Luna Breeding Area

While banding the Luna Lake nestlings on April 18, we observed deformities on both nestling's pinfeathers, and one had a distended colon. We returned the nestlings to the nest until we consulted with a veterinarian.

On April 23, after consulting with Dr. Kathy Orr, The Phoenix Zoo, we revisited the BA to take blood samples and rehabilitate the nestling with the distended colon. We returned the nestling to the nest on April 29. The deformity in pinfeathers was likely frostbite caused by the severe weather on April 1, and the distended colon healed on its own.

Nestwatch personnel arrived to monitor the BA on May 7, where they discovered the rehabilitated nestling on the ground. We recovered the nestling and sent it to Liberty Wildlife Rehabilitation for examination. Dr. Kathy Orr discovered the nestling had a hyper extended left tarsal ligament. After four months of rehabilitation using specialized braces crafted by an orthopedic surgeon, the leg was not healing, and the nestling was euthanized.

INTERVENTION 2000

Doka Breeding Area

We returned one of the Doka nestlings after it had fallen from the nest on March 26. Due to fragility of the nest tree (burned and hollow snag) we were unable to put the nestling into the nest and placed it on a lower branch.

On March 28, the Fort McDowell nestwatchers reported the nestling had not moved and had not been fed. After climbing the nest tree to retrieve the nestling, we hydrated, fed, and placed the nestling on a higher branch on the opposite side of the tree. The nestling fledged the next day.

Sheep Breeding Area

After falling from the nest on May 5, the Sheep nestling was taken to Liberty Wildlife Rehabilitation for severe dehydration on May 6. Even though the nestling had been fed the day prior to falling, extremely hot temperatures and a lack of shade in the nest tree probably caused the dehydration. The nestling died three days later in rehabilitation.

Tower Breeding Area

One Tower nestling left the nest on May 17 after its sibling fledged on May 16. However, the second nestling was not observed leaving the nest, nor flying in the BA. On May 18, we retrieved the second nestling below the nest pinnacle, hydrated, fed, and placed the nestling above the nest on a cliff.

On May 22, after a few flying attempts, the nestling remained on the cliff and had not been fed. We found the nestling the next day below the cliff near the Verde River, and placed it at Liberty Wildlife Rehabilitation. After a month of rehab for a broken keel and clavicle, the nestling was released back into the BA on June 14. There were no subsequent observations of the nestling.

Breeding Area Summaries

Productivity Overview

The 1999 Arizona bald eagle breeding season successfully produced a record number of young (Appendix A, Tables 1 and 2). Out of 29 attempts, 21 pairs successfully produced a record 31 juveniles. Discovery of the Suicide and Granite Basin BAs, the Orme and Coldwater BAs double clutches, and nearly half of the nests producing two young all contributed to the record number.

The 2000 breeding season started similar to the record 1999 season, as 36 plus nestlings hatched (Appendix A, Tables 3 and 4). Midseason, 34 nestlings survived past four weeks old. However, due to various circumstances (predation, extreme temperatures, new adults in the pair, etc.), 12 nestlings died after April. Only 13 pairs out of 27 attempts successfully produced 22 juveniles.

Bartlett Breeding Area: 1999

Observation Period.—Observation dates ..... February 7 to April 25
Total monitoring days ..... 57 days
Eagle Identification.—Male ..... Unbanded, adult plumage
Female ..... Unbanded, adult plumage

The Bartlett pair hatched two nestlings in 1999, and one died of unknown causes before it was one week old. The remaining nestling fledged at 9.5 weeks old. As an inexperienced flyer, we captured the juvenile to band and examine for injuries (nestlings fledging from Bartlett nest #2 typically land in cholla cactus). After banding and a quick physical, we placed the nestling on a pinnacle downstream from the nest.

Management Activities.—1. The Tonto National Forest reinstated the seasonal BA closure.

Human Activity.—Nestwatchers recorded 443 human activities (Appendix B, Table 5). Aircraft (small planes, and helicopters) represented 85 percent (n=375), terrestrial activities 11 percent (n=50) of 14 different types, and watercraft (rafters, canoes, and kayaks) four percent (n=18).

