end of Bartlett Lake to Horseshoe Dam without finding a new nest or nesting activity. A three year old bald eagle was observed at the pinnacle above nest #4 on the April flight. In June, a pair of adult eagles were observed perched together about 1 mi (1.5 km) downriver of the nest. Neither eagle wore a transmitter, indicating that a possible replacement in the pair occurred in 1995.

Devil's Post Breeding Area
The BLM (B. Hall pers. comm.) checked the Devil's Post BA in 1995. Nest #3 appeared to be in good shape and may have been built upon in the current season. Personnel from the nearby Cypress-Bagdad mine did not report seeing any bald eagles during the breeding season.

Fort McDowell Breeding Area
Between 6 and 9 March, Ft. McDowell nest #12, nestlings, and nest tree fell into the Verde River when releases exceeding 60,000 cfs from Bartlett Dam undercut the bank supporting the tree. On 10 March we examined the nest area and discovered the tree lying in the river. The nestlings (at least one) were only a few days old when the nest fell. This release came 19 days after emergency releases exceeding 60,000 cfs began deterioration of the bank supporting the nest tree. After the February water release, the nest tree was still at least 15 feet from the river.

Horse Mesa Breeding Area
On 1 February, the Horse Mesa BA was entered on foot to identify the eagle pair and search for new nests near nest #2. No new nests, eagles or nesting activity were observed. On the March ORA flight a new active pinnacle nest (#4) was discovered along the Painted Cliffs on the north side of the lake just downstream of the Apache Lake marina. Nest #4 sits on top of the middle pinnacle in a row of 13 solitary pinnacles (Fig. 7).

Ladders Breeding Area
No eggs were laid at the Ladders BA in 1995. Nestwatchers on site found the eagles copulating and nest building. We visited the area on 23 February and observed the male building on nest #5. The female eagle did not assist in nest building.

Lone Pine Breeding Area
We surveyed the Lone Pine BA on the January winter count flight and the February, March, April, and May ORA flights. Two adults were observed in January and one near-adult bald eagle in February. No new nests were found.

Mule Hoof Breeding Area
The Mule Hoof BA was checked on the January winter count flight, the February and March ORA flights, and was ground checked on 5 May. Pinnacle nest #1 still existed, but juniper snag nest #2 had nearly fallen out. No nesting activity, eagles, or new nests were observed.

Perkinsville Breeding Area
We searched the Perkinsville BA on the January winter count flight, and the February and March ORA flights. Three adult eagles and one near-adult bald eagle were observed on two occasions in the old nest area. A new nest was found above the railroad tunnel in the

Verde Canyon, on the south side of the drainage, but it was not occupied.

Pinal Breeding Area
The Pinal BA was checked on the January winter count flight, the February, March, April and May ORA flights, and ground-checked on 22-23 March, 18 April, and 25 May. We initially searched by helicopter from the Pinal Creek/Salt River confluence to the small dam on Pinal Creek upstream of nest #3 on the February and March flights. After not discovering any eagles, we inspected the Salt River/Pinal Creek confluence on the ground. No eagles were observed on any of these early attempts. We did however, observe peregrine falcons courting at the Pinal Creek/Salt River confluence on our 23 March ground trip. On the April ORA flight we observed an adult eagle incubating in nest #3. We ground-checked the BA on 18 April and discovered a new adult plumaged female with a blue VID band (most likely hatched in 1990 in Arizona). The nest was found abandoned on the 25 May ground visit.

Pleasant Breeding Area
In December 1994, we received a report from Maricopa County Parks and Recreation staff at Lake Pleasant describing bald eagles standing in a cliff nest upstream of nest #2. We checked the site on 18 January and found eagles incubating in nest #2. We looked for the new nest and found a large cliff nest (#3) built upon the remnants of an old hawk nest (Fig. 8).

Sheep Breeding Area
The Sheep BA was helicopter surveyed for new nest structures along Tonto Creek from Roosevelt Lake upriver to Gun Creek on the January winter count flight. No new nests were found, but we did see two adult bald eagles and two near-adult eagles perched in the nest area. We searched the nest area on the February ORA flight and observed one adult.

