

Brad Semel, a biologist with the Illinois Department of Natural Resources, handles a colt during land surveys in 2009.

Colts were banded in northeastern Illinois as part of Jeffrey Fox's research, which was funded in part by the Illinois Ornithological Society.



generated opportunities to study the influence of northeastern Illinois' urban/suburban-rural land-use gradient on colt survival and growth. Additionally, birds could be captured prior to the fledgling stage (approximately 67 days) (Tacha et al. 1992) and banded, allowing us to determine survival rates from the fledgling stage to independence and dispersal from natal ranges in the subsequent breeding season. These methods may also permit a prolonged study of recruitment and life-history traits within the region.

Research methods:

Annual breeding surveys coordinated by the International Crane Foundation, aerial surveys via helicopter, field observations, and anecdotal reports aided in locating breeding pairs and nest sites in Lake and McHenry Counties, Illinois. Researchers began monitoring nests in mid-April to determine nest status. Once colts hatched and demonstrated precocial behavior they were monitored until captures could be conducted as safely and unobtrusively as possible.

Captured colts were placed into cloth bags to reduce stimuli. Plumage condition, mass, and leg measurements were recorded. These values also permitted approximation of age for colts with unknown hatch dates.



Radio transmitters with masses less than 5 percent of the mean mass for *G.c. tabida* hatchlings (approximately 114.2g) (Tacha et al. 1992) were affixed to colts at the mid-scapular region via fabric backpacks and non-toxic waterproof eyelash adhesive. Backpacks resembled plumage color, and their presence was universally ignored by their

hosts, siblings, and adults. Duration of capture-tagging protocols was approximately 10 minutes and 100 percent of colts were confirmed rejoining their parents post-release. Recaptures were conducted to establish growth curves and reinforce transmitter-backpack attachment.

Colt status (i.e. dead or alive), location, and family unit activities were recorded every 48 to 72 hours. Efforts were made to rotate detection schedules and establish chronological patterns of behavior and location. The remains of deceased birds were collected when possible for future analyses. Final recaptures involved permanent banding

and blood-draws in coordination with the International Crane Foundation. Data were analyzed via program MARK and ArcGIS v.9.3.

Results and discussion:

Forty-seven colts have been captured and tracked since beginning research in May of 2008 (Table 2). Mortality was confirmed for six of eight in 2008 and 16 of 39 in 2009. The fates of five colts in 2009 are unknown. Anecdotal observations and known predator feeding

Species	Population Trend	P value
Common Moorhen	- 19.5%*	<0.01
American Coot	- 15.2%*	0.01
Black Tern	- 12.3%*	<0.01
Blue-winged Teal	- 8.5%*	<0.01
Sora	- 7.8%*	0.01
Least Bittern	- 7.7%*	0.05
Yellow-headed Blackbird	- 7.7%*	<0.01
Ruddy Duck	- 4.6%	0.66
Pied-billed Grebe	- 2.9%	0.15
Virginia Rail	- 2.4%	0.33
Mute Swan	+ 19.5%*	<0.01
Sandhill Crane	+ 33.3%*	0.02

Table 1: Population trends of wetland-dependent birds in northeastern Illinois from 1980 to 2005 (Ward, unpublished data).