Nine activities elicited 23 significant responses from the breeding pair. The bald eagles were restless to five small planes, two canoes/kayaks, one helicopter, one gunshot, and one OHV. The breeding pair flushed in response to five small planes, one canoe/kayak, one driver, one gunshot, one researcher, and one boat with a generator. The adults left the area in response to one helicopter, one canoe/kayak, and one rafter. In addition, three small planes, one helicopter, one driver, and one angler caused the adults to leave their perch and return to the nest.

Although the majority of the human activities were small aircraft (n=375) only three percent (n=12) elicited a significant response from the breeding pair. Terrestrial activities while smaller in occurrence (n=68), elicited significant responses in 16 percent (n=11). This could indicate the pair is either more accustomed to aircraft, or the pair identifies terrestrial activity as a bigger threat.

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INTERVENTION 2000

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Breeding Area Summaries

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The 1999 Arizona bald eagle breeding season successfully produced a record number of young (Appendix A, Tables 1 and 2). Out of 29 attempts, 21 pairs successfully produced a record 31 juveniles. Discovery of the Suicide and Granite Basin BAs, the Orme and Coldwater BAs double clutches, and nearly half of the nests producing two young all contributed to the record number.

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Total monitoring days ..... 57 days
Eagle Identification.—Male ..... Unbanded, adult plumage
Female ..... Unbanded, adult plumage

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Management Activities.—1. The Tonto National Forest reinstated the seasonal BA closure.

Human Activity.—Nestwatchers recorded 443 human activities (Appendix B, Table 5). Aircraft (small planes, and helicopters) represented 85 percent (n=375), terrestrial activities 11 percent (n=50) of 14 different types, and watercraft (rafters, canoes, and kayaks) four percent (n=18).

Nine activities elicited 23 significant responses from the breeding pair. The bald eagles were restless to five small planes, two canoes/kayaks, one helicopter, one gunshot, and one OHV. The breeding pair flushed in response to five small planes, one canoe/kayak, one driver, one gunshot, one researcher, and one boat with a generator. The adults left the area in response to one helicopter, one canoe/kayak, and one rafter. In addition, three small planes, one helicopter, one driver, and one angler caused the adults to leave their perch and return to the nest.

Although the majority of the human activities were small aircraft (n=375) only three percent (n=12) elicited a significant response from the breeding pair. Terrestrial activities while smaller in occurrence (n=68), elicited significant responses in 16 percent (n=11). This could indicate the pair is either more accustomed to aircraft, or the pair identifies terrestrial activity as a bigger threat.

Food Habits.—Nestwatchers observed 24 forage attempts (Appendix B, Table 6). The male was successful in 85 percent of the attempts (11 of 13), and the female 100 percent (11 of 11). Most common forage item was fish (n=21).

The breeding pair delivered 84 prey items to the nest (Appendix B, Table 7). The male delivered 82 percent (n=69), the female 14 percent (n=12), and an unknown adult 4 percent (n=3). Seventy percent of those were fish (n=59), 16 percent unknown (n=13), five percent each birds and mammals (n=4 each), and two percent each herps and carrion (n=2 each).

Of the 45 prey items delivered that could be identified to species, 57 percent were suckers (n=26) (Appendix B, Table 8). Other prey items included: channel catfish (n=5), largemouth bass (n=4), American coot (n=4), western cottontail rabbits (n=2), bluegills (n=2), black crappie (n=1), and rock squirrel (n=1).

Bartlett Breeding Area: 2000

Observation Period.—Observation dates ..... February 4 to February 20
Total monitoring days/hours..... 16 days/119.8 hours
Eagle Identification.—Male.....Unbanded, adult plumage
Female .....Blue VID band left leg, USFWS band right leg, adult plumage

The Bartlett adults laid eggs and failed in nest #1. However, the female was new to the pair this year and the male did not incubate the eggs. As a result the female was forced to abandon the breeding attempt.

Management Activities.—1. The Tonto National Forest reinstated the seasonal BA closure.