We periodically ground-checked the nest area throughout the breeding season, gathering many sightings of near-adult plumaged and adult bald eagles. A near-adult bald eagle with a blue VID band and an adult eagle were observed together in the nest area on 25 January and 11 February. We also observed an unbanded adult eagle with an adult eagle on 14 February, and recorded an additional sighting of another adult on 17 February. On 31 March, we found a near-adult eagle perched in the top of the nest tree. Nestwatchers also observed a blue-banded near-adult plumaged bald eagle in early May in the Sheep BA. No nesting activity was observed at the nest.

On 26 May, we observed (for the first time in 1995) the 1992-1994 Sheep female perched with a near-adult plumaged male with a blue VID band on the left leg and USFWS band on the right. This female eagle was identified by its telemetry backpack, green VID band on the left leg, and silver USFWS band on the right leg.

Tower Breeding Area
Kelly Kishpaugh of the Verde River Canyon Excursion Train reported seeing the Tower eagles at a tree nest below cliff nest #1. We checked the site on 26 January and confirmed the Tower eagles building new cottonwood tree nest #7 (Fig. 9).

ORA HELICOPTER FLIGHTS
A summary of information collected from ORA flights (BA and/or location visited, time, crew, status of nests, and observations) is listed in Appendix B (Tables 3-12). Sightings of eagles in previously unoccupied areas and new nests are described above under the appropriate sections.

OVERVIEW
Hunt et al. (1992) postulated that Arizona's breeding bald eagles may be reaching carrying capacity. However, since 1992, eight new breeding areas have been discovered. Unlike most of the sites discovered in the 1980s, which were thought to have existed prior to discovery (Hunt et al. 1992), seven of the last eight new breeding areas found were either pioneer efforts in new habitat (San Carlos, Luna, Tonto, Winkelman) or new birds reoccupying historical habitat (Box Bar, Tower, Camp Verde).

Most of these new sites are in heavily recreated areas that require intensive management. The Tonto and the Luna BAs are respectively near the recreation centers of Roosevelt Lake and Luna Lake. San Carlos, Winkelman, Box Bar (Rio Verde), and Camp Verde are all close to the towns after which they are named. Due to the level of development and recreation along central Arizona rivers, we can expect continued conflict with these and any future breeding areas discovered in central Arizona.

Another common link between many of these breeding areas is they are located in what appears to be relatively poor bald eagle habitat. The Talkalai, Camp Verde, Box Bar, Luna, and Winkelman sites seem to be unproductive places for nesting bald eagles. Limited foraging habitat and/or high levels of human recreation exist at all five sites. Indeed, only two eagles have fledged from five breeding attempts recorded at the Talkalai, Camp Verde, Box Bar, Luna, and Winkelman sites. The Camp Verde BA was unoccupied for two years after it was discovered, and Box Bar and Winkelman did not lay eggs in their first year. Additionally, three eaglets have died in the Talkalai BA nest. Of these new sites, only Luna has fledged young.

The Box Bar BA not only appears to have limited foraging habitat and high levels of recreation, but it is very close to the Bartlett and Fort McDowell BAs. In southeast Alaska, Hansen (1987) suggested the distribution of nesting eagles became so dense that some eagles were forced to nest in marginal habitat without enough food to reproduce successfully. In Arizona, the Pinto (1986) and Camp Verde (1992) sites were the last sites initiated within the territories of long-established breeding eagles (Pinal and Ladders BAs).

But the Camp Verde BA has since been unoccupied and the Pinto eagles exploited an abundant and unused food source at Roosevelt Lake. On the other hand, the Box Bar eagles have wedged their territory between the Fort McDowell and Bartlett BAs (two of Arizona's oldest known breeding areas) and built a nest in the expanding community of Rio Verde. Future monitoring will reveal whether both the Box Bar and Fort McDowell eagles can successfully reproduce in such proximity.

It is important to recognize that although the recent increase in breeding pairs is good, many of these sites may not regularly produce young because of the poor habitat in which they are located. Clearly though, these sites may also eventually become productive sites.

MANAGEMENT RECOMMENDATIONS

We recommend continuing the bald eagle nest search. Eight new BAs have been discovered over the past four years. It is imperative to locate new BAs as soon as possible to accurately describe population trends and productivity, and implement proactive management techniques.

We recommend continuing to monitor "hot" areas on ORA, winter count, and nest search flights in concert with follow-up ground searches. Large sections of river can easily be inspected for eagles and nests. Follow-up ground searches provide opportunities to more thoroughly investigate site occupancy.

The Box Bar eagles are the first pair to initiate a breeding area between two long-established breeding areas on the Verde River. It may be prudent to begin to identify and inspect other lakes or sections of river where we believe the habitat can hold more than one eagle pair.

It would be prudent to trap and telemeter adults in areas that will be impacted by new dam construction (Tonto, Sheep, Pinto, Pinal, Pleasant) and in areas in which current nest locations are not known (Camp Verde, Cold Water, Perkinsville). Time and effort spent trapping may save time searching those BAs for new nests and allow more time to be allocated to other BAs.

Historical and/or locations with nests that should continue to be searched:

Verde River - Cold Water/Brown's Ranch, Stewart's Ranch
East Verde River - LF Ranch
Black and White rivers - Natanes, Bronco, George's Basin
Burro Creek - Devil's Post
Colorado River - Havasu
Ash Creek - Ash BA and Tanks Canyon Area

New areas that should be examined for breeding adults and/or nests:

Gila River drainage - Lower Blue River, San Francisco to confluence. In between Winkel
Black River drainage- Little Bonito and Big Bonito Creek to the confluence of the Black River, Paucity Creek, Reservation Creek, osprey nesting areas on East and West Fork and main stem of the Black River
White River - Whiteriver to confluence with Black and Salt rivers
North Fork of White River - Known osprey nesting locations
Salt River drainage - Gun Creek/Tonto Creek confluence, Carrizo Creek, Cherry Creek Colorado River drainage - Nankoweap Creek
Bill Williams River drainage - Ive's Wash BA to Lake Havasu City
Big Sandy River drainage - Burro Creek near Six Mile Crossing, Upper Trout Creek
Agua Fria River drainage - Lake Pleasant and the Agua Fria River for a **second** Lake Pleasant BA
Central and Eastern Mountain Lakes - Dry Lake, Christmas Tree Lake, Point of Pines, Cholla Lake, Tonto Lake, Paucity Lake, Chevelon Canyon Lake.

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APPENDIX A: 1995 BALD EAGLE REPRODUCTION SUMMARIES

Table 1. Arizona 1995 bald eagle productivity.

Breeding area	Status[1]	Nest number[2]	Incubation date	Number of eggs	Hatch date	Number of young	Number fledged	Fledge date
Alamo	S	2	<1/8	2+	2/3-5	2	2	4/22 & 4/23
Ash	U							
Bartlett	S	2	1/10-17	2+	2/13-17	2	2	5/11 & 5/15-22
Blue Point	S	7	<1/20	2+	<3/10	2	2	4/20-5/8 & 5/10-15
Box Bar	O							
Camp Verde	U							
Canyon	O							
Cedar Basin	O							
Chino	U							
Cibecue	S	1	<3/10	2	3/16-4/10	1	1	>6/9
Cliff	O							
Coolidge	S	2	2/2-28	2+	<3/30	2	2	6/12-7/2
Devil's Post	?							
East Verde	S	6	1/10-2/2	2	<3/10	1	1	5/10-6/9
Ft. McDowell	F	12	1/17-24	1+	2/24-25	1+	Flooding on 3/6 toppled nest tree into river	
Horse Mesa	S	4	2/3-3/10	1+	3/10-21	1	1	5/10-6/9
Horseshoe	F	10	2/2-3/10	1+	3/13-24?	?	Nest <3/24, young hatched?	
Ive's Wash	S	3	2/16-20	1+	3/24-28	1	1	5/2-6/6
Ladders	O							
Lone Pine	O							
Luna	S	1	2/27-3/9	1+	4/1-2	1	1	6/26
Mule Hoof	U							
Orme	S	1	1/25-2/3	2+	<3/10	2	2	5/10-26
Perkinsville	U							
Pinal	F	3	3/10-4/10	1	New female, abandoned incubation 5/10-25			
Pinto	S	3	1/20-2/3	2+	2/27-3/3	2	2	5/10-6/1
Pleasant	S	2	1/10-18	2+	2/15-16	2	2	5/10 & 5/15-24
Redmond	S	5	2/3-10	2+	3/10-14	2	1	>6/9
San Carlos	S	1	<1/20	2	<2/27	2	2	5/4-6
76	F	2	2/3-10	2	One egg found cracked and one broken on 4/13			
Sheep	O							

Table 1. Arizona 1995 bald eagle productivity.