Human Activity.—Nestwatchers recorded only 15 human activities during their 16 days of monitoring (Appendix B, Table 9). Aircraft (small planes and helicopters) represented 40 percent (n=6), terrestrial activities 53 percent (n=8) of four different types, and watercraft (canoes and kayaks) seven percent (n=1). No activities elicited a significant responses from the breeding pair.

Food Habits.—Nestwatchers observed 3 forage attempts in the BA. The male was successful in 100 percent (1 of 1), and the female 50 percent (1 of 2). All forage attempts were for fish.
The breeding pair delivered three prey items to the nest. The male delivered 33 percent (n=1), and the female 66 percent (n=2). One prey item was identified as an American Coot, the other two were unknown.

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The breeding pair delivered 84 prey items to the nest (Appendix B, Table 7). The male delivered 82 percent (n=69), the female 14 percent (n=12), and an unknown adult 4 percent (n=3). Seventy percent of those were fish (n=59), 16 percent unknown (n=13), five percent each birds and mammals (n=4 each), and two percent each herps and carrion (n=2 each).

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Bartlett Breeding Area: 2000

Observation Period.—Observation dates ..... February 4 to February 20
Total monitoring days/hours..... 16 days/119.8 hours
Eagle Identification.—Male.....Unbanded, adult plumage
Female .....Blue VID band left leg, USFWS band right leg, adult plumage

The Bartlett adults laid eggs and failed in nest #1. However, the female was new to the pair this year and the male did not incubate the eggs. As a result the female was forced to abandon the breeding attempt.

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Food Habits.—Nestwatchers observed 3 forage attempts in the BA. The male was successful in 100 percent (1 of 1), and the female 50 percent (1 of 2). All forage attempts were for fish.
The breeding pair delivered three prey items to the nest. The male delivered 33 percent (n=1), and the female 66 percent (n=2). One prey item was identified as an American Coot, the other two were unknown.

Box Bar Breeding Area: 1999

Observation Period.—Observation dates ..... February 5 to March 27
Total monitoring days/hours..... 48 days/474 hours

Eagle Identification.—Male .....Blue VID band left leg, USFWS band right leg, adult plumage
Female .....Blue VID band left leg, USFWS band right leg, adult plumage

After lightning struck the only nest, the Box Bar pair began building a new nest in an upstream cottonwood on January 8. Due to an unknown cause, the adults abandoned the breeding attempt after hatching on March 24.

Management Activities.—1. The Tonto National Forest reinstated the seasonal BA closure, 2. Two ABENWP teams monitored the BA for continuous coverage, 3. ABENWP contractors monitored the recreational use of USFS Road 160, 4. ABENWP contractors were active in educating the public visiting the Rio Verde Ranch, 5. The owners of Rio Verde Ranch allowed ABENWP to camp and monitor from their lawn.

Human Activity. —Nestwatchers recorded 152 human activities within 48 days of monitoring (Appendix C, Table 10). Aircraft (small planes and helicopters) represented 55 percent (n=84), terrestrial activity 40 percent (n=61) of seven types, and watercraft (canoes/kayaks and tubers) five percent (n=8).

Six activities elicited eight significant responses from the breeding pair. The bald eagles were restless to three gunshots, one small plane, one helicopter, and one OHV. The breeding pair flushed in response to one horseback rider, and the birds left the area when biologists climbed the nest.

Nestwatchers documented the times of highest recreational use within the closure, and tallied people at the USFS Fee Station on USFS Road 160 (Appendix C, Table 11). They discovered 56 percent of all human activity occurred during Saturday and Sunday. In addition, they documented 211 vehicles containing 507 people entering the Needle Rock Recreation Area in 44.5 hours of monitoring on weekends.

Situated near two semi-retirement communities, Rio Verde Ranch not only offers a good place to view the river (and bald eagles) for visiting guests, but also allows the ABENWP contractors a unique opportunity to educate a large group of people. During their 48 days of observation, ABENWP educated 1,457 people visiting the ranch and 84 people entering the Needle Rock Recreation Area.