Breeding area	Status[1]	Nest number[2]	Incubation date	Number of eggs	Hatch date	Number of young	Number fledged	Fledge date
Table Mountain	S	4	2/2-3/10	2+	<4/10	2	2	5/17-6/9
Talkalai	F	5	1/20-2/3	1+	-<3/2	1	Nest found empty 3/29.	
Tonto	S	2	1/20-25	1+	2/24-3/1	1+	1	5/8 fell out, fledged 6/1-7
Tower	F	7	1/26-2/2	2	Adults incubated 62-67 days, two addle eggs collected 4/5			
Winkelman	O							

[1]Breeding area status codes (Postupalsky 1974), U=unoccupied, O=occupied, A=active (eggs or young present), S=successful, F=failed, ?=unknown.
[2]Nest numbers are from Hunt et al. (1992) and SRP's "Bald Eagle Nesting Areas in Arizona."

Table 2. Arizona 1995 bald eagle productivity summary.

Number of Breeding Areas	36	Number of Active Nests	22
Number of Occupied Breeding Areas	30	Number of Failed Nests	6
Number of Eggs	36+	Number of Successful Nests	16
Nest Success = 16 /30 = 0.53		Number of Young Hatched	28+
Mean Brood Size = 25/16 = 1.563		Number of Young Fledged	25
		Productivity = 0.53 x 1.563 = 0.83	

APPENDIX B: ORA FLIGHT SUMMARIES

Table 3. Results of 10 January 1995 winter count flight, crew: J. Driscoll, G. Beatty, T. Nobel-SRP and Pilot, Bob Culver-SRP.

Location	Time	Status[1]	Comments[2]
Orme	0753	O	One adult standing on nest 1. All other nests empty.
Ft. McDowell	0805	O	Two adults near nest 12. All other nests empty.
Bartlett	0812	O	One adult standing on both nest 1 and nest 2.
Cliff	0824	O	Two adults near nest 4. All other nests empty.
Horseshoe	0835	O	One adult near nest 8. All other nests empty.
Table Mountain	0852	O	Two adults in area. All other nests empty.
East Verde River	0914	-	No adults or new nests.
East Verde	0933	O	Two adults near nest 6.
Coldwater	0939	-	All nests empty. No adults or new nests.
Ladders	0949	U	All nests empty.No adults or new nests.
West Clear Creek	1015	-	Four adults and one subadult up creek.
Camp Verde	1027	U	One adult observed 10 km downstream and one 20 km upstream.
Tower	1213	O	All nests empty. One adult just upstream of Sycamore Creek.
Perkinsville	1225	U	Three adults and a near adult in nest area.
Granite Creek	1244	-	All nests empty. No adults or new nests.
Lake Pleasant	1330	O	All nests empty. One adult perched upstream of new nest 3. Nest is small.

[1]Breeding area status codes (Postupalsky 1974), U=unoccupied, O=occupied, A=active (eggs or young present), S=successful, F=failed, ?=unknown.
[2]Nest numbers are from Hunt et al. (1992) and SRP's "Bald Eagle Nesting Areas in Arizona."

Table 4. Results of 13 January 1995 winter count flight, crew: J. Driscoll, J. Koloszar, and Pilot, K. Kloppel-USBR.

Location	Time	Status[1]	Comments[2]
Nash Creek Reservoir	1507	-	Two adults perched in snag.
George's Basin	1511	-	Two adults observed on perch.
Lone Pine	1520	O	All nests empty. Two adults in area.
Cedar Basin	1543	U	No adults or new nests.
Sawmill Canyon	1604	-	Searched area for new nest. No adults or new nests.
Mule Hoof	1609	U	No adults or new nests.
Cibecue	1623	U	No adults or new nests.
Tanks Canyon	1630	-	Two adults on separate tanks.
Ash	1642	O	All nests empty. No new nests found.

[1]Breeding area status codes (Postupalsky 1974), U=unoccupied, O=occupied, A=active (eggs or young present), S=successful, F=failed, ?=unknown.
[2]Nest numbers are from Hunt et al. (1992) and SRP's "Bald Eagle Nesting Areas in Arizona."

Table 5. Results of 20 January 1995 winter count flight. Crew: J. Driscoll, J. Koloszar, M. Rushtin-SCAGF, Pilot B. Hines-SRP.

Location	Time	Status[1]	Comments[2]
Orme	0805	O	Two adults on nest 1.
Blue Point	0818	A	One adult incubating in nest 7.
Horse Mesa	0837	U	No adults or new nests.
Apache	0854	U	No new nest or adults.
Tonto	0906	O	One adult in nest 2. All other nests empty.
Sheep	0917	O	One adult and two near-adults in area. All nests empty.
76	0928	O	One adult in nest 2. All other nests empty.
Pinto	1043	O	Two adults in area. All nests empty.
Pinal	1052	U	No new nests or adults.
Redmond	1106	O	One adult in area. All nests empty.
Canyon	1157	O	One adult in area. Nests 6 and 2 empty, could not find others due to snow.
Talkalai	1338	O	One adult in nest 5. All other nests empty.
San Carlos	1404	A	One adult incubating in cottonwood along San Carlos River below Hwy 70 bridge. New Breeding Area.
South Side San Carlos Reservoir	1425	-	Three small nests found on cliff south of San Carlos inlet into the reservoir. Gray Fox raiding nests.
Coolidge	1618	O	Four subadults and one adult in nest area cottonwood grove.

[1]Breeding area status codes (Postupalsky 1974), U=unoccupied, O=occupied, A=active (eggs or young present), S=successful, F=failed, ?=unknown.
[2]Nest numbers are from Hunt et al. (1992) and SRP's "Bald Eagle Nesting Areas in Arizona."

Table 6. Results of 2 February 1995 occupancy and reproduction assessment flight, crew: J. Driscoll, G. Beatty, J. Koloszar, Pilot K. Kloppel-USBR.

Location	Time	Status[1]	Comments[2]
Lynx Lake	0849	-	Osprey nest platform unoccupied.
Watson Lake	0857	-	Golden eagle nest northeast of lake is empty, no adults or new nests.
Granite Creek	0910	-	Two golden eagles perched on top of pinnacle, one adult flying in cottonwoods near Stewart's Ranch.
Hell Canyon	0921	-	All nests empty.
Hell Point	0926	-	All nests empty.
Perkinsville	0936	U	Three adults and one near-adult in cottonwood grove, no new nests observed.
Railroad Tunnel	0949	-	Large nest found above railroad tunnel in Verde Canyon.
Tower	0956	A	One adult incubating in nest 7. Other adult soaring in area.
Camp Verde	1108	U	Surveyed along river and up West Clear Creek for new nest.
Ladders	1143	O	One adult near Beasley Flat, all nests empty.
Coldwater	1156	-	Large nest found on upper cliffs, one golden standing by nest. All other nests empty.
East Verde	1213	A	One adult incubating in nest 6.
East Verde River	1221	-	One subadult in area. No adults or new nests.
Table Mountain	1240	O	No adults or new nests found.
Horseshoe	1250	O	One adult near nest 8, all other nests empty.
Cliff	1307	O	No adults or new nests found.

[1]Breeding area status codes (Postupalsky 1974), U=unoccupied, O=occupied, A=active (eggs or young present), S=successful, F=failed, ?=unknown.
[2]Nest numbers are from Hunt et al. (1992) and SRP's "Bald Eagle Nesting Areas in Arizona."

Table 7. Results of 3 February 1995 occupancy and reproduction assessment flight, crew: J. Driscoll, J. Koloszar, D. Declay-WMAGF, and Pilot K. Kloppel-USBR.