Food Habits.—Nestwatchers observed seven forage attempts (Appendix C, Table 12). The male was successful in 100 percent (3 of 3), and the female in 75 percent (3 of 4). Seventy-one percent (n=5) of the forage attempts were for fish, and 29 percent (n=2) unknown.

The breeding pair delivered eight items to the nest. The male delivered 75 percent (n=6), and the female 25 percent (n=2). The most common prey types were fish and unknown prey (n=4 each). No prey items were identified to species.

Box Bar Breeding Area: 2000

Observation Period.—Observation dates .....February 5 to May 7
Dawn-to-dusk hours .....512.2 hours
Total monitoring days/hours.....93 days/948.3 hours

Eagle Identification.—Male.....Blue VID band left leg, USFWS band right leg, adult plumage
Female .....Blue VID band left leg, USFWS band right leg, adult plumage

Management Activities.— 1. The Tonto National Forest reinstated the seasonal BA closure, 2. Two ABENWP teams monitored the BA for daily coverage, 3. USFS moved access to USFS Road 160 to within the fee area for the Needle Rock Recreation Area, 4. ABENWP contractors were active in educating the public visiting the Rio Verde Ranch and those in the campground, 5. The owners of Rio Verde Ranch allowed ABENWP to camp and monitor from their lawn, 6. An unidentified Boy Scout Troop posted signs about the bald eagle closure on the west side of the river near the campground.

Human Activity.—Nestwatchers recorded 489 human activities (Appendix C, Table 13). Aircraft (small planes and helicopters) represented 67 percent (n=327), terrestrial activity 32 percent (n=155) of 13 different types, and watercraft (canoes and tubers) one percent (n=7).

Ten activities elicited 18 significant responses from the breeding pair. The bald eagles were restless to two gunshots, one helicopter, one agency worker, and one researcher. The breeding pair flushed in response to three drivers, three agency workers, one shooter, one birder, one helicopter, one hiker, and one horseback rider. In addition, the adults left the area in response to one helicopter and one OHV.

If an effort to accurately describe closure violators, nestwatchers tallied the method of entry and time of year they entered the closure (Appendix C, Table 14). Although the method of entry was similar for people on foot as it was for people on horseback or in cars (49.7 percent and 50.3 percent, respectively), 50.3 percent of those documented entered the closure in April. This is inevitably due to the warmer temperatures. During that month, 67.6 of the recreationists entered on foot. We have no data on whether the closure was the impeding factor,or this was time of high river flows affecting the river crossings.

Nestwatchers contacted 2,322 individuals at Rio Verde Ranch and the campground at the end of USFS Road 160. An average of 70 people in 23 cars visited the campground each weekend, and over 1,600 people visited the ABENWP contractors at the Rio Verde Ranch.

Food Habits.—Nestwatchers observed four forages attempts. Both the male and female were successful in all observed attempts (1 of 1, 3 of 3, respectively). All forages were for fish.

In contrast to the number of forage attempts, nestwatchers were able to document 101 prey deliveries to the nest (Appendix C, Table 15). The male delivered seven percent (n=7), and the female 93 percent (n=94). Eighty-two percent of those items were fish (n=83), 14 percent unknown (n=14), three percent birds (n=3), and one percent carrion (n=1).

Only 49 prey deliveries were identified to species. Ninety-four percent (n=46) were suckers, four percent (n=2) channel catfish, and one percent (n=1) perch.

Fort McDowell Breeding Area: 1999

Observation Period.—Observation dates.....February 6 to May 5
Dawn-to-dusk hours.....413 hours
Total monitoring days/hours.....65 days/ 680 hours

Eagle Identification.—Male.....Blue VID band left leg, USFWS band right leg, adult plumage
Female.....Unbanded, adult plumage

One young disappeared from the nest on April 8 at six weeks of age. The second nestling fledged successfully on May 5.

Management Activities.—1. The Fort McDowell Yavapai Nation continues to restrict non-tribal member use of the river area, 2. The Fort McDowell Police visited the ABENWP contractors on nearly a daily basis, 3. ABENWP contractors were introduced to the Fort McDowell police in an orientation session held their first day in the field.