Location	Time	Status[1]	Comments[2]
Orme	0816	A	One adult incubating in nest 1.
Blue Point	0825	A	One adult incubating in nest 7.
Horse Mesa	0835	U	No adults or new nests observed.
Tonto	0851	A	One adult incubating in nest 2, other adult standing on nest.
Sheep	0901	O	One adult perched in nest tree.
76	0909	O	One adult on nest 2.
Pinto	0930	A	One adult incubating in nest 3.
Pinal	0933	U	No adults or new nests.
Redmond	1055	O	No adults or new nests.
Canyon	1114	O	No adults or new nests.
Lone Pine	1201	O	Near-adult in area of nest 3. No new nests.
Cedar Basin	1213	O	One adult and one golden near nest 2, all other nests empty.
Mule Hoof	1219	U	No adults or new nests.
Cibecue	1226	U	No adults or new nests.
George's Basin	1246	-	One adult in area of tank.
Nash Creek Reservoir	1250	-	Two adults perched in snag east of tank.
Sawmill Canyon	1423	-	Searched area for new nest or adults
Tanks Canyon	1439	-	No adults near tanks.
Ash	1451	O	No adults or new nests.
Talkalai	1552	A	One adult incubating in nest 5.
Coolidge	1610	O	One subadult perched on cliff. All nests empty.

[1]Breeding area status codes (Postupalsky 1974), U=unoccupied, O=occupied, A=active (eggs or young present), S=successful, F=failed, ?=unknown.
[2]Nest numbers are from Hunt et al. (1992) and SRP's "Bald Eagle Nesting Areas in Arizona."

Table 8. Results of 10 March 1995 occupancy and reproduction assessment flight, crew: J.Driscoll, J. Koloszar, Pilot-USBR.

Location	Time	Status[1]	Comments[2]
Cliff	0822	O	One adult perched near nest 4.
Horseshoe	0836	A	Incubating in nest 10. Other adult flying.
Table Mountain	0841	A	Incubating in nest 4.
East Verde	0852	A	Adult brooding in nest 6?
Coldwater	0906	-	Searched area for adults and new nests.
Ladders	0927	O	Adult perched near nest 4.
Camp Verde	0930	U	Searched from Beasley Flats to Hwy 260 bridge.
Perkinsville	0952	U	Searched from Packard Ranch to Perkinsville. One adult near Mormon Pocket and one subadult at Perkinsville.
Nash Creek Reservoir	1336	-	One subadult flying over tank.
George's Basin	1338	-	No adults observed.
Lone Pine	1350	O	No adults or new nests found.
Cedar Basin	1400	O	One adult flying near nest 3, all nest are empty.
Sawmill Canyon	1403	-	Searched from confluence to Tanks Canyon. No adults or new nests.
Tanks Canyon	1416	-	No adults or nests.
Ash	1426	O	No adults or new nests observed.
Mule Hoof	1430	U	No new nests or adults observed.
Cibecue	1438	A	One adult incubating in nest 1.
Canyon	1446	O	No adults or new nests.
Redmond	1457	A	One adult incubating in nest 4.
Pinal	1501	U	No adults nests.
Pinto	1513	A	One adult incubating in nest 3. One subadult flying in area.
Horse Mesa	1621	A	Found new nest 4. One adult incubating.
Blue Point	1653	A	Two 3.5 week old eaglets in nest 7. One adult in nest area.
Orme	1658	A	Adult brooding small eaglets in nest 1?
Ft. McDowell	1701	F	Tree fell in river after dam release on 6 March 1995.

Table 9. Results of 10 April 1995 occupancy and reproduction assessment flight, crew: J.Driscoll, G. Beatty, J. Koloszar, and Pilot J. Sanchez-USBR.

Location	Time	Status[1]	Comments[2]
Orme	1049	A	One adult shading young in nest 1. One eaglet visible.
Ft. McDowell	1051	F	Nest tree 14 is dead. No adults or new nests.
Box Bar	1104	O	New breeding area found by nestwatchers. Nest 2 is empty. No adults or new nests.
Cliff	1116	O	One subadult perched near nest 4. All nests empty. No adults or new nests found.
Horseshoe	1125	F	Nest 10 empty, small branch has fallen across nest. No adults in area.
Table Mountain	1131	A	Two adults at nest 4 with two 2.5 week old eaglets.
East Verde	1138	A	One 6 week old eaglet in nest 6.
Coldwater	1144	-	No new nests or adults.
Ladders	1209	O	No new nests or adults.
Lone Pine	1515	O	No new nests or adults.
Cedar Basin	1526	O	No new nests or adults.
Cibecue	1539	A	One adult shading unknown number of eaglets in nest 1.
Canyon	1559	O	No new nests or adults.
Redmond	1611	A	One 4 week old eaglet in nest 4. One adult flying in area.
Pinal	1614	A	One adult incubating in nest 3.
Horse Mesa	1639	A	One adult shading a 4 week old eaglet in nest 4.
Blue Point	1649	A	Two 7 week old eaglets in nest 7. One adult flying in area.
Orme	1656	A	Two 4.5 week old eaglets and one adult in nest 1.

[1]Breeding area status codes (Postupalsky 1974), U=unoccupied, O=occupied, A=active (eggs or young present), S=successful, F=failed, ?=unknown.

[2]Nest numbers are from Hunt et al. (1992) and SRP's "Bald Eagle Nesting Areas in Arizona."

Table 10. Results of 9 May 1995 occupancy and reproduction assessment flight, crew: J. Driscoll, G. Beatty, T. Nobel-SRP, and Pilot B. Culver-SRP.

Location	Time	Status[1]	Comments[2]
Orme	1142	A	Two 9 week old eaglets in nest 1.
Blue Point	1150	S	One 11 week old eaglet in nest 7. One adult flying in area.
Tonto	1202	A	Land to replace one 9 week old eaglet which fell from nest 2 on 8 May 1995.
Pinto	1339	A	Two 9 week old eaglets in nest 3.
Pinal	1343	A	One adult incubating in nest 3.
Redmond	1347	A	One 8 week old eaglet in nest 4.
Canyon	1405	O	Two new nests. Pinnacle south of nest 6 and a cliff nest across canyon from nest 6.
Sawmill Canyon	1429	-	Two black-hawk nests about 4 km from Salt River confluence.
Cedar Basin	1437	O	No new nests or adults.
Lone Pine	1443	O	No New nests or adults.
Winkelman	1638	O	One adult near new nest 1. New breeding area.

Table 11. Results of 10 May 1995 occupancy and reproduction assessment flight, crew: J. Driscoll, G. Beatty, C. Klug, and Pilot B. Culver-SRP.

Location	Time	Status[1]	Comments[2]
Ladders	1150	O	No new nest or adults.
Coldwater	1153	U	No new nest or adults.
East Verde	1201	A	One 9 week old eaglet in nest 6.
Table Mountain	1206	A	Two 7 week old eaglets in nest 4.
Horseshoe	1209	F	No new nests or adults.
Cliff	1219	O	Two adults perched on cliff downstream of nest pinnacle. Neither adult has a transmitter.
Bartlett	1228	A	Two 10 week old eaglets in nest 2.
Box Bar	1231	O	An adult and near-adult perched in snag south of nest.
Blue Point	1250	S	Both adults in nest area. One 11 week old eaglet in nest 7.

Table 12. Results of 9 June 1995 occupancy and reproduction assessment flight, crew: J. Driscoll, G. Beatty, T. Nobel, and Pilot B. Culver-SRP.

Location	Time	Status[1]	Comments[2]
Winkelman	1156	O	Surveyed in area for adults or new nests.
Cibecue	1240	A	One adult and one 10 week old eaglet in nest 1.
Redmond	1251	S	One 13 week old juvenile standing on rock in nest 4.
Pinto	1258	S	One juvenile observed on common snag perch.
Horse Mesa	1310	S	One adult in nest 4 and one juvenile standing on adjacent pinnacle.
Tonto	1358	S	One adult flying in area and one 13 week old juvenile standing in nest.
East Verde	1417	S	No adults or juveniles in nest area.
Table Mountain	1423	S	Both adults flying in area, one juvenile perched above nest.

[1]Breeding area status codes (Postupalsky 1974), U=unoccupied, O=occupied, A=active (eggs or young present), S=successful, F=failed, ?=unknown.
[2]Nest numbers are from Hunt et al. (1992) and SRP's "Bald Eagle Nesting Areas in Arizona."