Human Activity.—Nestwatchers recorded 298 human activities within the BA (Appendix D, Table 16). Aircraft (small planes, helicopters, and jets) accounted for 84 percent (n=249), terrestrial activity 13 percent (n=39) of ten different types, and watercraft (canoes/kayaks) three percent (n=10).

Four activities elicited ten significant responses from the breeding pair. The bald eagles were restless to one small plane and one helicopter. The breeding pair flushed in response to one helicopter and one driver. Additionally, four small planes, one helicopter, and one canoe/kayak caused a left area response.

Food Habits.—Nestwatchers observed 36 forage attempts (Appendix D, Table 17). The male was successful in 48 percent (11 of 23), and the female in 100 percent (13 of 13). Most attempts were for fish (97 percent, n=35).

The breeding pair delivered 82 prey items to the nest (Appendix D, Table 18). The male delivered 42 percent (n=34), and the female 59 percent (n=48). Seventy-eight percent of those items were fish (n=64), 18 percent carrion (n=15), two percent mammals (n=2), and one percent birds (n=1).

Of the 42 prey items that could be identified to species (Appendix D, Table 19), 45 percent (n=19) were suckers, 33 percent (n=14) channel catfish, 19 percent (n=8) carp, and two percent (n=1) western cottontail rabbit.

Fort McDowell Breeding Area: 2000

Observation Period.—Observation dates ..... February 5 to May 7
Dawn-to-Dusk Hours ..... 276 hours
Total monitoring days/hours..... 44 days/ 445 hours

Eagle Identification.—Male..... Blue VID band left leg, USFWS band right leg, adult plumage
Female ..... Unbanded, adult plumage

Management Activities.—1. The Fort McDowell Yavapai Nation continues to restrict non-tribal member use of the river area, 2. The Fort McDowell Police visited the ABENWP contractors on nearly a daily basis, 3. ABENWP contractors were introduced to the Fort McDowell police in an orientation session held their first day in the field.

Human Activity.—Nestwatchers recorded 91 human activities (Appendix D, Table 20). Aircraft (small planes and helicopters) represented 78 percent (n=71), terrestrial activities 18 percent (n=16) of four different types, and watercraft (kayaks) four percent (n=4).

One activity elicited six significant responses from the breeding pair. Hikers caused the adults to be restless, flush, and left area response on two occasions, each.

Food Habits.—The breeding pair foraged north of the nest area and out of the nestwatchers view. Thus, no forage events were observed. However, nestwatchers were able to record 42 prey deliveries to the nest (Appendix D, Table 21). The male delivered 76 percent (n=32), and the female 24 percent (n=10). Unknown prey items comprised of 52 percent (n=22), fish 43 percent (n=18), and birds and mammals two percent (n=2), each. No prey items were identified to species.

Horseshoe Breeding Area: 2000

Observation Period.—Observation dates ..... February 6 to May 7
Total monitoring days/hours..... 59 days/ 516 hours
Dawn-to-Dusk Hours ..... 334 hours

Eagle Identification.—Male..... Unbanded, adult plumage
Female ..... USFWS band right leg, adult plumage

Management Activities.—None.

Human Activity.— Nestwatchers recorded 577 human activities (Appendix E, Table 22). Aircraft (small planes, jets, and helicopters) represented six percent (n=36), terrestrial activities 94 percent (n=540) of five different types, and watercraft (kayaks) less than one percent (0.2 percent, n=1).

Most activities (93 percent, n=535) were vehicles passing on FS road 269. Four activities elicited six significant responses from the breeding pair. The bald eagles were restless to three jets, flushed in response to one hiker and one agency worker, and left the area in response to one helicopter.

Food Habits.—The breeding pair foraged north and south of the nest area and out of the nestwatchers view. Thus, no forage events were observed. However, nestwatchers recorded 63 prey deliveries to the nest (Appendix E, Table 23). The male delivered 71 percent (n=45), the female 22